



QOMO HiteVision Flow!Works User Manual

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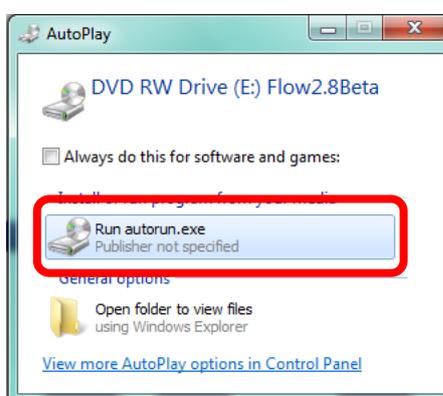
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Part I General Introduction of Software

QOMO HiteVision Multidisciplinary Whiteboard Software is educational software that is provided for the QOMO HiteVision Interactive Whiteboards. The software is easy to use when you are preparing or giving lessons for various subjects. The software installation, startup, main interface and four usage modes are introduced in this chapter.

Software Installation

1. Place the software CD into the CD driver and double click AutoRun.



2. Select "Full Installation".



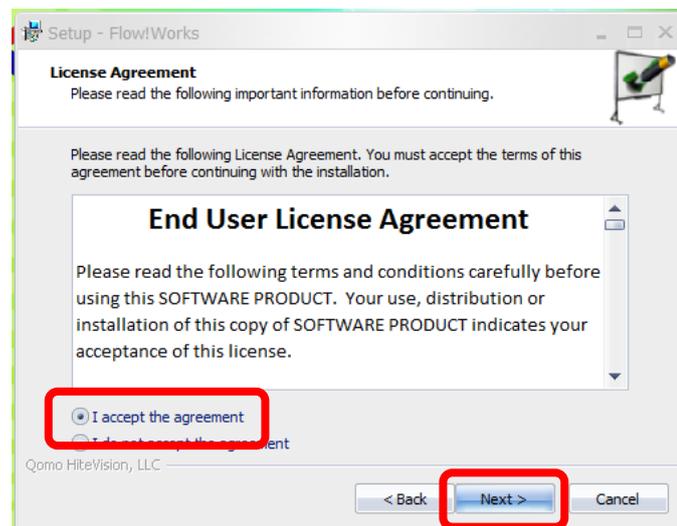
3. Select the desired set up language and click "OK".



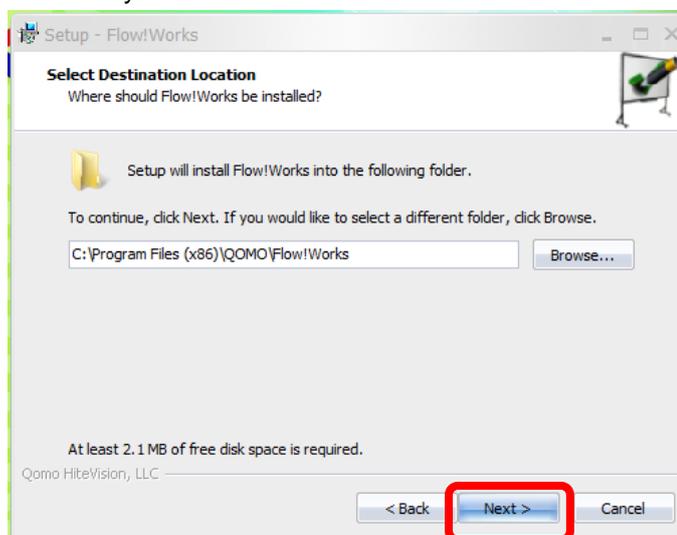
4. When the Flow!Works set up wizard appears click "Next".



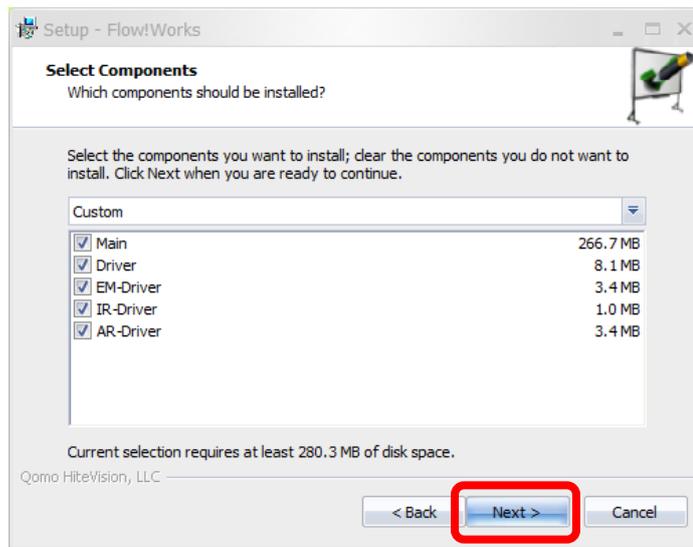
5. License Agreement: Accept the License Agreement and click "Next".



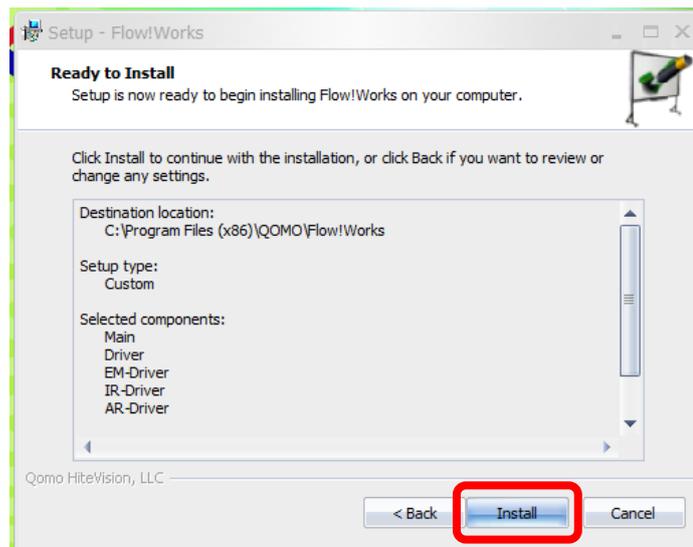
6. Select the folder where you would like to install Flow!Works and click "Next".



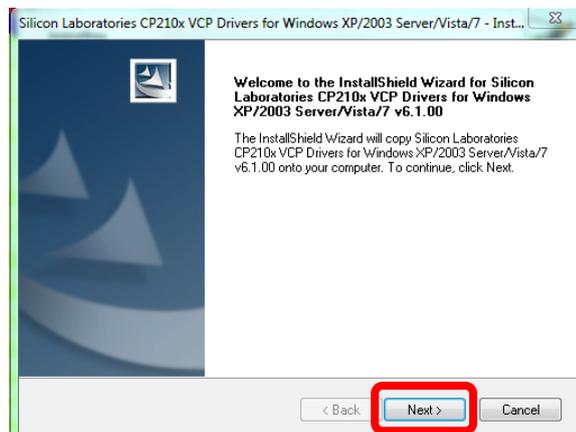
7. Select the components you would like installed. It is recommended that you install all the components. Click "Next".



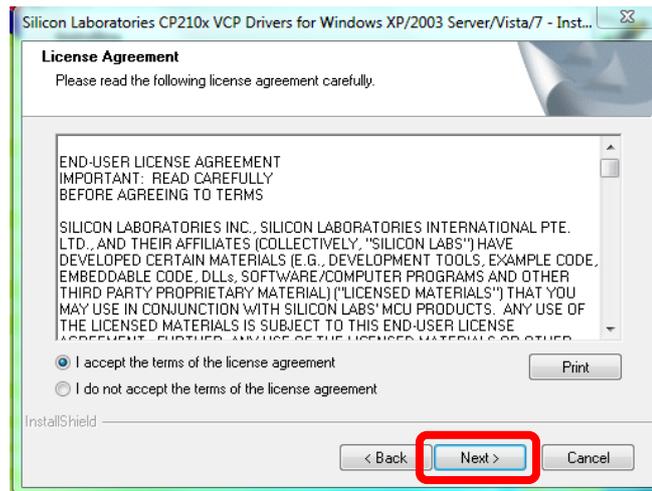
8. You are now ready to install Flow!Works. Click "Install".



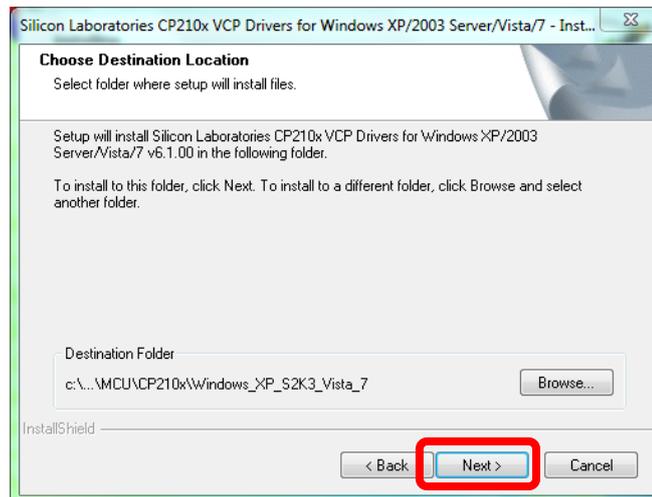
9. Now the Silicon Laboratories Drivers need to be installed. Click "Next".



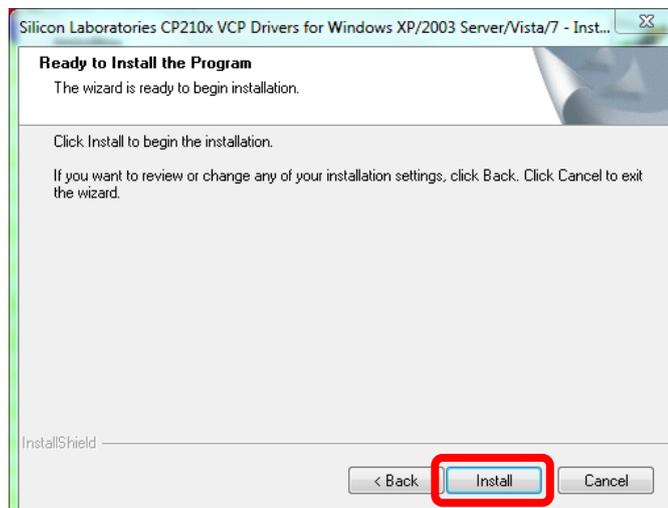
10. License Agreement: Accept the terms of the license agreement and click “Next”.



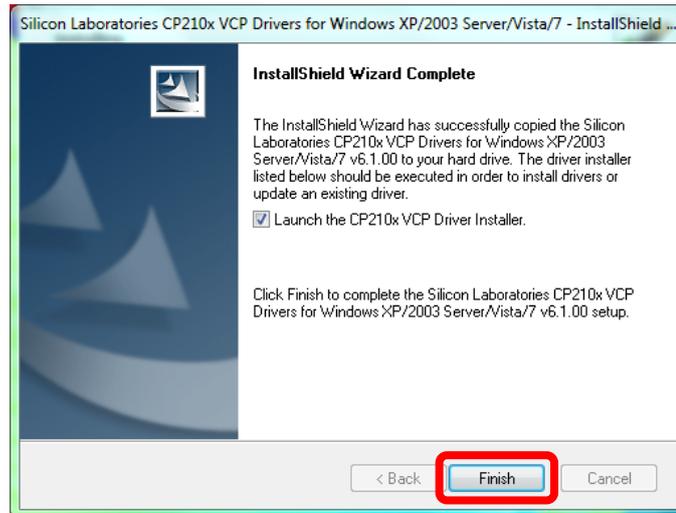
11. Select the folder where you would like to install the Silicon Laboratories Drivers and click “Next”.



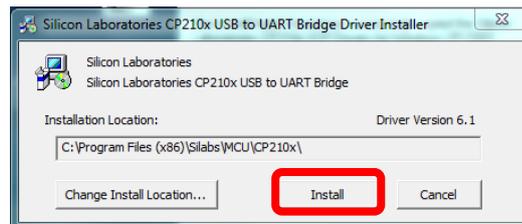
12. You are now ready to install the program. Click “Install”.



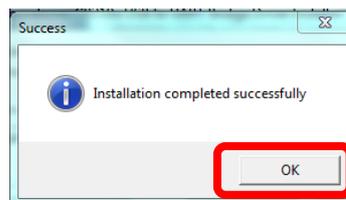
13. When the installation has finished, make sure the “Launch the CP210x VCP Driver Installer” is checked and click “Finish”.



14. The Silicon Laboratories CP210x USB to UART bridge driver needs to be installed. Select the location where you would like to install and click “Install”.



15. When “Installation completed successfully” pops up click “OK”.



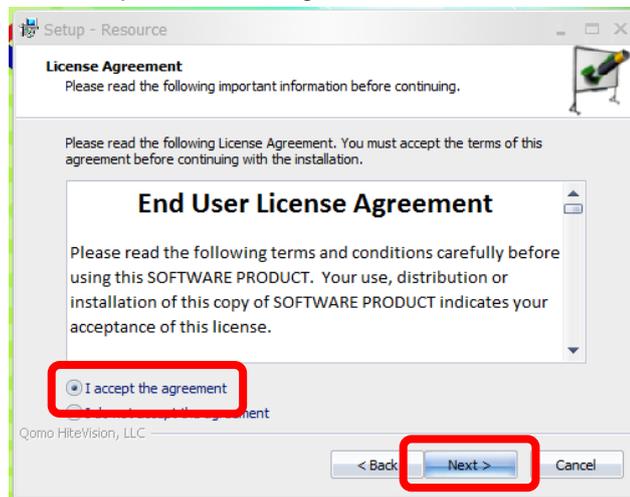
16. When the Flow!Works setup wizard has finished installing click “Finish”.



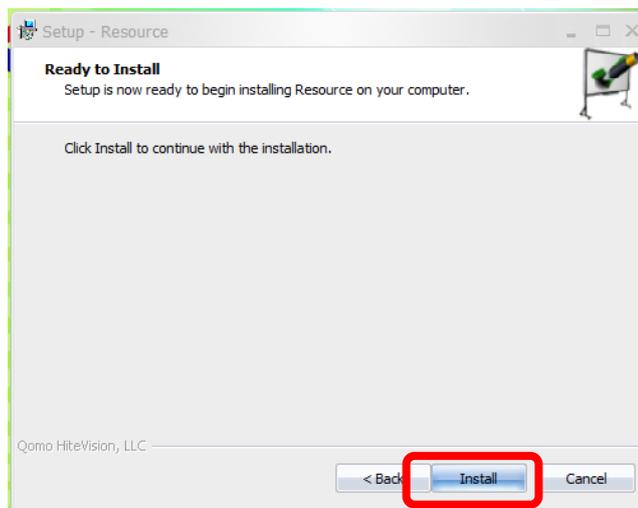
17. When Resource is ready to setup click "Next".



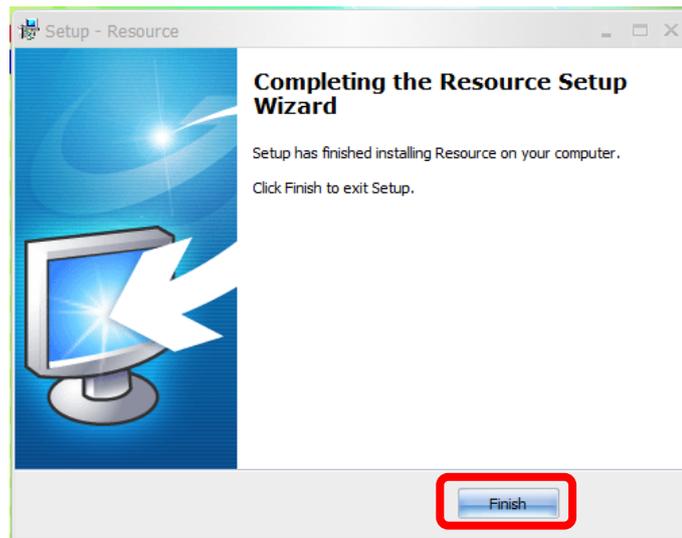
18. License Agreement: Accept the license agreement and click "Next".



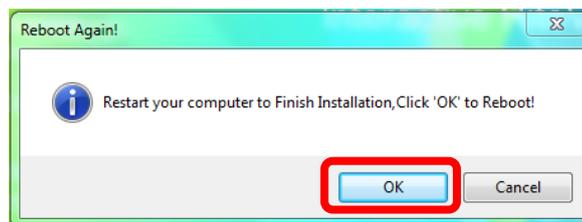
19. Resource is now ready to be installed. Click "Install".



20. When Resource is done installing, click “Finish”.



21. You will be prompted to reboot your computer to finish the installation. Click “OK”.



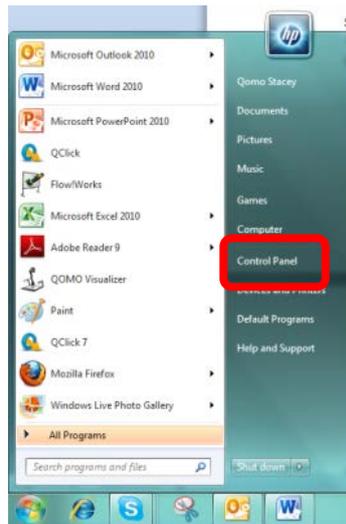
Software Uninstallation

To uninstall Flow!Works:

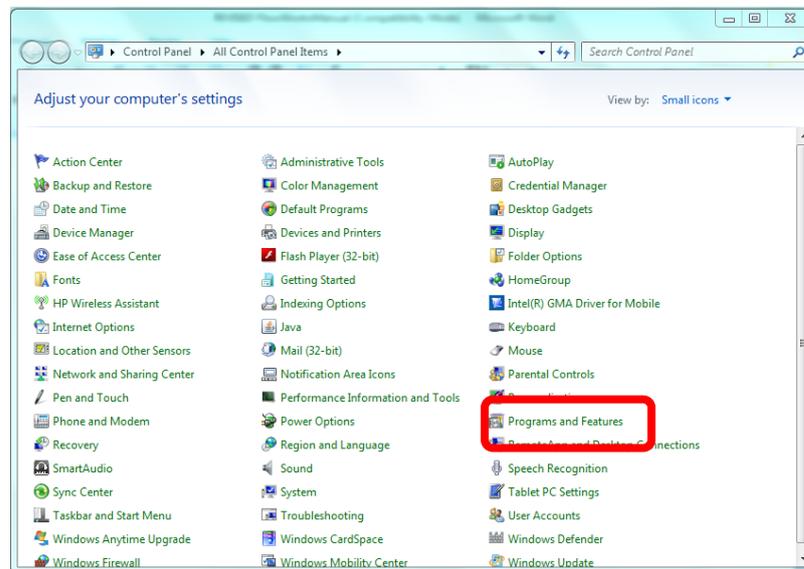
1. Open your Windows Start Menu.



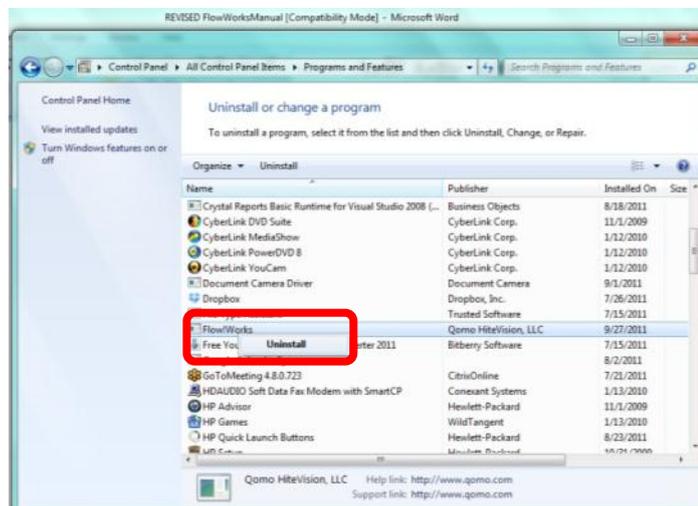
2. Select your Control Panel.



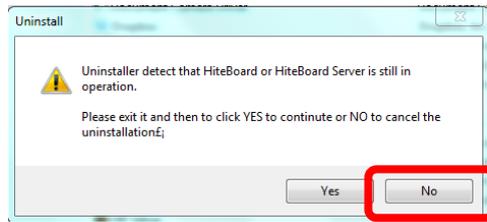
3. Open your Programs and Features



4. Find the Flow!Works program and right click on it. Click on "Uninstall".

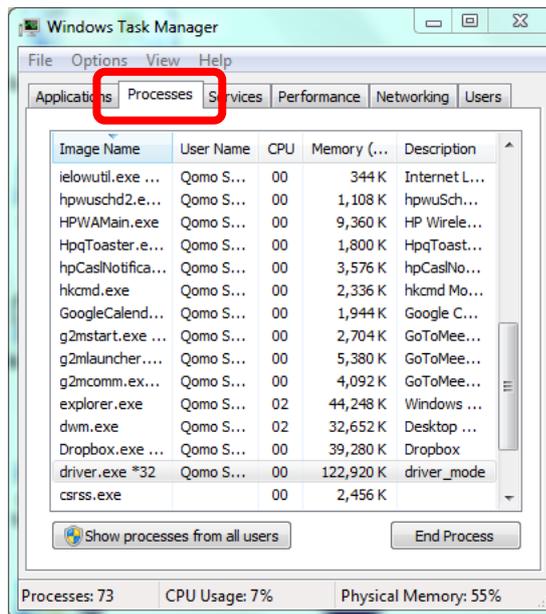


a. If you get the following error select “No”. You will need to end the driver process.

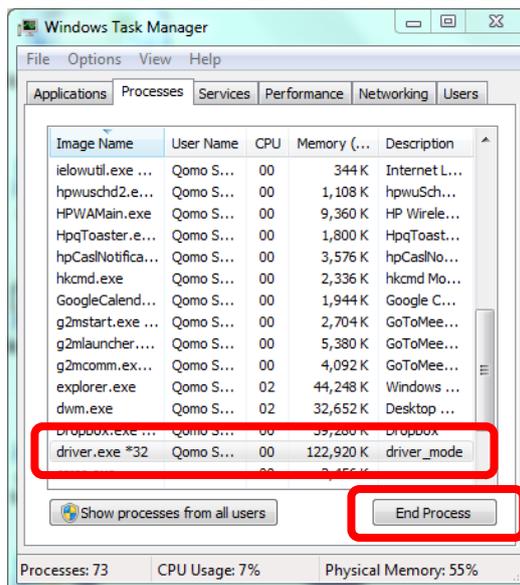


b. Hit ctrl+alt+delete and select task manager.

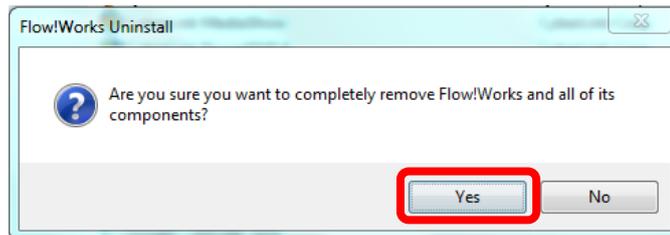
c. Select the “Processes” tab.



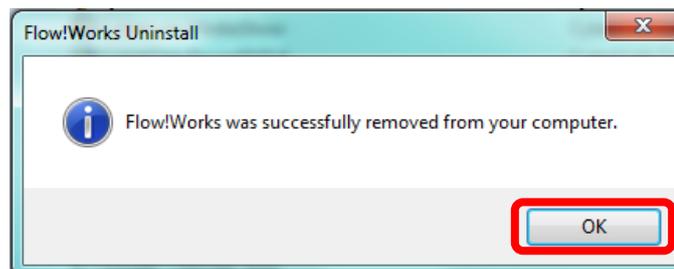
d. Find and select “driver.exe *32”. Click “End Process”. **REPEAT STEPS 1-4.**



5. You will be asked “Are you sure you want to remove Flow!Works and all of its components?” Select “Yes”



6. When Flow!Works is successfully removed from your computer you will receive the following message. Click “OK”.



Software Startup

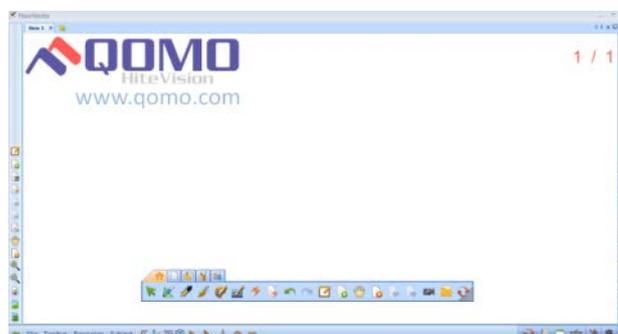
There are three ways to launch QOMO HiteVision's Flow!Works Software. They are:

1. Select the “Start” menu in the system, go to the program menu and select the “Flow!Works” program.
2. Double click the program shortcut on your desktop.
3. Click and one of the shortcut keys on either side of the QOMO interactive whiteboard.

Software's Offline Application

QOMO HiteVision's Flow!Works Software can be used even when the computer is not connected to a QOMO HiteVision product. You may prepare lessons with the Flow!Works software on your own PC based on your needs.

In this case, the watermark shown in the figure below will appear on the writing board when you start the software. The watermark will not influence the function of the program and will go away when the PC or laptop is connected to a QOMO HiteVision product.



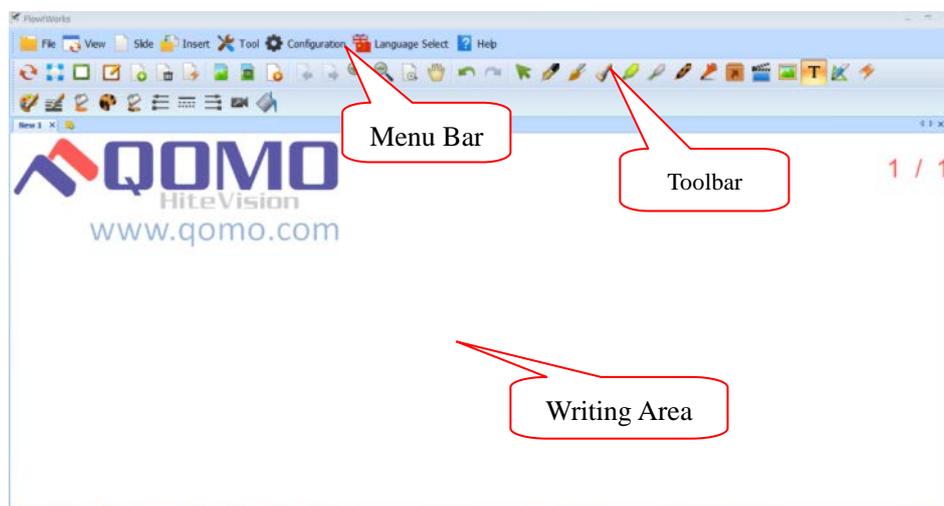
Watermark in Offline Slide of Lesson Preparation

Software Mode

There are four viewing modes for the Flow!Works software, Window Mode, Frame Mode, Full Screen Mode, and Desktop Mode. You may choose whatever mode fits your needs best.

Window Mode

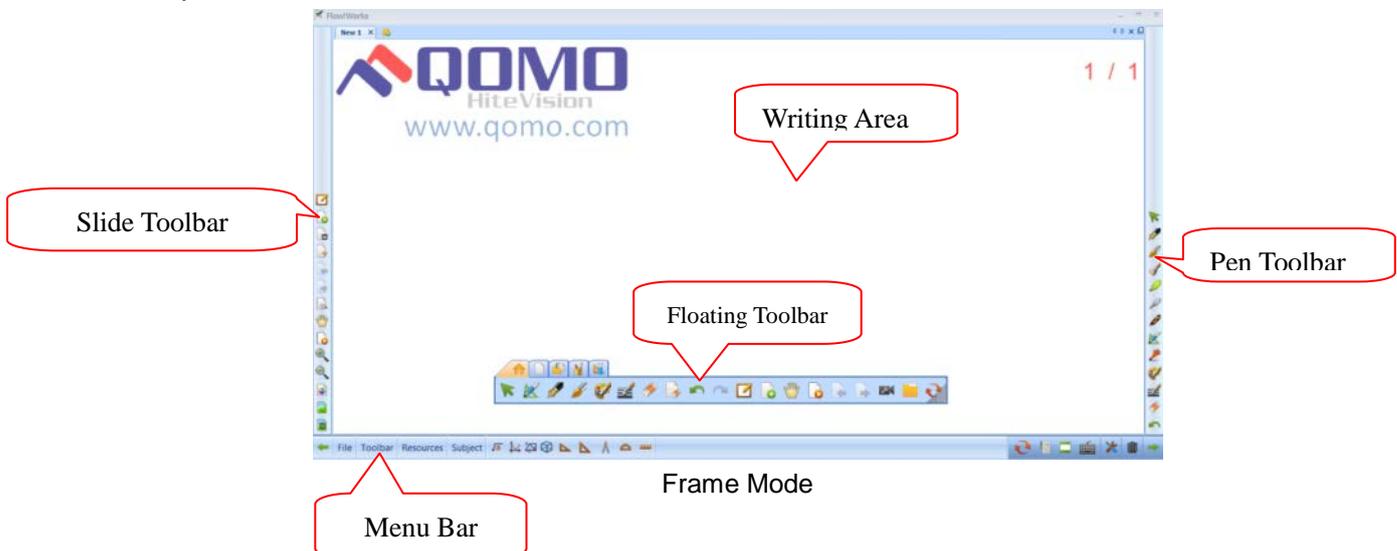
Window Mode is similar to the operating mode of WINDOWS. The main interface of the software is composed of the Menu Bar, Toolbar, and Writing Area. The main interface is show below. To switch modes from here, Select "View" and choose the mode in which you would like to view your presentation.



Window Mode

Frame Mode

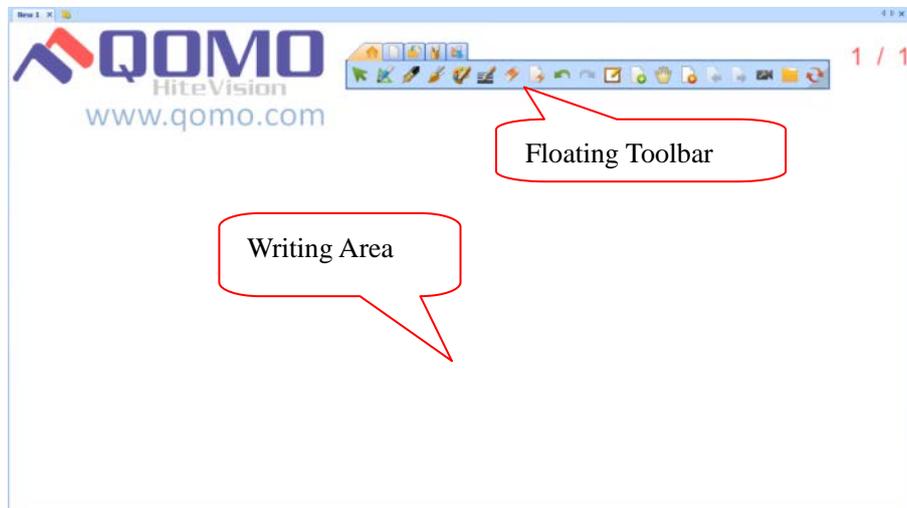
Frequently used teaching tools are placed at the borders of the main interface when in Frame Mode. The main interface in Frame Mode is divided into five parts: floating toolbar, slide toolbar, pen toolbar, menu bar, and writing area. To switch modes from here, select "File" and choose your mode.



Frame Mode

Full-screen Mode

Full-screen Mode maximizes the writing area. In this mode, you may display teaching content in the entire screen when you are giving lessons in the classroom. The main interface of Full-screen Mode is composed of the writing area and floating toolbar.



Full-screen Mode

Desktop Mode

Window Mode, Frame Mode and Full-screen Mode are three different operating modes of the Flow!Works software. During teaching, you may want to switch to Desktop Mode. In this case, you actually leave the Flow!Works software and may operate any application program in WINDOWS system by mouse.

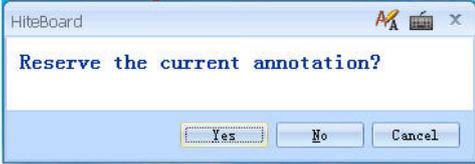
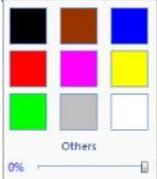
You may click the Switch Button  to switch to Desktop Mode. At this moment, the toolbar of Desktop Mode shows up in the current interface of the operation.



Toolbar of Desktop Mode

Fifteen functional buttons are included in the toolbar of Desktop Mode (see Table 1).

Button Name	Functions
 Select	When you click this button, you are in select mode. This mode allows you to select objects on the slide and activate flash objects.

 <p>Mouse Mode</p>	<p>When you click this button, you switch from the writing mode to the mouse mode. If you click this button after you annotate on the slide, the dialog box, shown below, pops up to ask whether you want to save current annotation or not.</p>  <p style="text-align: center;">Dialog Box of Inquiry</p>
 <p>Hard Pen</p>	<p>When you click this button, you may imitate the writing strokes of a pen. You may write or annotate on the current desktop.</p>
 <p>Soft Brush</p>	<p>When you click this button, you may imitate the calligraphy of a writing brush. You may write or annotate on the current desktop.</p>
 <p>Stroke Color</p>	<p>The stroke color dialog box pops up when you click this button. You may adjust color, transparency and other attributes of the stroke color in this dialog box.</p>  <p style="text-align: center;">Dialog box of Stroke Color</p>
 <p>Width</p>	<p>The stroke width dialog box pops up when you click this button. You may modify the width of stroke in this dialog box.</p>  <p style="text-align: center;">Dialog Box of Stroke Width</p>
 <p>Erase Slide</p>	<p>You may erase all the content in the slide by clicking this button.</p>
 <p>Erase</p>	<p>You may erase the content in current slide by clicking this button. You can choose to erase an entire region or you can select the pixel eraser.</p>  <p style="text-align: center;">Erasing Menu</p>

 <p>Undo</p>	<p>When you click this button, you may undo the last operation.</p>
 <p>Custom recording</p>	<p>When you click this button the custom recording window will appear (see below) you can record, playback, save and stop on the current operation page.</p> <div data-bbox="868 454 1019 600" data-label="Image"> </div> <p style="text-align: center;">Screen recording menu</p>
 <p>Screen Keyboard</p>	<p>The tool of screen keyboard is popped up when you click this button.</p>
 <p>Tools</p>	<p>The general tool menu, shown below, pops up when you click this button. You can choose from the general tools in this list. For detailed introduction of the tools referred to “Introduction of General Toolbar”.</p> <div data-bbox="849 987 1023 1357" data-label="Image"> </div> <p style="text-align: center;">General Toolbar</p>
 <p>Subject</p>	<p>The subject tool menu, shown below, pops up when you click this button. You may choose different subject tools according to your teaching needs.</p> <div data-bbox="852 1529 1018 1731" data-label="Image"> </div> <p style="text-align: center;">Subject Toolbar</p>
 <p>New</p>	<p>The new slide menu, shown below, pops up when you click this button. You may create a new screen slide, white slide, blue slide or black slide according to your needs.</p>

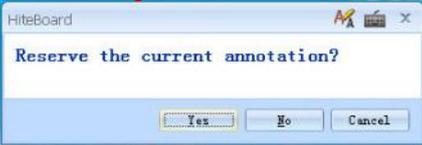
	 <p>New Slide</p>
 <p>File</p>	<p>The file menu, shown below, pops up when you click this button. You may choose corresponding file editing options according to your needs.</p>  <p>File Menu</p>
 <p>Switch</p>	<p>You may switch between Desktop Mode and Flow!Works Mode by clicking this button. If there is annotation on the current slide, the dialog box, shown below, pops up to ask whether you want to save the current annotation as a slide.</p>  <p>Dialog Box of Inquiry</p>

Table 1: Functional buttons in Desktop Mode

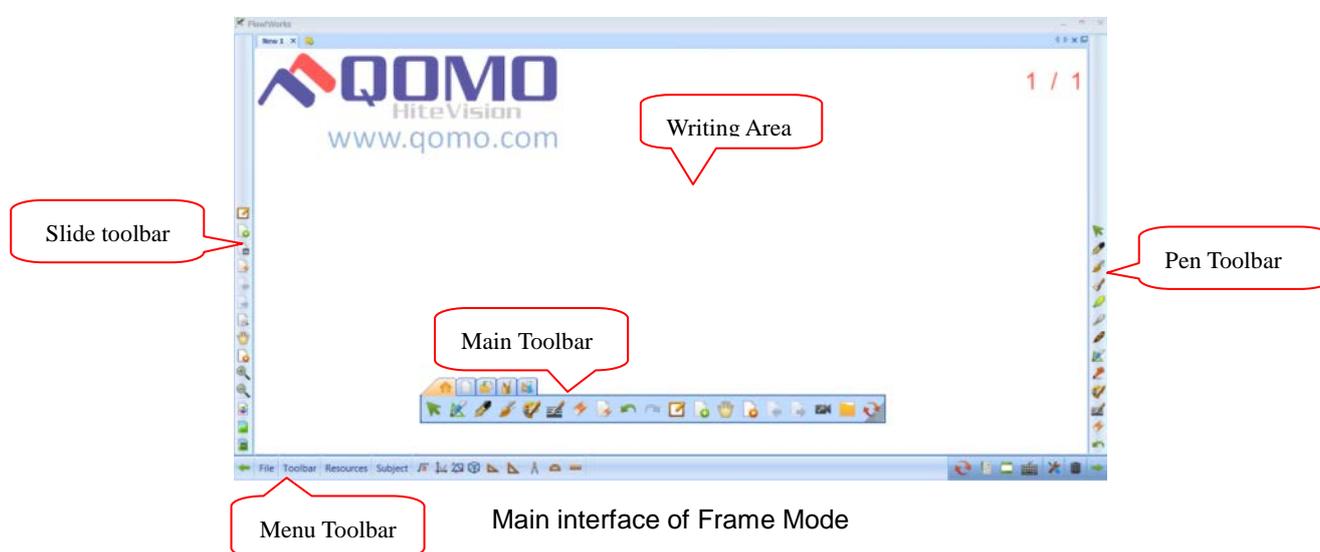
Part II: Functions of the Software's Main Interface

QOMO HiteVision's Flow!Works Software provides a great deal of pedagogical tools to assist teachers in their daily teaching. The software offers a variety of operating patterns with powerful functions. In addition, the functions are classified by teaching subjects. The various functions and operating methods are introduced in this chapter.

Introduction of Functional Buttons in Main Interface

QOMO HiteVision's Flow!Works Software provides four application modes to satisfy your different needs. This manual is using Frame mode to introduce the sub-discipline function column and different teaching functions for you.

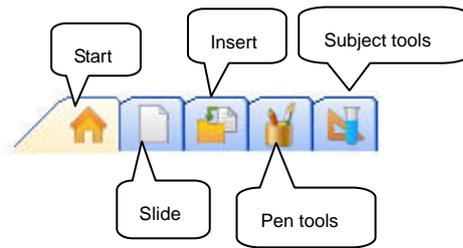
Frame Mode is shown in the picture below. Frequently used teaching tools are located in the borders all around the main interface to make it easy to find the tools you use most often.



Main Toolbar

The main toolbar of the software is the floating toolbar, shown in the picture below. You may switch among those functions by clicking a different menu option. There are five menu tabs supplied in the main toolbar: Start, Slide, Insert, Pen Box and Subject Tools.





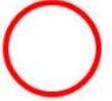
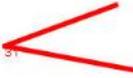
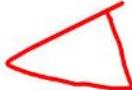
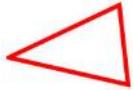
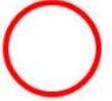
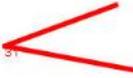
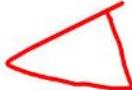
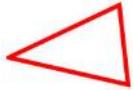
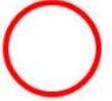
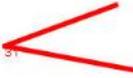
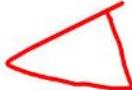
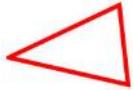
“Start” Tab

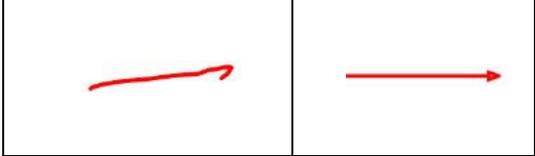
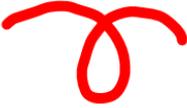
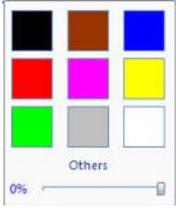
Frequently used tools are available under the “Start” tab.



“Start” Tab

Specific functions are illustrated in Table 2.

Button Name	Functions															
 Select	When you click this button, you are in select mode. This mode allows you to select objects on the slide and activate flash objects.															
 Intelligent Pen	Hand-drawn graphics can be recognized by the intelligent pen, such as lines, angles, triangles, etc. Different control points are supplied for different graphics to adjust the shape of the graph shown in the right picture.	<table border="1"> <thead> <tr> <th data-bbox="836 1061 1128 1184">Hand-drawn Graphics before Identification</th> <th data-bbox="1128 1061 1369 1184">Graphics after Identification</th> </tr> </thead> <tbody> <tr> <td data-bbox="836 1184 1128 1308"></td> <td data-bbox="1128 1184 1369 1308"></td> </tr> <tr> <td data-bbox="836 1308 1128 1453"></td> <td data-bbox="1128 1308 1369 1453"></td> </tr> <tr> <td data-bbox="836 1453 1128 1599"></td> <td data-bbox="1128 1453 1369 1599"></td> </tr> <tr> <td data-bbox="836 1599 1128 1722"></td> <td data-bbox="1128 1599 1369 1722"></td> </tr> <tr> <td data-bbox="836 1722 1128 1883"></td> <td data-bbox="1128 1722 1369 1883"></td> </tr> <tr> <td data-bbox="836 1883 1128 2036"></td> <td data-bbox="1128 1883 1369 2036"></td> </tr> </tbody> </table>	Hand-drawn Graphics before Identification	Graphics after Identification												
Hand-drawn Graphics before Identification	Graphics after Identification															
																
																
																
																
																
																

		
 <p>Hard Pen</p>	You may imitate the writing strokes of a pen when you click this button.	
 <p>Soft Brush</p>	When you click this button, you may imitate the calligraphy of a writing brush.	
 <p>Stroke Color</p>	The stroke color dialog box pops up when you click this button. You may adjust color, transparency and other attributes of the stroke color in this dialog box.	 <p style="text-align: center;">Dialog Box of Stroke Color Palette</p>
 <p>Width</p>	The stroke width dialog box pops up when you click this button. You may modify the width of stroke in this dialog box.	 <p style="text-align: center;">Dialog Box of Stroke Width</p>
 <p>Erase</p>	You may delete current stroke or object by clicking this button. This button provides point erase/region erase.	
 <p>Erase Slide</p>	You may erase the whole content in the slide by clicking this button.	
	You may undo the last operation by clicking this button.	

Undo	
 Redo	You may recover the operation cancelled by the “Undo” button.
 Screen Annotation	You may write or annotate in other software applications.
 New	You may create a new screen slide, white slide, blue slide or black slide by clicking this button.
 Navigation	When you put more than one finger on the screen, you can move the slide to use the screen unlimitedly.
 Slide Replay	You may replay the operations in the slides by clicking this button.
 Previous Slide	You may return to the previous slide by clicking this button.
 Page Down	You may move to the next slide by clicking this button.
 Custom recording	You can record, playback, save and stop on the current operation page.
 File	The file menu, shown below, pops up when you click this button. You may choose corresponding file editing options according to your needs.
 Switch	You may switch to desktop mode by clicking this button.

Table 2: Functions of “Start” Tab

In the Flow!Works software, you can click the Select button  to select an object. When you select the object, four control points appear: move, rotate, zoom in / out and edit.



When you select certain objects the Edit button  will appear in the lower left corner. You can click this button to edit the object, including text boxes, hand-drawn mathematical formulas, and hand-drawn chemical formulas, etc.

When you need to edit the hand-drawn mathematical formula, you can click the edit button  and the written content will appear. You can then edit the formula.



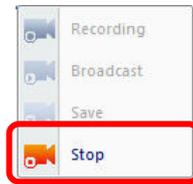
Handwritten mathematical formula

Custom Recording

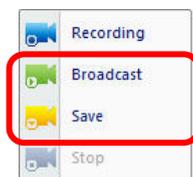
You can record all operations on the Flow!Works slide. Click the custom recording button , the custom recording dialog box will be shown in the menu bar



When you click "Recording", all operations will be recorded; to stop recording, click the custom recording button  and the dialog box will appear. (Shown below)



When recording is finished, click the custom recording button , the dialog box will be shown in the menu bar, you can broadcast (play) and/or save it, the save format is *. dpb.



Screen Annotation

One of the main functions of "Screen Annotation" is to write comments on Office files. If you want to annotate on Word, PowerPoint or Excel files in the status of "Screen Annotation", the "Office Mode Toolbar" pops up in the slide.



Office Mode Toolbar

The following functional buttons are provided by the Office Mode Toolbar:

- ☆ Annotation Embedding Button : The content of annotation is embedded in the Office file when this button is clicked.
- ☆ Previous Slide Button : Click this button to turn to the previous page of the PowerPoint file and create corresponding screen annotation slides in the screen annotation status.
- ☆ Next Slide Button : Click this button to turn to the next page of the PowerPoint file and create corresponding screen annotation slides in the screen annotation status.
- ☆ End Show Button : Click this button to end the PowerPoint slide show while using screen annotation. Before ending the slide show, the software will ask you whether you want to embed all the annotations into the PowerPoint file. At this time, the corresponding screen annotation slide is changed to the normal Flow!Works slide with the content of PowerPoint as the background which can be saved or read.

☆ Mouse Mode Button  : Click this button to switch the writing status from “pen status” to “mouse status”.

“Slide” Tab

Frequently used functions for the Flow!Works slides are provided in the Slide Tab. The slide tab includes: New, Delete, Clear Slide, Modify and Delete Slide Background Color and Slide Background Images, Slide Turning, Zoom Out, Zoom in, Navigation, Replay, Birds’ eye view and other common operations.



Slide Tab

Specified functions are illustrated in following Table 3:

Button Name	Functions
 New Slide	Creates a new screen slide, white slide, blue slide or black slide.
 Delete Slide	You may delete the current slide by clicking this button.
 Erase Slide	You may erase all the content in the slide by clicking this button.
 Previous Slide	You may return to the previous slide by clicking this button.
 Next Slide	You may step to the next slide by clicking this button.
 Birds’ eye view	When the contents of the current slide are out of the range of slide display, you can click the "bird's eye view" button, then it can display all the content of the current slide.
 Navigation	When you put more than one finger on the screen, you can move the slide to use the screen unlimitedly.
 Replay	You may replay the slide operations by clicking this button.

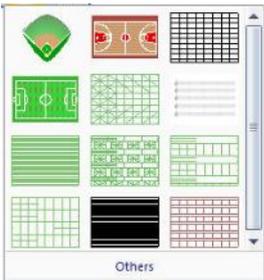
Slide Replay	
 Zoom In	You may zoom in on the slide by clicking this button.
 Zoom Out	You may zoom out of the slide by clicking this button
 Background Color	<p>You can change the background color of the slide when you click this button.</p>  <p style="text-align: center;">Background Color Palette</p>
 Background Image	<p>You can change the background picture of the slide when you click this button.</p>  <p style="text-align: center;">Background image default library</p>
 Delete Background Image	You may delete the background image by clicking this button.

Table 3: Functions of Slide Tab

“Insert” Tab

Items that are frequently inserted into a slide are included in this tab.



Insert Tab

The specified functions are illustrated in following Table 4.

Button Name	Functions
 <p>Resource</p>	<p>There are local resources and network resources. Local resources include annotation, musical instruments, transportation, body parts, people, sports, military, office supplies, animals, maps, weather and climate, space science and technology, laboratory supplies, construction, daily necessities, clothing, glyph, plants, holiday, decorative borders, sound, material object; In network resources you can chose according to the subjects, and textbooks, you can drag the resources directly to the slide to use it.</p>
 <p>Media</p>	<p>When you click this button, your media library pops up. You may choose any multimedia file in the system to insert into the slide. The supported multimedia files are: Media, Audio, Image and Flash. If the decoder is installed, it can support the following video formats: *.wmv; *.avi; *.mov; *.mpeg; *.mpg; *.dat; *.rm; *.rmvb; *.asf; *. mp4; *. flv; *.mkv; *.vob; *.swf; and following audio formats: *.mp3; *.wav; *.wma; *.mid; *.ra.</p> <p>When you find the necessary multimedia file select the file and click the Open Button. Click and drag on the slide to determine the location and size of playing window. The player control toolbar pops up at the same time (see below.)</p>  <p style="text-align: center;">Figure2- 1 Dialog Box of “Video Insertion</p> <p>The buttons in the player control toolbar are:</p> <p>Play  Pause  Stop  Slow  Fast Forward </p> <p>Sound Button  Volume Control  Playing Progress Controller </p> <p>Position to Start Loop  Position to Stop Loop  Annotation  Display Ratio </p> <p>You may choose a segment to play by clicking the Position to Start Loop Button  and the</p>

	<p>Position to Stop Loop Button . In addition, you may capture or annotate the video screen or animated screen by clicking the Annotation Button . You can also adjust the video aspect ratio.</p>
<p> TextBox</p>	<p>You may insert and modify text when you click this button.</p>
<p> Vector Graphics</p>	<p>The vector graphics toolbar, shown below, pops up when you click this button.</p>  <p style="text-align: center;">Figure2- 2 Vector Graphics Toolbar</p> <p>You may draw the vector graphics by clicking the vector graph you would like then click and drag it to the compatible size at the appropriate location in the slide.</p>
<p> Optional Graphics</p>	<p>The optional graphics toolbar, shown below, pops up when you click this button.</p>  <p>You may draw the optional graphics by clicking the optional graph you would like then click and drag it to the compatible size at the appropriate location in the slide.</p>
<p> Visualizer</p>	<p>You can bring your visualizer images into the Flow!Works software when you click this button. Just click and drag to the compatible size at the appropriate location in the slide. You may also annotate over your visualizer images.</p> <p>The control buttons on the menu bar shown as follows: stop , switching equipment ,</p> <p>save the image .</p>  <p style="text-align: center;">Visualizer Menu</p>
<p> MatchMaker</p>	<p>This button allows you to assign objects to a container of your choice. If the object is not assigned to the container it will snap back to its original location when you try to drag it in the container.</p>
<p> IWB files</p>	<p>When you click on this button you will be able to open a standard Interactive WhiteBoard (IWB) file.</p>

 <p>Embed Office Files</p>	<p>This button allows you to imbed Office files into your Flow!Works slide. You can imbed Word, Excel and PowerPoint files.</p>
 <p>Voting</p>	<p>This button will open the QOMO HiteVision QClick Audience Response software within Flow!Works. QClick allows you to get instant feedback from your students or audience. You can also create reports using your session information.</p>

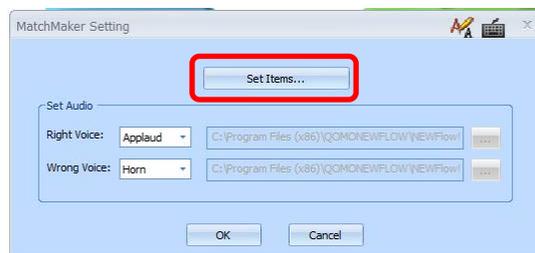
Table 4: Functions of Insert Tab

MatchMaker

To use the MatchMaker feature, you need to have all the objects you want to associate on your Flow!Works slide.



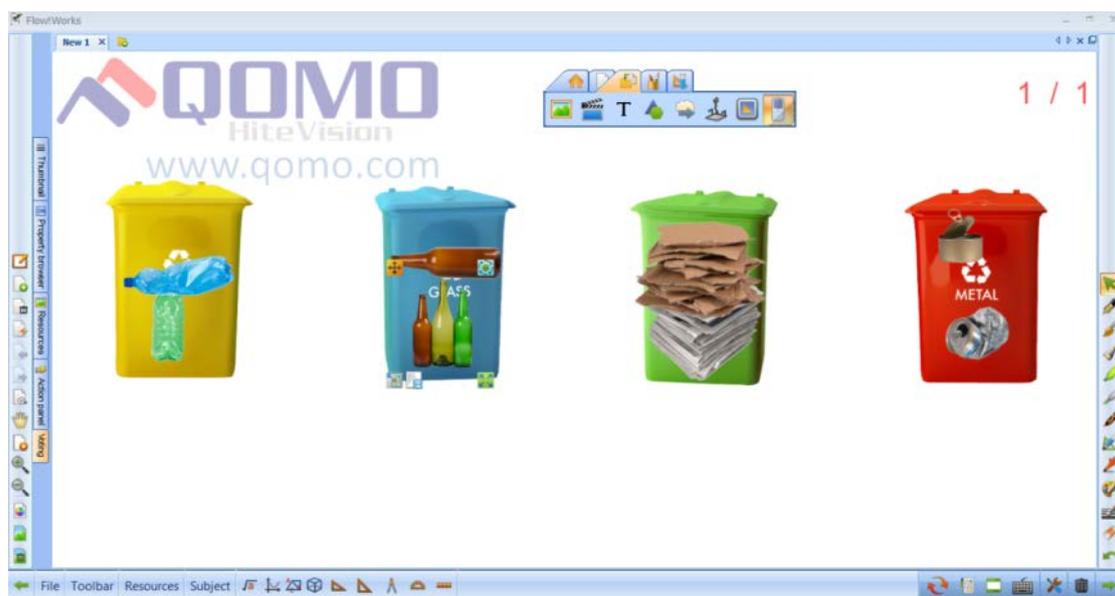
Select the image you want to associate items with and click the “MatchMaker” button  under the “Insert” tab. Choose “Set Items...”



Select the items you would like to associate with your main image and click “ok.”



Your items have now been associated with each other.



When you drag an item into a container it has been associated with you will hear a positive reinforcement sound. If you drag an item into a container it is not associated with it will snap back to its original position and you will hear a negative reinforcement sound. The MatchMaker feature is great for creating your own personalized interactive activities.

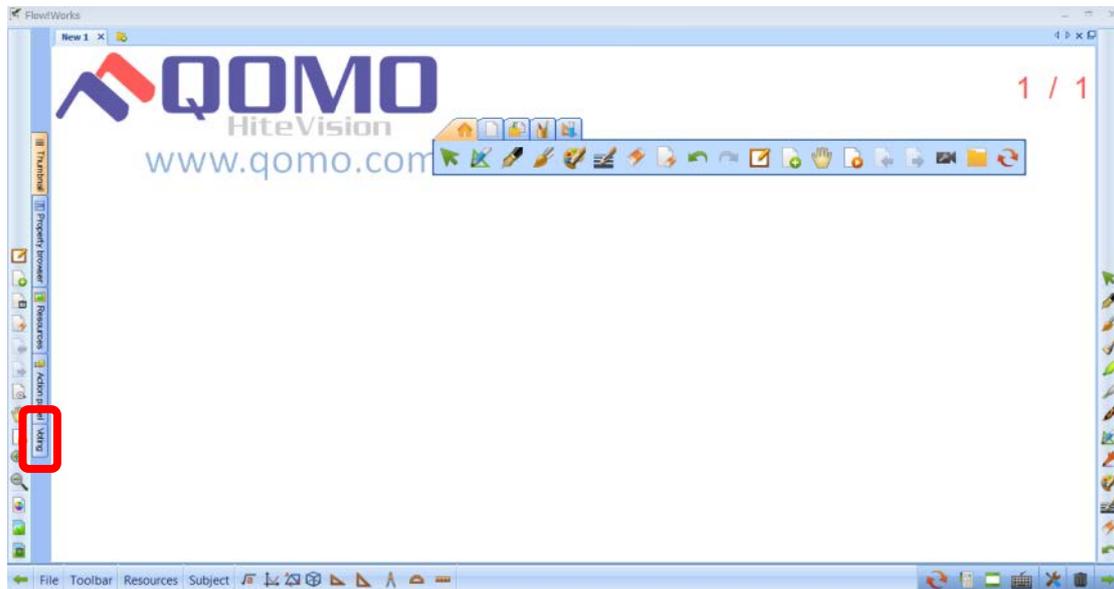
Voting

How to create a class:

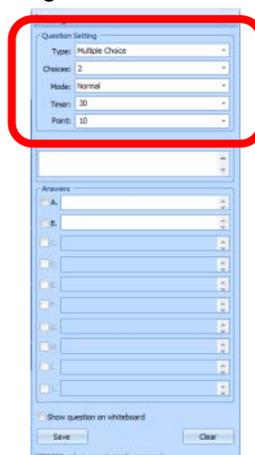
Your class is created automatically when the remotes are logged in. QRF300 and QRF500 remotes login automatically by device number. QRF700 and QRF900 remotes will login automatically by student ID number if the remote is on when the software is opened. Otherwise, you will need to log them in manually.

How to create a quiz:

After you open your Flow!Works software select the voting tab on the left side of the screen.



1. Customize your question settings.



2. Type your question in the text box.

The screenshot shows the 'Voting' form with the following settings: Type: Multiple Choice, Choices: 4, Mode: Normal, Timer: 30, Point: 10. The 'Text' field contains 'What is the sum of 2+2?' and is highlighted with a red rectangle. Below it are four answer choices: A. 2, B. 4, C. 5, and D. 8. At the bottom, there is a checked checkbox for 'Show question on whiteboard' and 'Save' and 'Clear' buttons.

3. Type your answer choices in the answer boxes and check the box for the correct answer.

This screenshot is identical to the previous one, but the 'Answers' section is highlighted with a red rectangle. In this section, choice B (4) is selected with a checkmark, while the others are not.

4. Select the "Show question on whiteboard" option and click Save.

The left screenshot shows the 'Show question on whiteboard' checkbox checked and highlighted with a red rectangle. The right screenshot shows the 'Save' button highlighted with a red rectangle. Both screenshots show the form with the question 'What is the sum of 2+2?' and answer choices A. 2, B. 4, C. 5, and D. 8.

5. To create another question, create a new slide and follow steps 1-4. When you are done creating your quiz save your Flow!Works presentation for future use.

How to run a quiz:

Open the QClick quiz you created earlier and select the QClick button under the Insert tab.



Your QClick menu will appear at the top of the screen.



Once all the students have logged in their remotes and the teacher has logged in their remote you can run your quiz.

1. Select the “Start” button  to begin the timer. Students may respond only when the timer is running.
2. When the timer has stopped you can move on to the next question by clicking the “Next Slide” button .
3. When you have administered all the questions you can export the sessions results to an Excel file to save the information by clicking the “Export” button .

Visualizer

To insert an image from your visualizer click the visualizer button , then click and drag the image into the Flow!Works slide to the desired size.



You can click and drag in many images on the same slide. You will need to click the visualizer button  each time you want to add a new or additional image.



“Pen Box” Tab

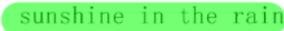
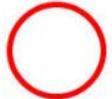
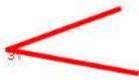
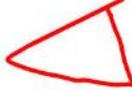
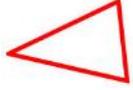
Pen Box Tab provides various writing tools, such as hard pen, soft brush, bamboo brush, highlighter, laser pen, texture pen, intelligent pen and gesture pen. You may select the color, width and texture of the pen, and choose the line head, line body and line end according to your needs.

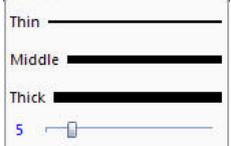
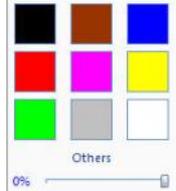


Pen Box Tab

The specified functions are illustrated in following Table 10.

Button Name	Functions	
 Hard Pen	When you click this button, you may imitate the writing strokes of a pen.	

 Soft Brush	<p>When you click this button, you may imitate the calligraphy of a writing brush. You may paint out the vigor and depth of the stroke with it.</p>		
 Combined Pen Brush	<p>When you click this button, you may imitate the writing effect of Tibetan, Arabic.</p>		
 Highlighter	<p>When you click this button, you may imitate the effect of a highlighter. You may choose different colors to indicate the key points.</p>		
 Laser Pen	<p>The laser pen stroke keeps shining to attract the attention of the audience until your next operation.</p>		
 Texture Pen	<p>You may write stokes with various textures.</p>		
 Intelligent Pen	<p>The hand-drawn graphics can be recognized by the intelligent pen, such as line, angle, triangle and etc. Different control points are supplied for different graphics to adjust the shape of the graph as shown in the right picture.</p>	Hand-drawn Graphics before Identification	Graphics after Identification
			
			
			
			
			
			

			
 <p>Gesture Pen</p>	<p>You may use the gesture pen to make various gesture operations on the slide, such as, turn to the next slide, erase the writing content, and to choose the object in the slide. For example, when you draw the stroke with the gesture pen as the first graph shown in the right, you may turn to the next slide.</p>	Stroke of Gesture	Function
			Turn to next page
			Turn to previous page
			Region Erase
			Choose an object
 <p>Stroke Color</p>	<p>When you click this button the stroke color dialog box pops up. You may adjust color, transparency and other attributes of the stroke color in this dialog box.</p>		
Dialog box of Stroke Color			
 <p>Width</p>	<p>When you click this button the stroke width dialog box pops up. You may adjust the width of stroke in this dialog box.</p>		
Dialog Box of Stroke Width			
 <p>Color to Fill</p>	<p>When you click this button the color fill dialog box pops up. You may choose a color to fill the selected object and set the transparent degree.</p>		
Dialog Box of Color Fill			

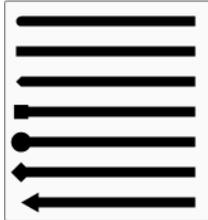
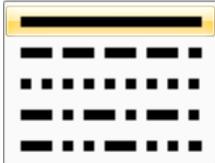
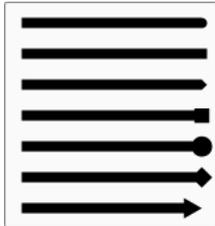
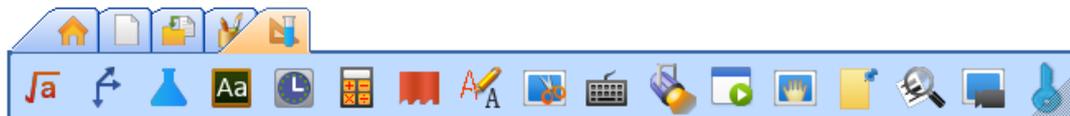
 <p>Texture</p>	<p>When you click this button the pen texture dialog box pops up. You may choose the texture for the pen stroke.</p>  <p>Dialog Box of Pen Texture</p>
 <p>Texture to Fill</p>	<p>When you click this button, the dialog box for texture fill pops up. You may select the fill the texture for the selected object.</p>  <p>Dialog Box of Fill Texture</p>
 <p>Line Head</p>	<p>When you click this button the dialog box for the line start cap pops up. You may choose the head of line.</p>  <p>Dialog Box of Line Start Cap</p>
 <p>Line Body</p>	<p>When you click this button the dialog box for the line body pops up. You may choose the body of line.</p>  <p>Dialog Box of Line Body</p>
 <p>Line End</p>	<p>When you click this button, the dialog box for the line end cap pops up. You may choose the end of line.</p>  <p>Dialog Box of Line End Cap</p>

Table 10: Functions of Pen Box Tab

“Subject Tool” Tab

“Subject Tool” Tab provides professional tools and general tools for several subjects, such as, Mathematics, Physics, and Chemistry. The general tools include Curtain, WrapScreen, Spotlight, Window Viewer, Screenshot, Handwriting Window, Clock, Magnifier and Screen Recorder.



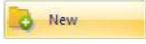
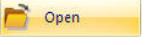
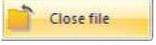
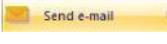
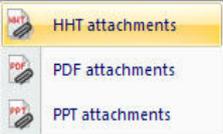
“Subject Tool” Tab

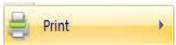
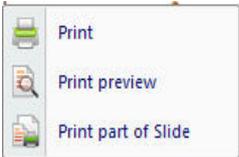
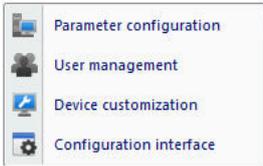
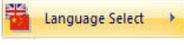
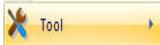
Functions	
 Mathematics	This button will provide you with common mathematical tools. (See Part III)
 Physics	This button will provide you with common physics tools. (See Part III)
 Chemistry	This button will provide you with common chemistry tools. (See Part III)
 English	This button will provide you with the pronunciation key for English words. (See Part III)
 Clock timer	This button provides a countdown timer.
 Calculator	This button brings up the calculator. You can select the type of calculator under the view menu.
 Curtain	You may cover the whole screen by clicking this button and display the covered content by dragging the curtain in the direction of up, down, left or right.
 Handwriting recognition	This tool provides identification tool for your handwriting. It can recognize your handwriting as the printed character.

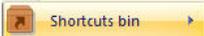
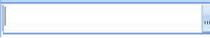
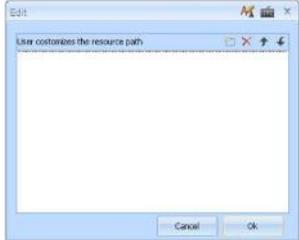
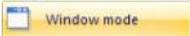
 <p>Image Capture</p>	<p>If you click the image capture button, you may capture the current content on the entire screen. If you select “Region” you may select the rectangle region to be captured by dragging on the screen. If you click the “Irregular” button, you may select the region to be captured by drawing any shape around the desired area.</p>
 <p>Screen Keyboard</p>	<p>When you click this button, the on-screen keyboard appears.</p>
 <p>Spotlight</p>	<p>This button provides the effect of spotlight for you. This tool highlights a certain area, so that the audiences can concentrate on the illuminated part. When you are using this tool, you may adjust the shape and transparency of the spotlight, and move, rotate or resize the highlighted area according to your needs.</p>
 <p>Window Player</p>	<p>This tool provides a dedicated window to play FLASH, PPT and other presentation files. It provides five functional buttons, among which the “Minimum” Button is used to hide the presentation window; the “Maximum” Button is used to display the window in the whole screen; the “Restore” Button may restore to the default size.</p>
 <p>WrapScreen</p>	<p>The whole slide is covered when you click this button. This tool allows the audience to concentrate on the uncovered content. When you put the mouse on the curtain and click, the control menu is popped up. You may choose the corresponding function according to your needs, such as move horizontally or vertically, adjust the color and image of the curtain.</p>
 <p>Handwriting Window</p>	<p>This tool allows you to write notes on the screen without altering your presentation.</p>
 <p>Magnifier</p>	<p>This is a magnifying glass that allows you to enlarge a chosen area of the slide.</p>
 <p>Screen Recorder</p>	<p>The screen recorder tool allows you to record all actions performed on the screen. The file can be saved for later use, shared with others or uploaded to a website.</p>
 <p>Screen Lock</p>	<p>The whole software page will be covered by semi-transparent layer, which can prevent an accidental operation.</p>

Menu Toolbar

The menu toolbar provides frequently used functional buttons to edit the slides for you. You may switch among different functions by clicking different buttons. The detailed functions are illustrated in Table 11.

Button Name	Functions	
 <p>Switch Directions</p>	<p>Switch Directions</p>	<p>The locations of slide toolbar and pen toolbar in the Frame Mode are exchanged when you click this button.</p>
 <p>File</p>	 <p>New</p>	<p>A new writing file is created when you click this button.</p>
	 <p>Open</p>	<p>An existing .hht file can be opened when you click this button.</p>
	 <p>Save</p>	<p>You may save the current file as .hht format when you click this button. The default name is composed by the current time. Or you save the modified .hht files by clicking this button.</p>
	 <p>Save as</p>	<p>You may choose different locations and names to save the current writing file as .hht format.</p>
	 <p>Close</p>	<p>You may close the .hht file.</p>
	 <p>Export</p>	<p>You may export the current Flow!Works content when you click this button. There are five output formats: Image, PowerPoint, PDF, HTML or Doc to facilitate your sending and using. You may choose the appropriate format to fit your needs.</p>  <p>Dialog Box of Exporting</p>
 <p>Send</p>	<p>When you click this button the mail sending dialog box pops up. Now you can send the file as an attachment in the format of HHT file, PDF file, PPT file.</p>  <p>Dialog Box of Mail Sending</p>	

	 Print	<p>When you click this button, the printing dialog box pops up. This includes the functions of printing, print preview, and printing part of slide.</p>  <p>Dialog Box of Printing</p>
	 Configuration	<p>When you click this button the configuration dialog box pops up. This has User Management and Configuration Interface that can be configured by you.</p>  <p>Configuration Interface</p>
	 Language select	<p>When you click this button the language dialog box pops up. You can select the language you prefer.</p>  <p>Dialog Box of Language</p>
	 Tool	<p>When you click this button, the dialog box of tools pops up,</p>

		 <p style="text-align: center;">Dialog Box of Tool Tab</p>
	 <p style="text-align: center;">Shortcut Box</p>	<p>When you click this button, the dialog box of  will pop up. After you click “Edit”, the dialog box shown in Figure2- 3 Dialog Box of Editing pops up. Then you click the button  to pop up the dialog box . Now you click the button  to add the path. You can add file, video & audio, website, and etc. When the adding is completed, the dialog box shown in Shortcut Box pops up. When you need to use this material, what you need to do is just to click it..</p>  <p style="text-align: center;">Figure2- 3 Dialog Box of Editing</p>  <p style="text-align: center;">Shortcut Box</p>
	 <p style="text-align: center;">Window Mode</p>	<p>This is one of the software operation modes. It is similar to the window operation mode of the WINDOWS;</p>
	 <p style="text-align: center;">Frame Mode</p>	<p>This is one of the software operation modes. The classified function buttons are distributed around the borders.</p>

	 Full Screen Mode	<p>This is one of the software operation modes, which can maximize the writing area;</p>
	 Panel	<p>There're Thumbnail, Property Browser Resources, Actions Panel and Voting in the Panel Options.</p>  <p>Figure2- 4</p>
	 Help	<p>The "PDF" format of the Flow!Works manual pops up when you click this button.</p> 
	 About	<p>The current software version and other information are provided when you click this button.</p>
	 Exit	<p>You exit out of Flow!Works when you click this button.</p>

Table 11: Functional Buttons of Menu Toolbar

Default Toolbar

The default toolbar provides frequently used functional buttons for you. You can switch among the various functions by clicking different functional buttons. The Default Toolbar is shown below.



Figure2- 5 Default Toolbar

All the default functional buttons of toolbar are introduced in turn in Table 12 and Table 13.

Button Name	Functions
-------------	-----------

 <p>Default Toolbar</p>	 Back	You switch to Desktop Mode when you click this button.
	 Hide Main Toolbar	The main toolbar is displayed / hided when you click this button.
	 Show / Hide Frame Toolbar	The frame toolbar is displayed / hided when you click this button.
	 Screen Keyboard	The keyboard operation on the screen is provided for you when you click this button.
	 Tools	When you click this button, the functions of clock, timer, calculator, curtain, and handwriting identification are provided for you. The detailed functions are introduced in Table 8.
	 Trash	The contents displayed in the current slide are wholly cleared when you click this button.
	 Switching direction	The locations of slide toolbar and pen toolbar are exchanged when you click this button.

Table 12: Functional Buttons of Default Toolbar

Button Name	Functions	
 Tools	 Clock timer	This button provides a countdown timer.

 <p>Calculator</p>	<p>This button brings up the calculator. You can select the type of calculator under the view menu.</p>
 <p>Curtain</p>	<p>You may cover the whole screen by clicking this button and display the covered content by dragging the curtain in the direction of up, down, left or right.</p>
 <p>Handwriting recognition</p>	<p>This tool provides identification tool for your handwriting. It can recognize your handwriting as the printed character.</p>
 <p>Image Capture</p>	<p>If you click the image capture button, you may capture the current content on the entire screen. If you select "Region" you may select the rectangle region to be captured by dragging on the screen. If you click the "Irregular" button, you may select the region to be captured by drawing any shape around the desired area.</p>
 <p>Screen Keyboard</p>	<p>When you click this button, the on-screen keyboard appears.</p>
 <p>Spotlight</p>	<p>This button provides the effect of spotlight for you. This tool highlights a certain area, so that the audiences can concentrate on the illuminated part. When you are using this tool, you may adjust the shape and transparency of the spotlight, and move, rotate or resize the highlighted area according to your needs.</p>
 <p>Window Player</p>	<p>This tool provides a dedicated window to play FLASH, PPT and other presentation files. It provides five functional buttons, among which the "Minimum" Button is used to hide the presentation window; the "Maximum" Button is used to display the window in the whole screen; the "Restore" Button may restore to the default size.</p>
 <p>WrapScreen</p>	<p>The whole slide is covered when you click this button. This tool allows the audience to concentrate on the uncovered content. When you put the mouse on the curtain and click, the control menu is popped up. You may choose the corresponding function</p>

		according to your needs, such as move horizontally or vertically, adjust the color and image of the curtain.
	 Handwriting Window	This tool allows you to write notes on the screen without altering your presentation.
	 Magnifier	This is a magnifying glass that allows you to enlarge a chosen area of the slide.
	 Screen Recorder	The screen recorder tool allows you to record all actions performed on the screen. The file can be saved for later use, shared with others or uploaded to a website.
	 Screen Lock	The whole software page will be covered by semi-transparent layer, which can prevent an accidental operation.

Table 13: Functions of Tool Buttons

Note: The detailed functions of each tool please refer to the General Toolbar in Part III.

Thumbnail

Thumbnail panel provides an index for the slide presentation. You may cut, copy, paste or adjust the slide location by using the thumbnail panel.

When you click the button on the left side of the slide, you open the thumbnail panel shown below.



Thumbnail Panel

The detailed functions of thumbnail panel are introduced in Table 14.

Button Name	Functions
-------------	-----------

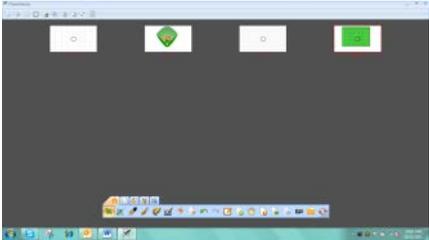
 <p>Thumbnail Function Buttons</p>	 <p>Birds' Eye View</p>	When the contents of the current slide are out of the range of slide display, you can click the "bird's eye view" button. It will display all the content of the current slide.
	 <p>Cut</p>	You may cut the current slide by clicking this button.
	 <p>Copy</p>	You may copy the current selected slide by clicking this button.
	 <p>Paste</p>	You may paste the copied slide to the current position by clicking this button.
	 <p>Delete</p>	You may delete the current slide by clicking this button.
	 <p>Move to Top</p>	You may move the current slide upwards to the top by clicking this button.
	 <p>Slide Up</p>	You may move the current slide up one slide by clicking this button.
	 <p>Slide Down</p>	You may move the current slide down one slide by clicking this button.
	 <p>Move to Bottom</p>	You may move the current slide to the bottom by clicking this button.
	 <p>Multi-Selection mode</p>	<p>The slide index changes to the multi-selection mode when you click this button. You exit from the multi-selection mode when you click this button again.</p>  <p>Multi-selection Mode Panel</p>

Table 14: Functions of Thumbnail

There is an Auto Hide Button and Close Panel Button in the upper right corner of the thumbnail panel.

Auto Hide Button : The thumbnail panel is hidden or locked when you click this button. 
Means the panel is in the state of being hidden;  means the panel is in the state of being locked.

Close Panel Button : The thumbnail panel is closed when you click this button. If you want to re-open the panel, you may try the following methods:

In the Window Mode, click the option of “Thumbnail” in the “View” of Title Bar.

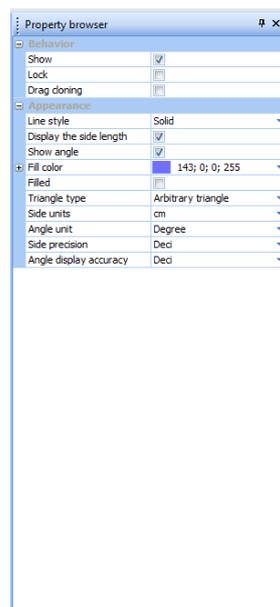
In the Frame Mode, click the option of “Thumbnail” in the “File” of Menu Toolbar or click the “Thumbnail” in the “Menu” of Floating Main Toolbar.

In the Full Screen Mode, click the option of “Thumbnail” in the “File” of floating main toolbar.

Property Browser

Property browser displays the relevant attributes of the object in the slide. You may set and modify the properties of the relevant object in the property browser panel.

The functional panel of the property browser is opened when you click Property Browser Button in the drop-down menu of the File menu.



Property Browser

When you choose any object in the slide, the property browser will display its properties. For example, when you choose the triangle in the slide, its corresponding property browser panel is available for you to modify its properties.

Action Panel.



Action Panel

The Functions of the Action Panel Buttons:

Add Actions Button 

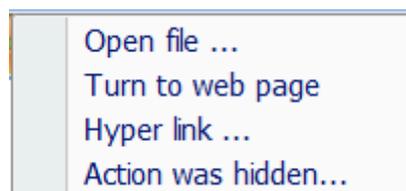
Delete Actions Button 

Actions Move Up Button 

Actions Move Down Button 

Whether to Loop Actions Button Loop

You can insert graphs or characters onto the slide. After you select an object and click the button  Action Panel Menu pops up. Now you can set the object to open a file, whiteboard slide and/or web page.



Action Panel Menu

“Open file...” allows you to open any file on your computer.

“Turn to web page...” allows you to turn to any slide from the current presentation.

“Hyper link...” allows you to link to any website.

“Action was hidden...” allows you to hide an object on the slide after you click on it.

After setting all the actions for an object, you can activate the actions by clicking on the object. You can add different types and quantities of the actions. When you set multiple actions, you just need to click the graphs or texts in turn. If you select the Loop option Loop the actions

you set will perform in an infinite loop. If you do not select the Loop option the actions you set will end after a single loop.

Resource Panel

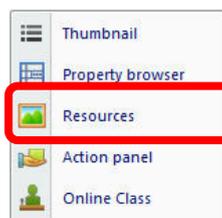
Resource panel in software to gather all the resources into a function panel. In the panel, local resources, network resources and other expansion resources are shown in different TAB page. It is convenient for teachers to get picture, audio, video, other resources during preparing lessons and teaching.

➤ Open the resource panel

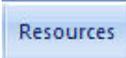
There are three ways to open the Resource panel:

1. Click the File button  in the main toolbar and click the panes button

 Panes in drop-down menu,. Click the Resources button  Resources



2. Click the insert card option on the main toolbar and click the Resources button .

3. Click the button  Resources on the toolbar under frame mode, the Resources menu will appear.



Resources Menu Bar

Local resources

It contains default resources, favorite resources, and local system resources.

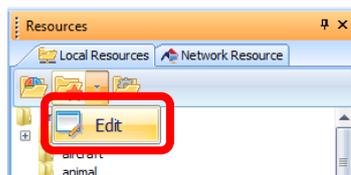
Default Resources  – link to resource images provided by Flow!Works.

Favorite Resources  – gives you a shortcut to your most used file folders.

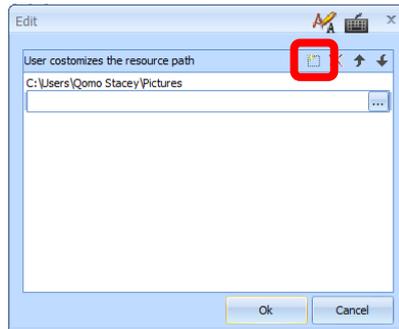
Local System Resources  – links you to all folders on your computer.

To set up your Favorite Resources in the resource panel

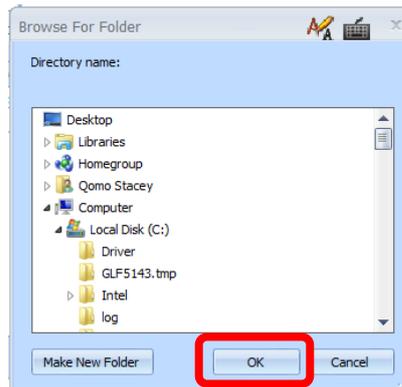
1. Select the “Edit” button under the Favorite Resources Tab.



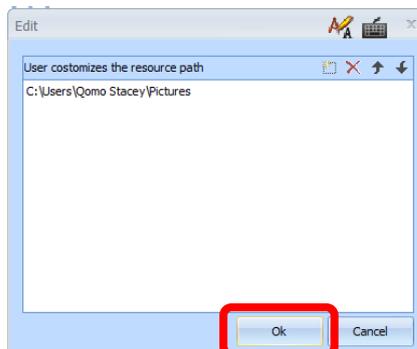
2. Select the “New” button to browse your folders.



3. Find the desired folder and click "Ok."



4. Click "Ok."



In the System Resources you can connect to all your computer's resources. Click the System

Resources button  and all your computer's file folders will appear.

You can select the size of the preview picture under the Output Size Tab.



Click the "Output Size" button  and you can select the size of the image that you can place on the slide (small, medium, or large.)



Output Size

To input an image on the slide all you need to do is click and drag the image onto the slide.

Network resource

When you are using the network resources, please note:

1. You need to be connected to the internet.
2. You need to be a registered member of QomoSoft. Go to www.qomosoft.com and register, if necessary.
3. You need have enough points to download lessons. The new QomoSoft member will get 1,000 points when they register.

Configuration

Configuration option provides a parameter configuration, user management, device customization and configuration interface function. This allows the user to personalize their Flow!Works settings.

Parameters Configuration

Users can do the parameters configuration according to their own needs, including user settings, shortcut box settings, pen setting, etc.

The user clicks "File" button  on the main toolbar, the following menu appears.



File menu bar

Click the configuration button  Configuration, the following menu appears.



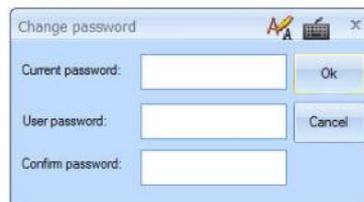
Configuration Menu

Click the parameters configuration button  Parameter configuration, the following dialog box appears.

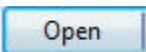


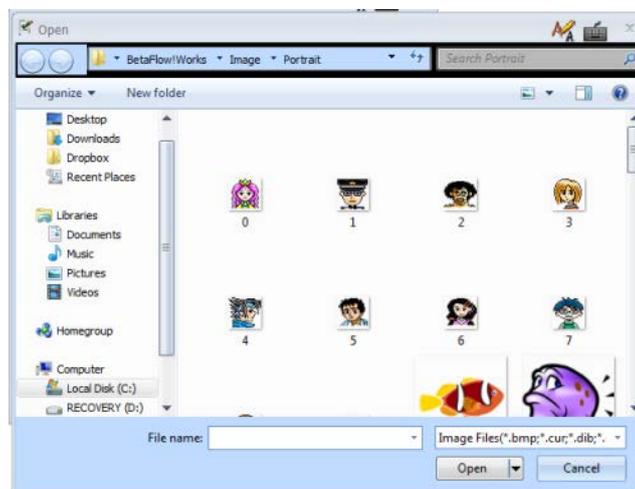
Parameters configuration

Click the User Setting button **User Settings** , you can change the default user's password and icon. Single click the button  to change the password in the pop-up dialog box, shown as below. And then click the button  to set the user password.



Change Password

Click the Change Avatar button  , the picture below appears, and then click the open button  to change the icon.



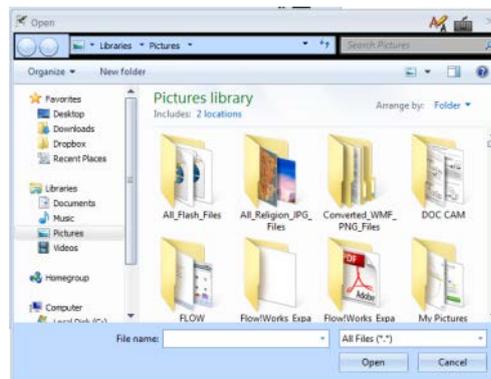
Picture

Click the button **Restore default settings** to recover to default settings.

Click the shortcut box settings button **Shortcut box**, the following

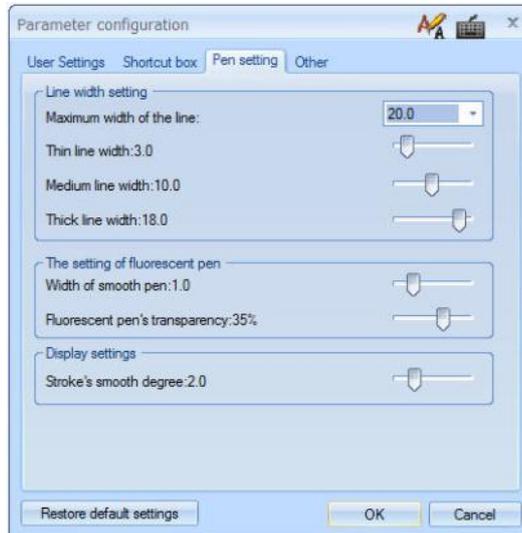


Click the button  in "user custom defined resource path", a dialog box appears , click the button  and it will pop up dialog box as below. You can add the resources, click "Open" to add, Shown as below. After you add content, you can edit the dialog box. If you add PPT, find the PPT location in your computer, and then follow the above steps to add the PPT to the shortcut box. When you want to use the file, click the contents of the shortcut box to directly open it.



Dialog Box

Click the Pen Setting button **Pen setting**, and the dialog box below will appear. You can personalize your pen settings in this menu.



Picture

Click the Other button **Other** and the dialog box below will appear. You can personalize your slide settings in this menu.

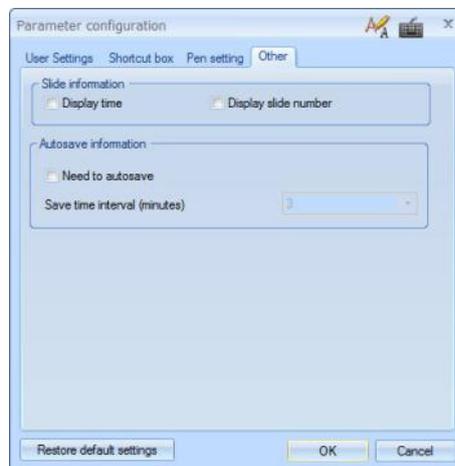


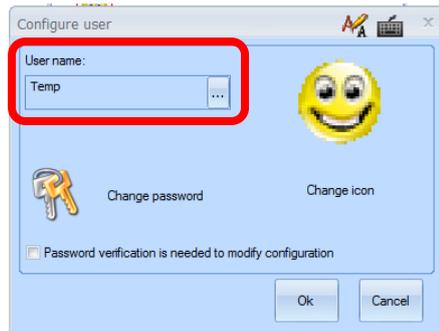
Figure2- 155 Picture

User Management

Under the User Management Tab you can add users, delete users, switch users, set active user, restore users, configure users.

To add a user:

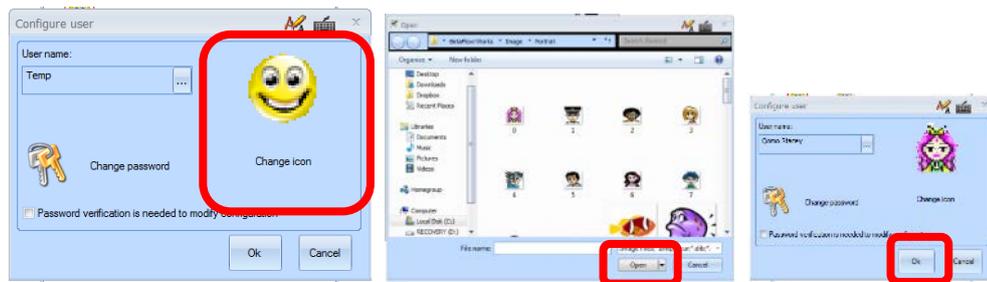
1. Click the add user icon 
2. Click the browse button to change the User name.



3. After you typed in the new user name click "Ok"



4. You can change the avatar for the new user if desired. Click Change Icon and select a new avatar for your new user and click "Open" and then click "Ok."



Device Customization

User can use the device customization function to edit the hotkey keys, including tools, keyboard commands, files and network.

Click the main toolbar button  , shown as below drop-down menu.



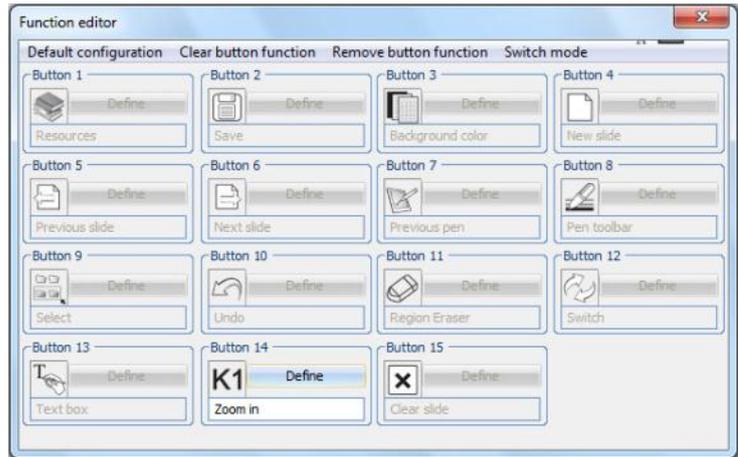
File Menu

Click the  button, a drop-down menu will appear and click the device customization  button.



Drop-Down Menu

Click the device customization button, shown in the dialog box. When the user uses the 15 hotkey keys' whiteboard, key 14 **K1** is a customer hotkey key, the default hotkey function is "Zoom in."

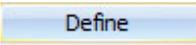


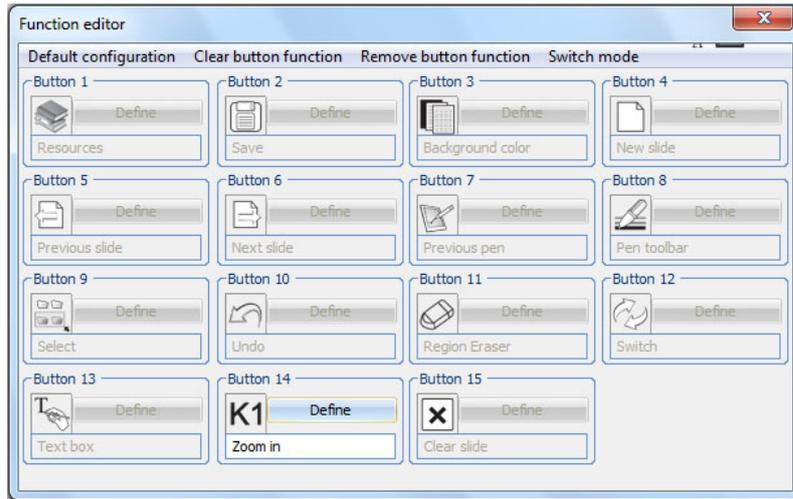
Device customization



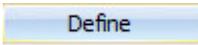
15 hotkey keys

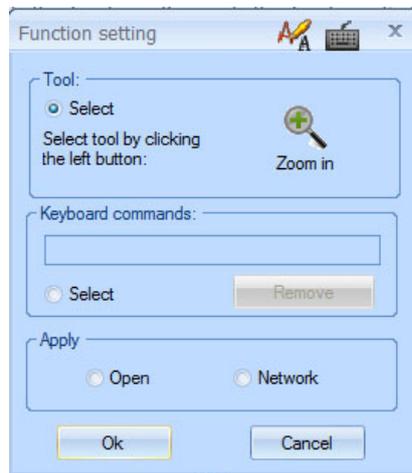
Tools

Customer defined tools' function buttons. When the  is in blue, it means it can be customized; when the button  is in gray, it means it cannot be edited.



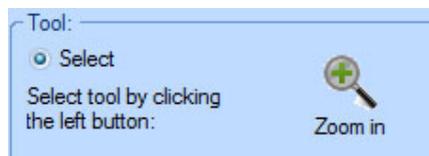
Function Editing

If you want to define hotkeys, click the  button.



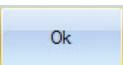
Function edit

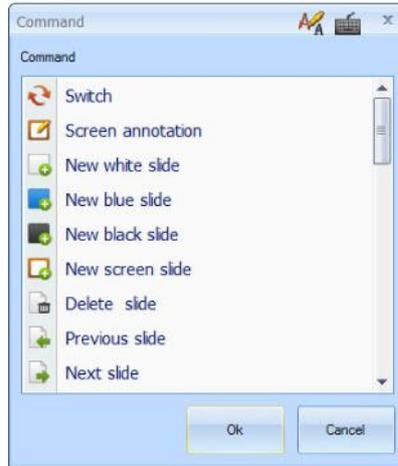
To define the hotkey in "Tools," select the  button.



Tools

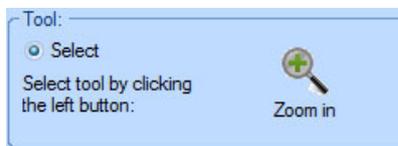
Click the  button, the dialog box appears, and the user can make a customer defined selection (user-define choose) based on the need. After the selection is completed,

click the  button.

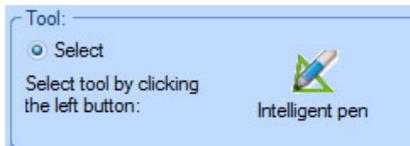


Command

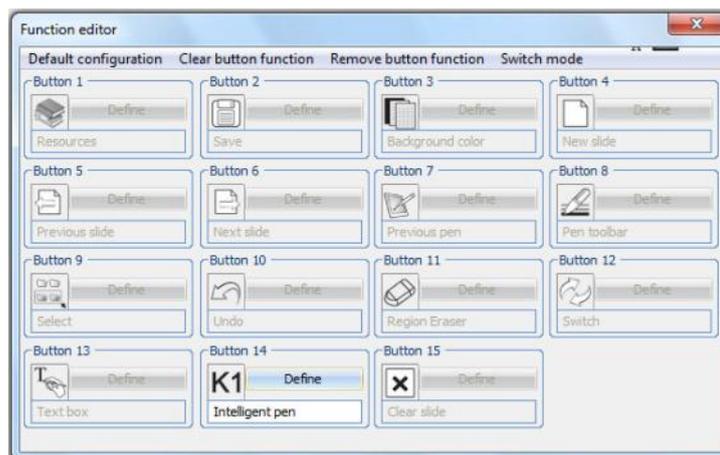
After you click "ok," the function will be changed. Function modification is now finished.



Before Modification



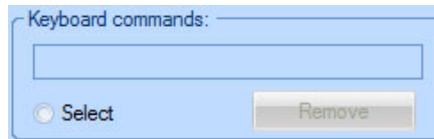
After Modification



Function Editing

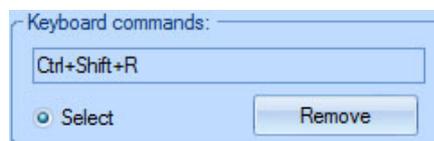
Keyboard Command

Keyboard command options are shown below:

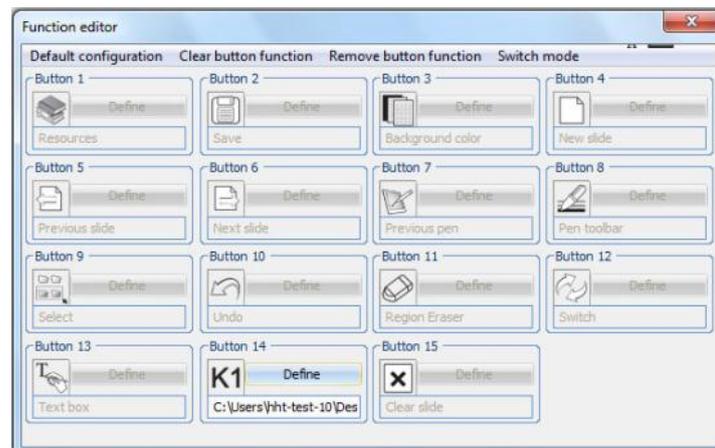


Keyboard Commands

Select the **Select** button. Click the keyboard keys and the relevant information will be displayed in the input dialog box. Click the button to clear the contents.



Keyboard Commands



Function Editing

Application

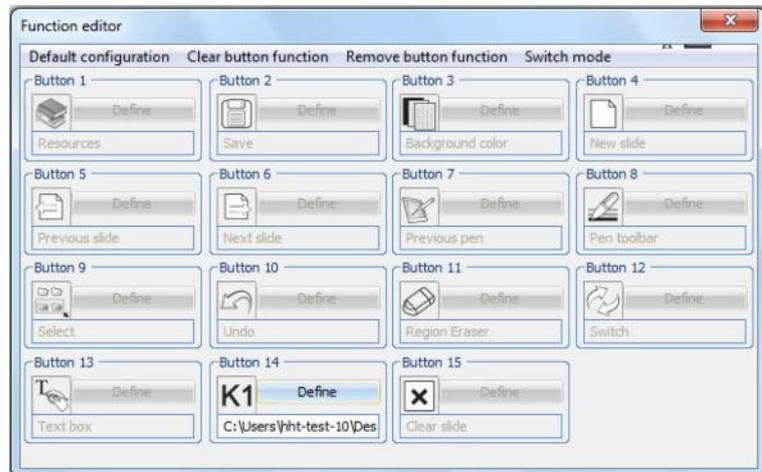
In the application option, you can set the "File" and "Network" hotkeys.

File

When the user needs to quickly open a file during usage, click **Open** in the "Apply"

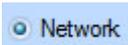
option, and then click the button. The selection dialog box appears in the

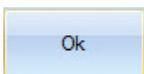
computer, and the user can select the file which is needed.

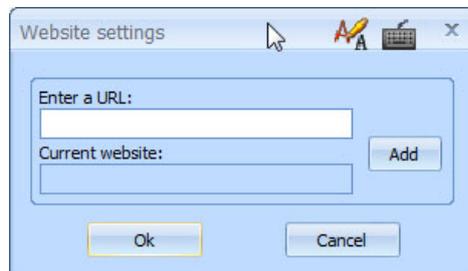


Function Editing

Network

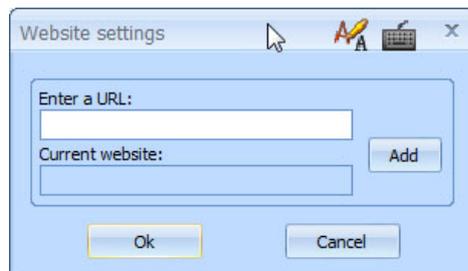
When the user needs to use the network during usage, click  in the "Apply" option,

and then click the  button.

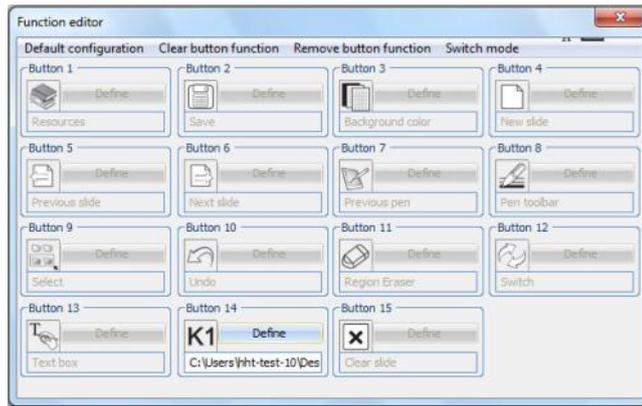


Set the URL

To input the URL, such as <http://www.honghe-tech.com/> , click the  button, and a dialog box will appear.



URL SETING



Function Editing

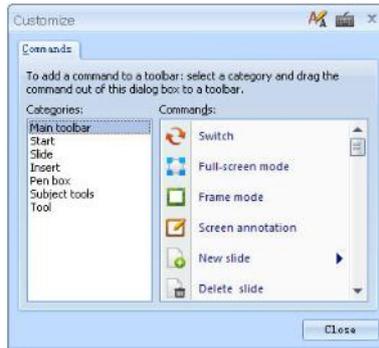
Toolbar is shown below.



Title	Function
<p>Default configuration default configuration</p>	<p>Click the "default configuration" tab and you can revert to the default function of the whiteboard.</p>
<p>Clear button function Clear button function</p>	<p>Click "Clear button function " tab and all the hotkey's functions will be cleared and you can set them again.</p>
<p>Remove button function Delete button function</p>	<p>Click the "Delete button function " button, and one hotkey's function will be removed and you can set it again.</p>
<p>Switch mode Switching mode</p>	<p>Switching mode includes "writing mode" and "mouse function," as shown below. "Writing mode" corresponds to "full screen mode," "window mode" and "frame mode" and "mouse mode" correspond to "desktop mode." The two modes have different functions, and each function can be set correspondingly.</p> <div data-bbox="788 1496 1120 1599" style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <input checked="" type="checkbox"/> Writing mode <input type="checkbox"/> Mouse mode </div> <p style="text-align: center;">Switching mode dialog box</p>

Configuration Interface

When you click the Configure Interface Button  Configuration interface in File option, the dialog box shown below pops up, in which you can add and delete functions according to your needs.



Customize Dialog

If you want to insert the function of “Media”, you just need to click “Insert” and “Media” and drag it to the Main Toolbar (see the figures below). If you do not need this function, you just need to drag it out of the Main Toolbar.



The Main Toolbar **before** Amendment



The Main Toolbar **after** Amendment

Language Select

When you click Language Select Button  Language Select , the dialog box shown below pops up. When you select a language in the Language List the whole software interface will change to the form of selected language.



Dialog Box of language select

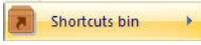
Shortcut Box

You may set the PPT, graphs and videos in your computer to the shortcut box. When you want to use them you just need to click their path.

When you click the File option in the Main Toolbar, the dialog box shown below will pop up.

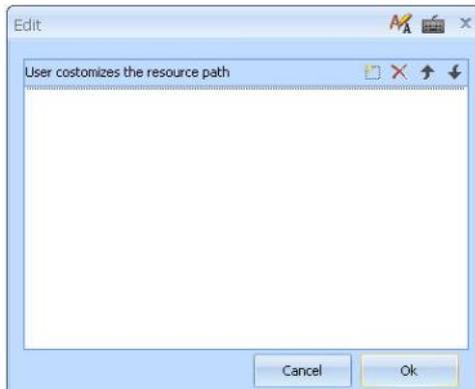


Dialog Box

When you click the Shortcut Box Button , the dialog box of Edit



pops up. After you click "Edit" the dialog box shown below pops up.



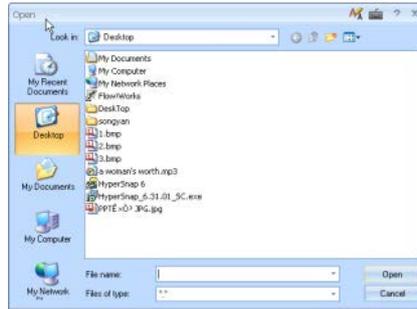
Dialog Box of Edit

When you click the  button in "Customize Resource Route" the dialog box

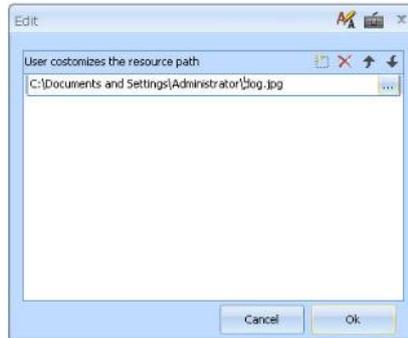


pops up. Then you click the  button, the dialog box shown

below pops up and you can select the resource you need. At the time you click the Open button, the resource will be added successfully. If you want to add a PPT, you just need to find the location of PPT from the computer, and add it to the Shortcut Box in accordance with the above steps. You may open it by clicking the content in the Shortcut Box.



Dialog Box



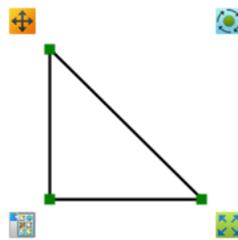
Dialog Box of Edit after Adding Contents

Basic operation of objects in the Flow!Works software

Select

While in Flow!Works, if you want to manipulate any object, you need to select that object first.

The way to select an object is to click the Select button  in the Floating Toolbar, left click and cross over the object needed. When the four functional buttons appear at the four corners of the selected object, it means the object has been selected. For example, a triangle is selected in the figure below.



A Selected Triangle

In the selected triangle above, the button in the upper left corner  is the Move Button, the button in the upper right corner  is the Rotate Button, and the button in the lower right corner  is the Zoom button. When you click the lower left button  the "Edit" menu pops up



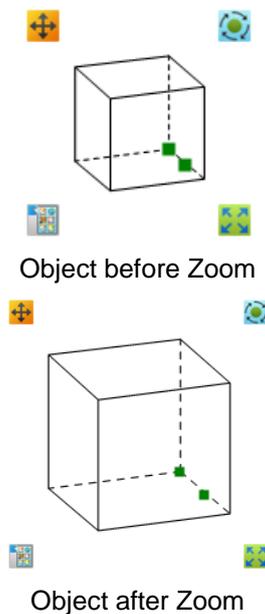
Edit Menu

Move

When you select the object and click the Move Button , you may drag the current object to any location on the slide.

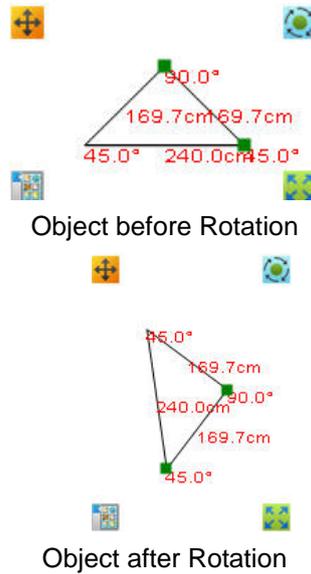
Zoom

When you select the object and click the Zoom Button , you may zoom the current object by dragging. Take the cube as an example, the figures for before and after zoom are shown below.



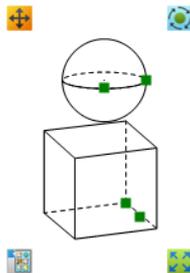
Rotate

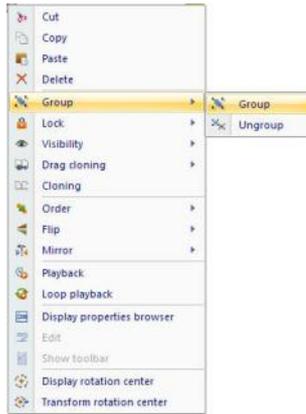
When you select the object and click the Rotate Button , you may rotate the object by dragging. Take the triangle as an example, the figures for before and after rotation are shown below.



Group

You may group multiple objects in the slide and make them act as one object. For example, when you select several objects at the same time as shown in the figure below you can click the edit button  and choose the “Group” option in the drop-down menu. These grouped objects can be regarded as a complete object. If you want to ungroup the objects, please click the option of “Cancel Group”.

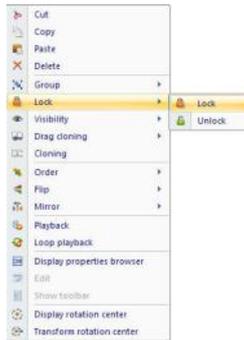




Group Objects

Lock

You may lock the current object to avoid it being moved to any other places. The way to lock an object is to click the current selected object and choose “Lock” in the drop-down menu of Edit Button.

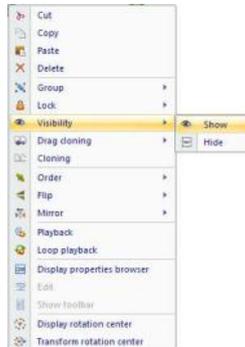


Lock an Object

The locked object cannot be moved any more. If you want to restore to the unlocked state, please choose the option of “Unlock”.

Set Visibility

You can set the visibility of any object. After you select the object, choose “Set Visibility” in the drop-down menu of the “Edit” button.



Set Visibility to an Object

When the setting is “Display”, the object is visible; when the setting is “Hide”, the object is invisible.

Clone

You may clone the object in the slide. There are two ways: cloning and drag cloning.

1. Cloning: Select the object, choose the option of “Cloning” in the drop-down menu of “Edit” button. After, you choose the option of “Cloning”, the cloned object is generated at the location of current object. You may operate on the cloned object.

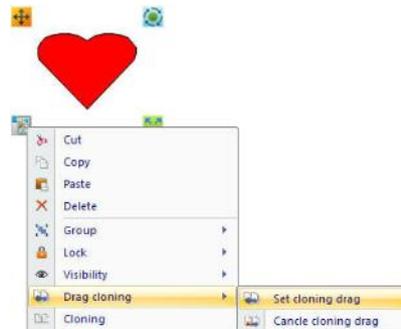


Object before Being Cloned



Object after Being Cloned

2. Drag Cloning: There are two ways to create drag cloning. One is to choose the option of “Drag Cloning” in the drop-down menu of “Edit” button, as seen below. The other one is to choose “Drag Cloning” in the Property Browser after you select the object to be cloned. After you choose the option of “Drag Cloning”, click and drag the cloned object to the desired location. Unlimited drag cloning can be made on the original object. You may end current operation by canceling the drag cloning.



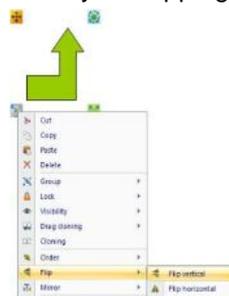
Drag Cloning of Current Object



Drag Cloning of Original Object

Flip

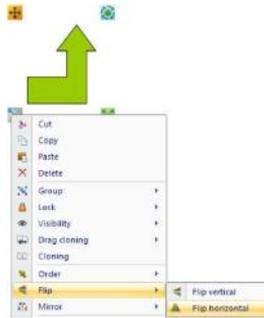
You may flip the current object by choosing the option of “Flip” in the drop-down menu of the “Edit” button. The software provides two ways of flipping: Flip Vertical and Flip Horizontal.



Set Current Object to be Flipped Vertically



Current Object after Flipping Vertically



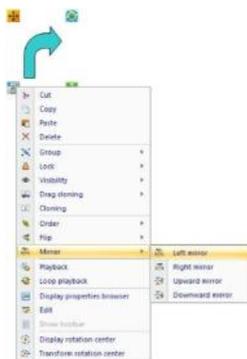
Set Current Object to be Flipped Horizontally



Object after being Flipped Horizontally

Mirror

You may use the function of the mirror to generate the upwards, downwards, leftwards or rightwards mirror image of the current object.



Set Leftwards Mirror Image of Current Object



Leftwards Mirror Image of Current Object



Rightwards Mirror Image of Current Object



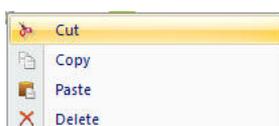
Upwards Mirror Image of Current Object



Downwards Mirror Image of Current Object

Cut, Copy, Paste, Delete

You may choose the options of cut, copy, paste or delete current object in the drop-down menu of the "Edit" button.



Options of Cut, Copy, Paste or Delete the Current Object

Part III Functional Introduction of Subject Toolbar

Mathematics Toolbar

The mathematics toolbar provides the functions of editing algebraic formulas and editing geometric functions. The tools include the Mathematical Formula, Handwritten Mathematical Formula, Plane Figure, Three-dimensional Graph, Function, Set Square, Compass, Protractor and Ruler.



Mathematics Toolbar

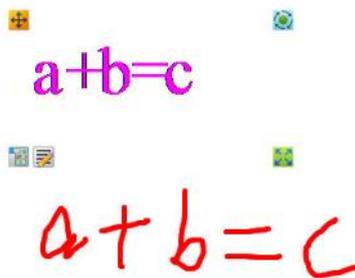
Handwritten Mathematical Formula

This function can recognize handwritten mathematical formulas in a print form. Click the Handwritten Mathematical Formula button  and drag out the display box in the slide.



Display Area of Handwritten Mathematical Formula

When you write at any place in the slide, the handwriting recognition program takes effect.



Handwritten Mathematical Formula

When you write the mathematical formulas on a virtual paper by pen, the system will automatically identify your handwriting, based on the input of the mathematical formulas.

How to write correctly

Sometimes the handwriting recognition program will have errors due to the diversity of individual writing habits. The overall recognition rate of the current system is about 90%. The time to recognize the formula counts on the number of strokes: the more stroked, the longer it takes to recognize. Currently, the system allows 35 strokes for a single formula at most. Therefore, you have to follow the correct the way to input the formula, or the input contents cannot be correctly identified. Please refer to the following principles:

Write the content in accordance to the regular stroke order

Write as neat as possible

Deleting handwritten content: If there is an error in handwritten content, you may scrawl on the false recognized results repeatedly to delete the current contents, and then re-write

Special illustration: Only combined with the specific numbers, can the Radical Sign be displayed or it will appears as "."

There are three categories of inputted contents that can be recognized by the handwritten mathematical formulas program: digital characters, the basic operators and special operators.

Identification Classification	Identification Mark	
	Digital Characters	Figure
English letter		a~z with lower case
Greek alphabet		α , β , γ , δ , ϵ , θ , λ , ω , σ , π , Π , Σ , !
Mathematical		+, -, x, *, /, -, ÷, =, ., $\sqrt{\quad}$, %

Identification Classification	Identification Mark	
		Operator
	Other characters	(,), [,], {, }
Basic Operators	Plus	
	Minus	
	Multiply	*, x
	Divide	/, -, ÷
	Exponentiation	
	Fractional	
	Radical	
	Decimal	
Special Operators	Trigonometric	sin, cos, tg, ctg
	Anti-trigonometric	sin ⁻¹ , cos ⁻¹ , tg ⁻¹ , ctg ⁻¹
	Logarithm	lg, ln
	Factorial	
	Summation	
	Modulus	mod()
	Integer	int()
	Percentage	%

Writing Example

Example 1: Handwrite the Taylor Expansion

The image shows two handwritten versions of the Taylor expansion for e^x. The top version is written in pink ink and includes small blue and green square markers at the corners. The bottom version is written in red ink.

$$e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$$

Taylor Expansion

Example 2: Handwrite the Quadratic Formula

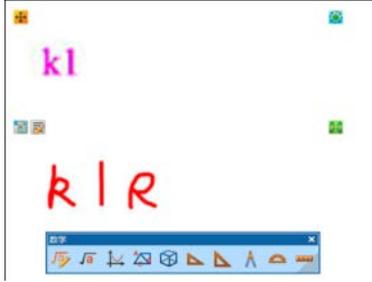
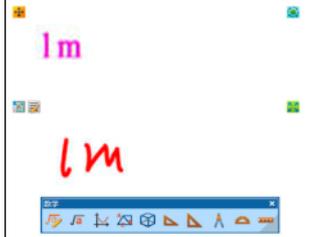
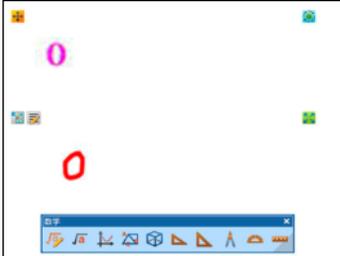
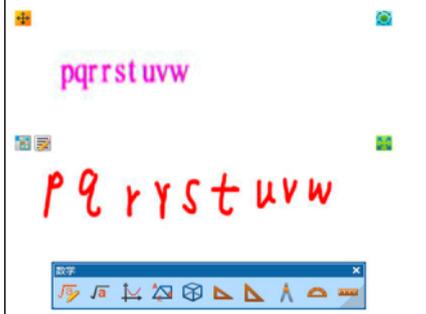
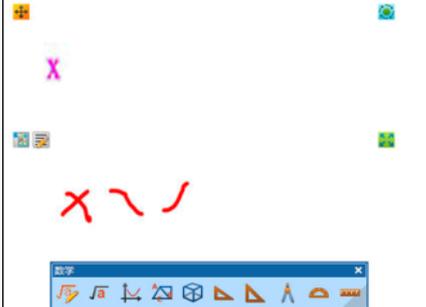
$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

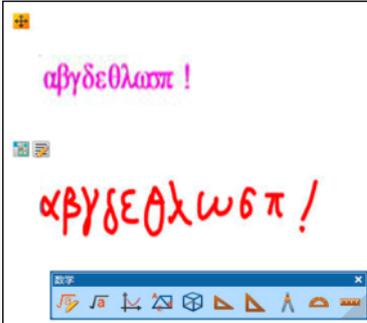
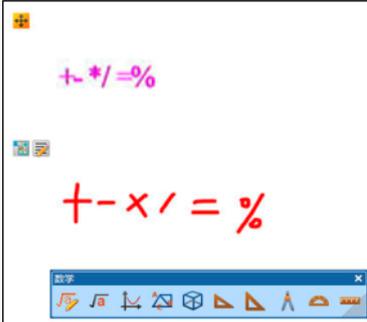
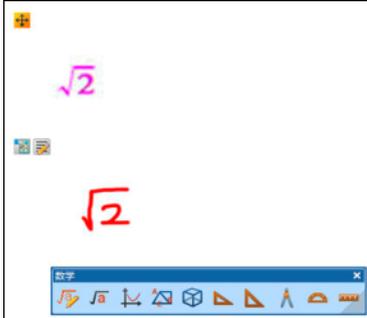
$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

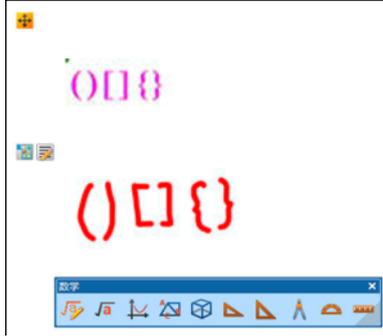
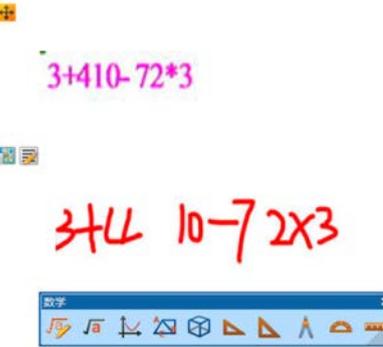
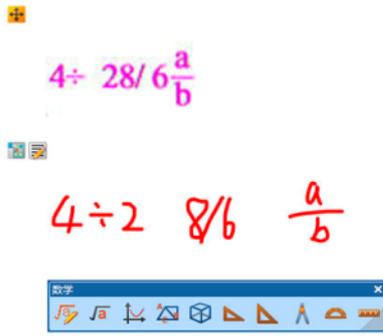
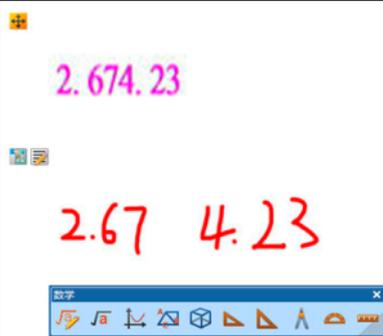
Quadratic Formula

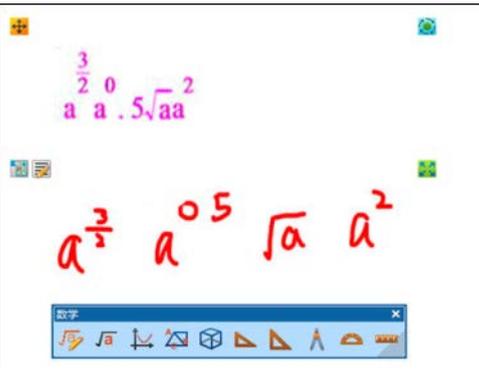
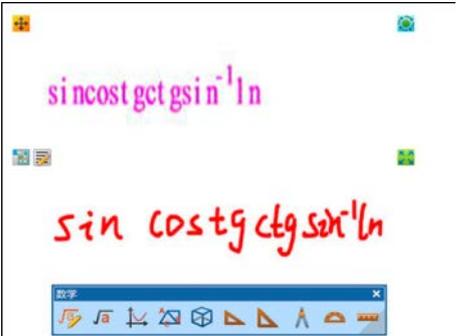
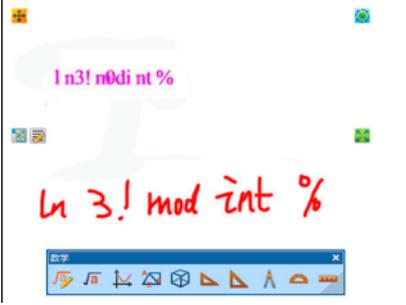
When you are using the handwritten mathematical formula function, each type of letter or mark has a different input writing method.

Input Content	Input Method	Writing Result
a,b,c,e,f,g	Input in the regular stroke writing order, and try to write the stroke in standard and neat fashion.	
i	"i" was written by two strokes, as shown below: 	
j	"j" was written by two strokes, as shown below: 	

k	<p>"k" was written by one stroke, as shown below:</p> 	
L,m,n	<p>To input "L, m, n", write in a regular stroke order, in a standard and neat fashion.</p>	
o	<p>To input the letter "o", write in a regular stroke order, in a standard and neat fashion.</p>	
p,q,r,s,t,u,v,w,z	<p>To input the letters "P, q, r, s, t, u, v, w", write in a regular stroke order, in a standard and neat fashion.</p>	
x	<p>"k" was written by two strokes, as shown below:</p> 	

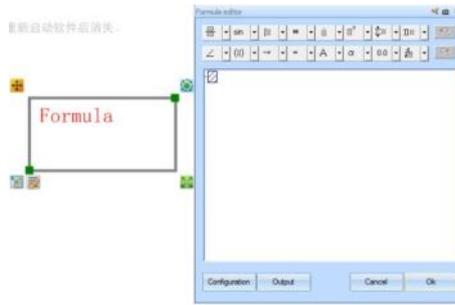
y	<p>"y" was written by one stroke, as shown below:</p> 	
α, β, γ, δ, ε, θ, λ, ω, σ, π, !	<p>To input the letters of “α, β, γ, δ, ε, θ, λ, ω, σ, π, !”, write in a regular stroke order, in a standard and neat fashion.</p>	
Π, Σ,	<p>To input “Π, Σ”, write in a regular stroke order, in a standard and neat fashion.</p>	
, *, /, -, =, %	<p>To input “+, -, *, /, -, =, %”, write in a regular stroke order, in a standard and neat fashion.</p>	
x, ÷	<p>To input “x, ÷”, write in a regular stroke order, in a standard and neat fashion.</p>	
√	<p>"√" can only be displayed with specific numbers, If there is no number, it will be displayed as a "."</p>	

<p>(,), [,], {, }</p>	<p>To input “(,), [,], {, }”, write in a regular stroke order, in a standard and neat fashion.</p>	
<p>Add:+ Minus:- Multiply: (two kinds of marks)*, x</p>	<p>Add, minus and multiply formulas must be input according to a regular stroke order, in a standard and neat fashion.</p>	
<p>Division : (three kinds of marks) /, -, ÷</p>	<p>The Division formula has three kinds of marks and must be written in a standard and neat fashion.</p>	
<p>小数 Decimal</p>	<p>The Decimal must be written in a standard and neat fashion.</p>	

<p>Exponentiation Fraction Radical</p>	<p>The Exponentiation radical is written by its regular method; base to the power integer, power fraction, and power radical.</p>	
<p>Trigonometric: sin, cos, tg, ctg anti- trigonometric functions : sin⁻¹, cos⁻¹, tg⁻¹, ctg⁻¹ logarithmic functions: lg, ln</p>	<p>Trigonometric, anti-trigonometric functions, logarithmic functions, factorial, sum, modulus, integer, and percentages are easier to be inputted and displayed.</p>	
<p>Factorial Sum modulus: mod() integer :int() Percentages : %</p>	<p>Factorial sums are easier to be written and displayed according to the regular input method.</p>	

Mathematical Formula

This function provides the means of designing algebra and geometric formulas for you. Click the Mathematical Formula button  and drag out the display box in the slide. This display box is an object, on which you can perform any operation.



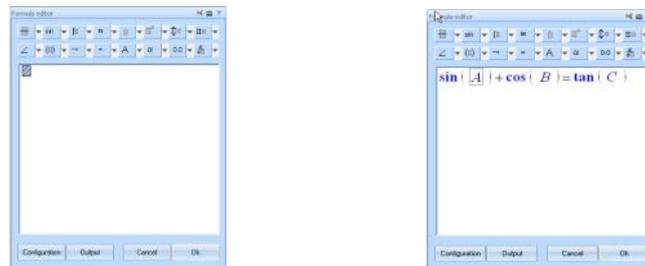
Editing Area of Mathematical Formula

When you select the option of the Display Property Browser in the drop-down menu of the “Edit” button, the property browser panel pops up.



Property Browser Panel

When you click the  button, its status changes to  and the panel is locked. When you click the formula option button , the dialog box of Formula Editing pops up.



Dialog Box of Formula Editing

You may edit the formula in the dialog box according to your needs. You can edit the font, size and color of the formula by clicking the “Set” button in the dialog box of Formula Editing and output the edited formula to the slide by clicking the “Output Image File” button.

$$\sin(A) + \cos(B) = \tan(C)$$

Edited Formula

Example: Use the mathematical formula to edit the Fourier Series of the function with 2l periods. The result of using the mathematical formula to edit the Fourier Series is shown in the function.

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$$

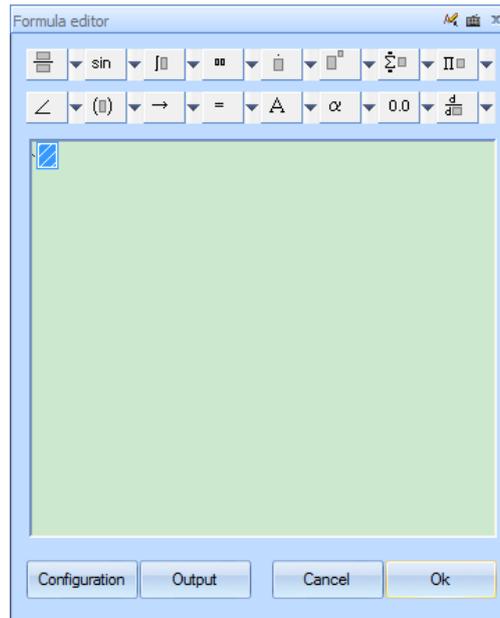
Fourier Series

1. To quickly edit an ideal mathematical formula correctly, please refer to the following examples.

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cdot \cos\left(\frac{\pi \cdot nx}{L}\right) + b_n \cdot \sin\left(\frac{\pi \cdot nx}{L}\right) \right)$$

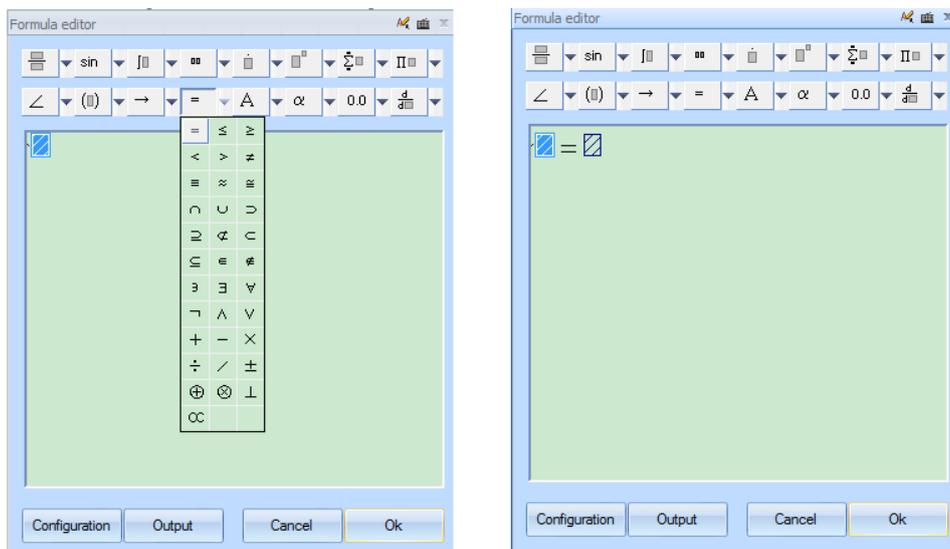
Fourier Series

1. Start the formula editor and enter the default formula editor status.



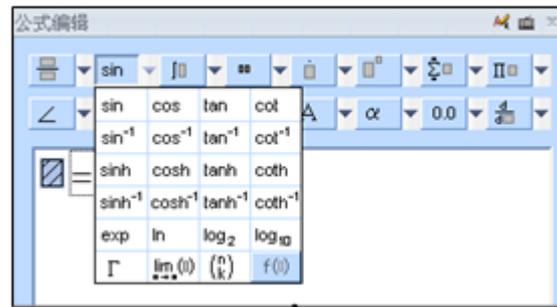
Equation Editor

2. The Fourier Series formula consists of two parts, which are connected by "=" in the middle. To get this, just select "=" in the "Relationship symbols" of the "Equation Editor."



Edit

3. Edit the contents on the left side of equal sign by selecting the  button in the "Functions" option.



Select f(x)

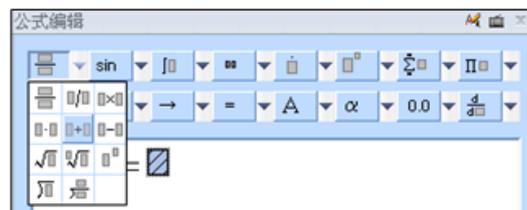
$$f(\text{edit box}) = \text{edit box}$$

Input x

$$f(x) = \text{edit box}$$

Edit the left side of equal sign

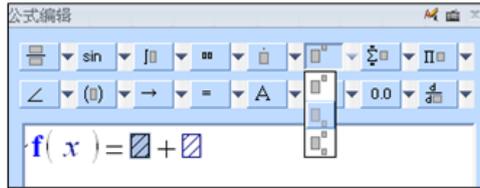
4. Edit the structure on the right side of equal sign: The structure consists of two parts, which are connected by "+" in the middle by selecting the  button in the "Fractional and radical" of the "Equation Editor."



$$f(x) = \text{edit box} + \text{edit box}$$

Edit

5. Edit the first structure on the right side: select the first "edit box" , referred to as the "Pane," and select the  button in the "up-down mark," when you input the "a" and "0" respectively.

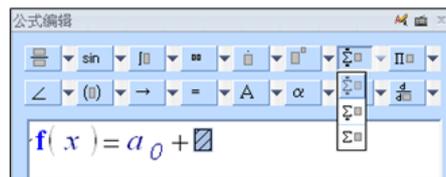


$$f(x) = [] + []$$

$$f(x) = a_0 + []$$

Edit

6. Edit the second structure on the right side: The second structure can be decomposed into A and B. Select the Pane and the \sum in the "Sum" option, and input the upper and lower values.



$$f(x) = a_0 + \sum []$$

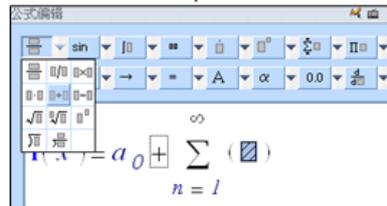
$$f(x) = a_0 + \sum_{n=1}^{\infty} []$$

Edit

7. Continue to decompose the structure on the right side : It is decomposed into A and B, which is connected by "+" in the middle.



$$f(x) = a_0 + \sum_{n=1}^{\infty} (\text{box})$$



$$f(x) = a_0 + \sum_{n=1}^{\infty} (\text{box} + \text{box})$$

Edit

8. Decompose the right side box into the smallest unit and input the corresponding contents. After decomposing A and B in the way shown above, decompose the mathematical formulas to the smallest structural unit. The Fourier Series of the function with 2L periods is completed.

$$f(x) = a_0 + \sum_{n=1}^{\infty} (\text{box} \cdot \text{box} + \text{box} \cdot \text{box})$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} (\text{box}_a \cdot \text{box} + \text{box}_b \cdot \text{box})$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} (a_n \cdot \text{box} + b_n \cdot \text{box})$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} (a_n \cdot \cos(\text{box}) + b_n \cdot \sin(\text{box}))$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cdot \cos\left(\frac{\text{box}}{\text{box}}\right) + b_n \cdot \sin\left(\frac{\text{box}}{\text{box}}\right) \right)$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cdot \cos\left(\frac{\text{box} \cdot \text{box}}{L}\right) + b_n \cdot \sin\left(\frac{\text{box} \cdot \text{box}}{L}\right) \right)$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cdot \cos\left(\frac{\pi \cdot nx}{L}\right) + b_n \cdot \sin\left(\frac{\pi \cdot nx}{L}\right) \right)$$

Decompose the mathematical formulas to the smallest structural unit

Summary: To edit mathematical formulas, you can input the contents while you breakdown the structure, or you can input the content after you breakdown the structure. After the mathematical formula is divided into the smallest units, you may input the corresponding contents.

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$$

$$f(\square) = \square + \sum_{\square} \left(\square \cdot \cos \left(\frac{\square \cdot \square}{\square} \right) + \square \cdot \sin \left(\frac{\square \cdot \square}{\square} \right) \right)$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cdot \cos \left(\frac{\pi \cdot nx}{L} \right) + b_n \cdot \sin \left(\frac{\pi \cdot nx}{L} \right) \right)$$

Edit

Tips:

- Before editing mathematical formulas, it's best to have a clear understanding of the overall structures of mathematical formulas. There are numbers of sections composing the formulas and the logical relations among plus, minus, multiplication and division are endless.
- In the process of editing the mathematical formula, you should follow an important principle, to go "from whole to part, from outside to inside."
- You can input the contents in the pane only after you have decomposed the structure of the mathematical formula into the smallest units.

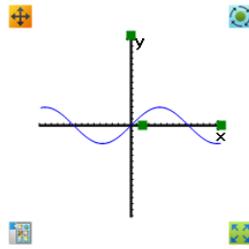
Function

When you click the Function Button , the Function Sub-toolbar pops up, in which you can select the explicit function equation, the polar coordinate equation or the parameter equation according to your needs.



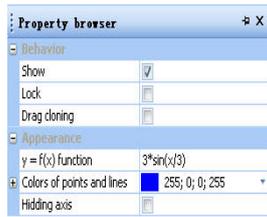
Function Sub-toolbar

When you click the Explicit Function Equation Button  and drag it into the slide, the image of an explicit function equation is generated. You can also access this in the drop-down menu of the Edit Button.

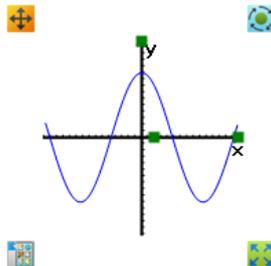


Graph of Explicit Function Equation

Select this object and open the corresponding property browser. The default function is $y=3*\sin(x/3)$. When you modify it to $y=10*\cos(x/3)$, the graph becomes the one shown below.

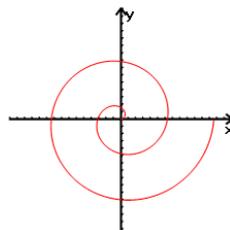


Property Browser of Explicit / Implicit Function Equation

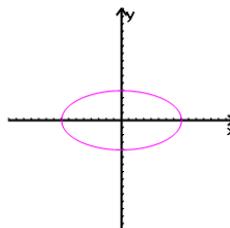


Function Graph of $y=10*\cos(x/3)$

The operations of polar equations and parametric equations in the Functon Sub-toolbar are similar to that of the explicit/ implicit function equation. You may modify their properties in the appropriate browser.



Graph of Polar Equation



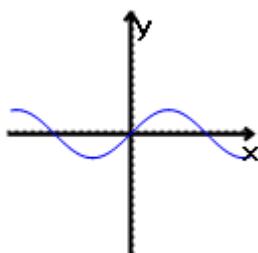
Graph of Parameter Equation

Though the system provides function features, you can easily draw a desired functional curve.

Explicit Functional Equation

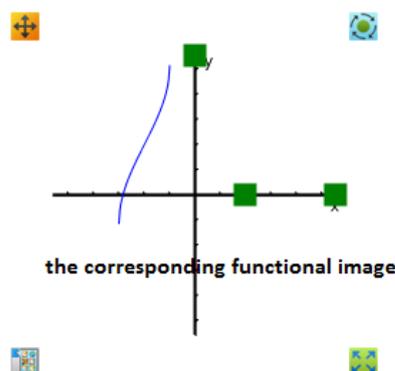
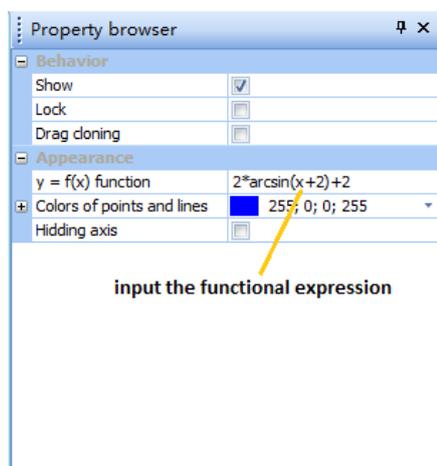
Example 1: Draw the functional expression: functional image.

Step one: Add an "explicit functional equation". Click the "coordinate system: explicit functional equation" in the "function" and add it to the edit page on the white board. The system default function expression is $y = 3 * \sin(x / 3)$.



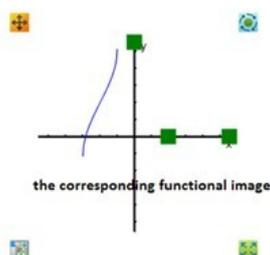
The system default explicit functional image attribution

Step two: Correctly input the functional expression. Select the added default functional image, and find the "appearance" option in the left side of the "Attribution Browser." Then input the functional expression $2 * \arcsin(x + 2) + 2$.



Draw explicit functional image

Step three: Adjust the functional image to finish the drawing. Select the functional image, and adjust the length of the axis and the space of the axis.



By selecting the functional image you can also set the image color and whether to display the axis in the "Attribution Browser."



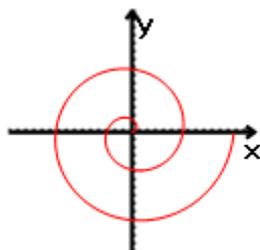
Image color and coordinate axis hidden adjustment

Tip: Functional expression in multiplication relationship must use "*", or it cannot correctly display the functional image.

Polar equation

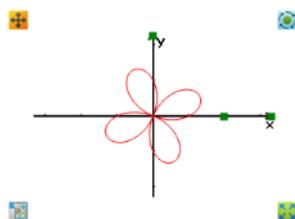
Example 2: Draw polar equation: $\rho = \cos(2\theta) + \sin(2\theta)$ functional image.

Step one: Add "polar equation" objects. Click the "coordinate system: polar equation" in "function" button, and then add it to the edit page on the white board. The system default functional expression is " $r = x$."



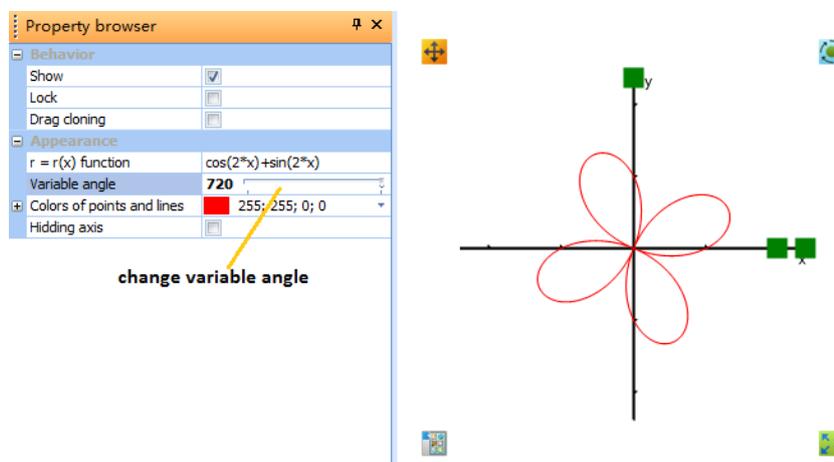
The system default polar functional image

Step two: Correctly input the functional expression. Select the added default functional image, and find the "appearance" option on the left side of the "Attribution Browser." Then input the functional expression " $\cos(2 * x) + \sin(2 * x)$."



Draw polar functional image

Step three: Adjust the functional image to finish the drawing. Select the functional image, and adjust the length of the axis and the space of the axis. The variable angle's maximum value is "720 " and the minimum value is "0."



Adjust the variable angle of polar coordinate

Tip: In order to write easily in the polar equation, we use "X" instead of "θ." Their functional images are the same.

Parametric equation

Example 3: Draw the parameter equation: ($t \in r$, t for the parameters) functional image.

Step one: Add "parameter equation". Click the "coordinate system: parametric equation" in the "function" button and then add it to the edit page on the white board. The system default functional expression is: $x(t)=8*\cos(t)$, $y(t)=4*\sin(t)$.

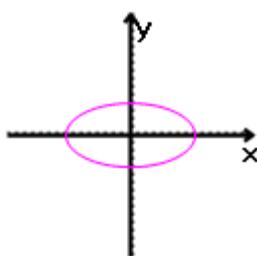
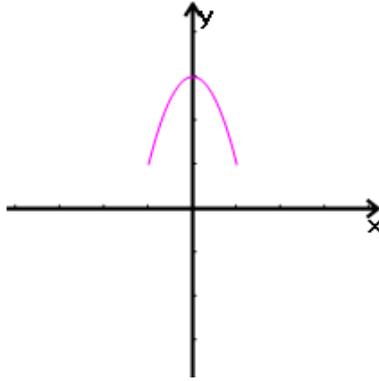


Figure3- 1 System default parameter equation's functional image

Step two: Correctly input the functional expression. Select the added default functional image, and find the "appearance" option on the left side "Attribution Browser" , then input the functional expression. The corresponding functional image appears, shown in Drawing the parametric equation image.



Drawing the parametric equation image

Step three: Adjust the functional image to finish the drawing. By select the functional image, you can modify the maximum and minimum value of the parameter "t" on the left "Attribution Browser."

Functional equation list

To draw the functional image needed, the white board currently supports the correct functional expression as follows:

Sine function: $y = \sin(x)$

Hyperbolic sine function: $y = \text{sh}(x)$

Cosine function: $y = \cos(x)$

Cotangent function: $y = \cot(x)$

Cotangent function: $y = \text{ctg}(x)$

Hyperbolic cosine function: $y = \text{ch}(x)$

Tangent function: $y = \tan(x)$

Tangent hyperbolic function: $y = \tanh(x)$

Ln: natural number e for the base of exponential function

Log: natural number e for the base of logarithm function

Arcsine function: $y = \arcsin(x)$

Inverse cosine function: $y = \arccos(x)$

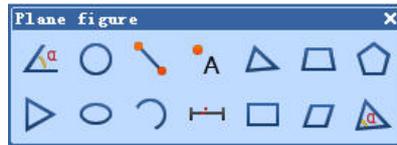
Arc tangent function: $y = \arctan(x)$

^: Power, such as $y = X^2$, the input mode is $y = x^2$

Plane Figure

You may use this function to draw plane figures and to edit them.

When you click the plane figure functional button , the sub-toolbar pops up.



Plane Figure Toolbar

Button Name	Functions
 Angle	You can draw an angle in the slide by clicking this button
 Circle	You can draw a circle in the slide by clicking this button.
 Line Segment	You can draw a line segment in the slide by clicking this button.
 Dot	You can draw a dot in the slide by clicking this button.
 Arbitrary Triangle	You can draw an arbitrary triangle in the slide by clicking this button.
 Arbitrary Quadrilateral	You can draw an arbitrary quadrilateral in the slide by clicking this button.
 Arbitrary Pentagon	You can draw an arbitrary pentagon in the slide by clicking this button.
 Regular Polygon	You can draw a regular polygon in the slide by clicking this button.
 Ellipse	You can draw an ellipse in the slide by clicking this button.
 Arc, Sector	You can draw an arc or a sector in the slide by clicking this button.
 Geometric Segment	You can draw a geometric segment in the slide by clicking this button.

 Square, Rectangular	You can draw a square or a rectangular in the slide by clicking this button.
 Parallelogram, Rhombus	You can draw a parallelogram or a rhombus in the slide by clicking this button.
 Geometric triangle	You can draw a geometric triangle in the slide by clicking this button.

You can select the desired graphics in the toolbar and drag it into the slide.



Arbitrary Quadrangle

After you select the current object, its property browser is displayed.



Property Browser of Arbitrary Quadrangle

You may modify the fill color, the shape and other properties of the quadrangle in the property browser panel.

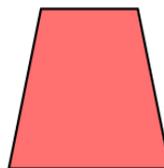
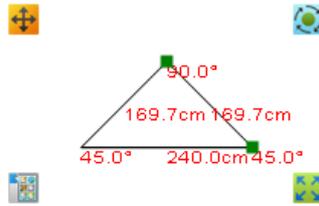


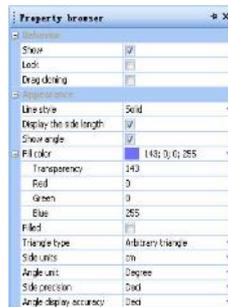
Figure3- 2 Arbitrary Quadrilateral after the fill Color is modified

Another example is that when you select the geometric triangle in the toolbar and drag it into the slide, the geometric triangle is generated.

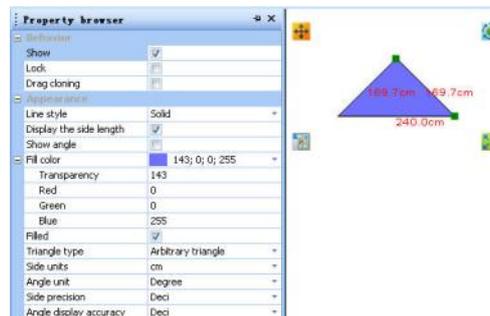


Geometric Triangle

According to your needs, you may modify the side length and angles of the triangle by clicking the green control points on the vertexes of triangle. In the property browser, you may set whether you want to display the side length and angle, and the fill color as well.



Property Browser of Geometric Triangle



Current Object after Modification

After selecting an object, you may group, lock or clone it in the drop-down menu of the Edit Button.

Three-dimensional Graph

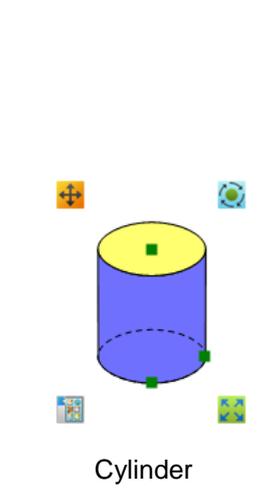
When you click the “Three-dimensional Graph” functional button  and drag out the Three-dimensional Graph Sub-toolbar, you can select the type of three-dimensional graph according to your needs.



Three-dimensional Graph Toolbar

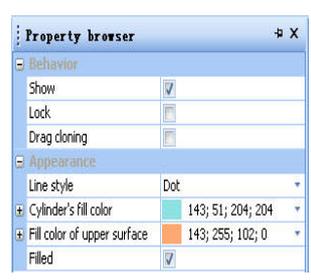
Button Name	Functions
 Cylinder	You can draw a cylinder in the slide by clicking this button.
 Cone	You can draw a cone in the slide by clicking this button.
 Totary-table	You can draw a totary-table in the slide by clicking this button.
 Cuboid	You can draw a cuboid in the slide by clicking this button.
 Pyramid	You can draw a pyramid in the slide by clicking this button.
 Frustum Pyrmid	You can draw a frustum pyramid in the slide by clicking this button.
 Sphere	You can draw a sphere in the slide by clicking this button.
 Spherical Crown	You can draw a spherical crown in the slide by clicking this button.
 Dihedral Angle	You can draw a dihedral angle in the slide by clicking this button.
 Cube	You can draw a cube in the slide by clicking this button.

Take the cylinder as an example, when you select Cylinder  in the toolbar and drag it onto the slide.

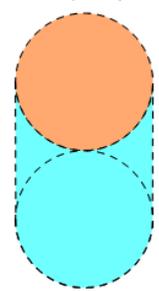


Cylinder

When a graph is selected, its property browser shows up. You can modify the properties such as the fill color.

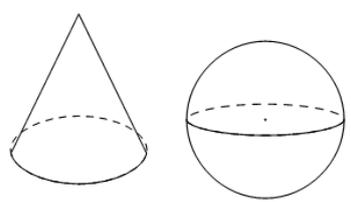


Cylinder Property Browser



Cylinder after Modification of Properties

In the Three-dimensional Graph toolbar, you can also select cone, cuboid, sphere and other three-dimensional graphs. The operation process is similar to that of a cylinder.

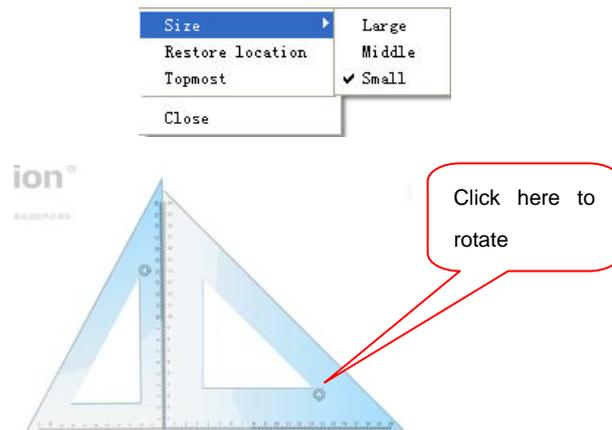


Cone and Sphere

Set Square

The software provides tools for an isosceles right-angle set square and a 30-60 degree right-angle set square, with which you may draw straight lines and can measure the distance. You can also parallel move, zoom, or rotate this tool. When you click anywhere on the set square, you can move it. When you drag along the edge of scale, you can draw straight lines

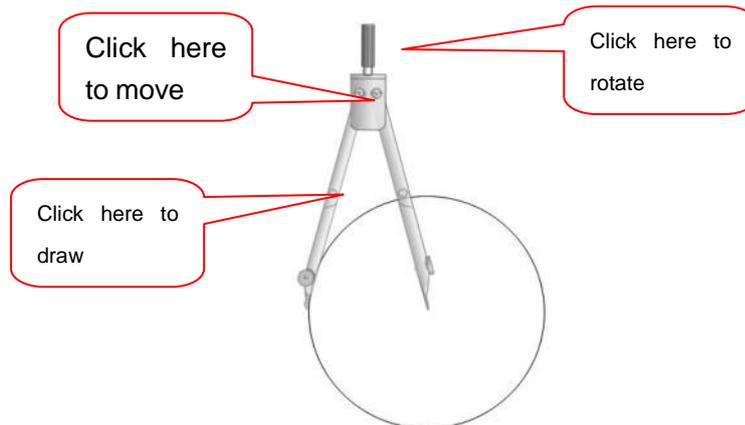
on the whiteboard. When you click anywhere of the set square, the dialog box will pop up.



Degree Right-Angle Set Square and Isosceles Right-Angle Set Square

Compasses

Compasses provide the basic function of drawing a circle. Moreover, the compasses can be parallel moved or rotated.



Compasses

Click anywhere on the compass to access the compass menu.

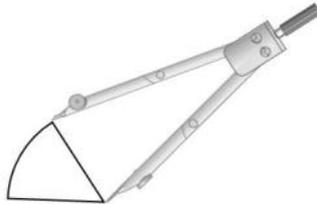


Compasses Menu

You may draw an arc or a sector with the compass.



Drawing an Arc with Compasses



Drawing a Sector with Compasses

Protractor

With this tool, you can measure angles and also draw arcs, angles or sectors. When you click the left button of the mouse on the protractor, the control menu pops up. You can select the graph type according to your needs. After selecting a graph type, you can drag along the edge of the protractor, and draw the graph with the specific angle.

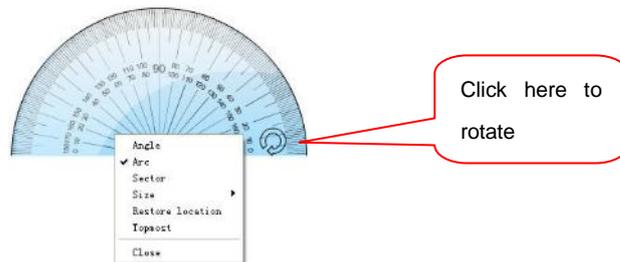


Figure3- 3 Control Menu

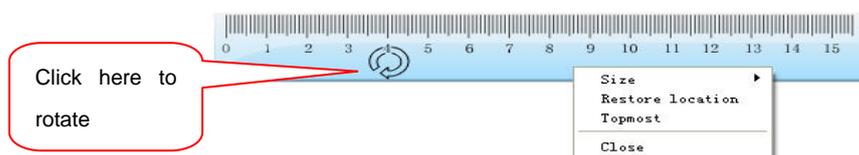


Angle, Angle and Circle with Specified Angle Degree

You can parallel move, zoom or rotate the protractor according to your needs.

Ruler

You can use this tool to draw a straight line and measure distances. You can get a straight line by drawing along the edge of the scale. When you click the ruler, the selective box pops up, with which you can choose the size of ruler or exit the ruler.



Ruler

Physics Toolbar

The Physics Toolbar provides the functions commonly used in physics teaching, such as the functions of linear motion, Newton's Law, pulleys, electricity, schematic diagram, electromagnetism and optics.

In the Frame Mode, when you select the Toolbar Button in the Menu bar and click on "Physics" in the drop-down menu, the physics toolbar pops up.



Physics Toolbar

There are seven functional buttons in physics toolbar. The functions are specified in Table 22.

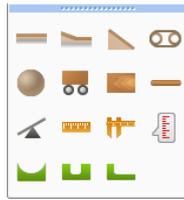
Linear Motion

Table 22: Details of Linear Motion Buttons

Button Name	Functions		Example
 Linear Motion	 Plane	An image of a flat plane is generated when you click this button.	
	 Inclined Plane	An image of an inclined plan is generated when you click this button.	
	 Triangle Inclined	A triangular inclined plane is generated when you click this button.	

	Plane		
	Conveyer Belt	A conveyer belt is generated when you click this button.	
	Ball	A ball is generated when you click this button.	
	Trolley	A trolley is generated when you click this button.	
	Wooden Block	A wooden block is generated when you click this button.	
	Stick	A stick is generated when you click this button.	
	Lever	A lever is generated when you click this button.	
	Ruler	A ruler is generated when you click this button.	
	Vernier Caliper	A Vernier caliper is generated when you click this button.	
	Scale Viewer	A scale viewer is generated when you click this button.	
	Circular Groove	A circular groove is generated when you click this button.	
	Groove	A cavity is generated when you click this button.	
	Arc Skateboard	An arc skateboard is generated when you click this button.	

When you click the Linear Motion Button  the Linear Motion Toolbar pops up.

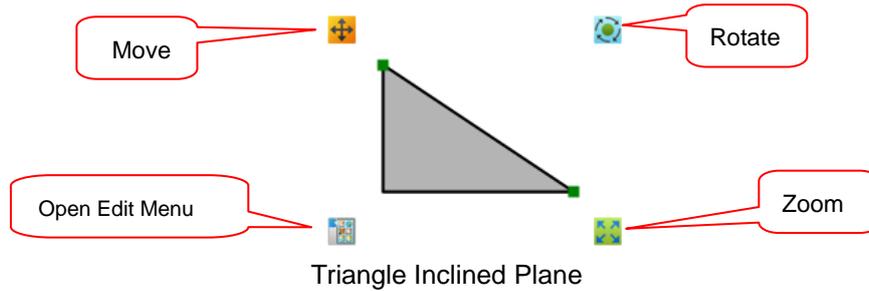


Linear Motion Toolbar

Dragging the upper blue bar at the top of the box changes the menu into a new toolbar. You can move it to any position by clicking and dragging the title bar.



When you click Triangle  Inclined Plane Button  in the sub-menu and drag in the slide, the triangle inclined plane is generated. You may make following operations on the current object once you select it.



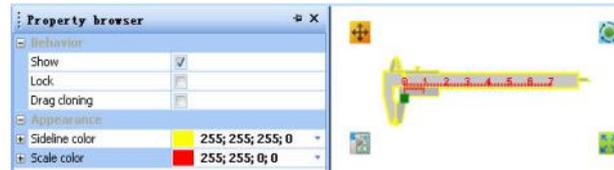
A trolley is generated when you click the Trolley Button  in the sub-menu and drag it into the slide. You may modify the size of trolley horizontally or vertically by dragging the green control point at the lower right corner of the trolley.



The Vernier Caliper is generated when you click on the Vernier Caliper Button  in the sub-menu and drag it into the slide. You may read the scale at the specified location after dragging the green control point. The sideline color and scale color can be modified in its property browser panel.



Property Browser of Vernier Caliper



Vernier Caliper after Modification of Properties

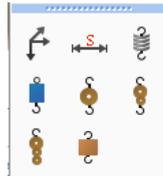
Newton's Law

Table 21: Details of Newton's Law Buttons

Button Name	Functions	Example	
 Newton's Law	 Force	Force vectors are generated when you click this button.	
	 Distance Representation	A distance representation is generated when you click this button.	
	 Spring	A spring is generated when you click this button.	
	 Spring Scale	A spring scale is generated when you click this button.	
	 Pulley	A pulley image is generated when you click this button.	
	 Pulley Block (Two Pulleys)	A pulley block with two pulleys is generated when you click this button.	

	 Pulley Block (Three Pulleys)	A pulley block with three pulleys is generated when you click this button.	
	 Hook Weight	A hook weight is generated when you click this button.	

When you click Newton's Law button  in the physics toolbar, the toolbar of Newton's Law pops up.



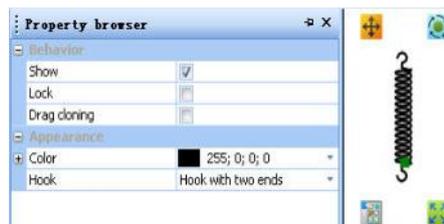
Newton's Law Toolbar

Dragging the upper blue bar in the toolbar, the Newton's Law Toolbar comes out. You may move it to any position by clicking its title bar.



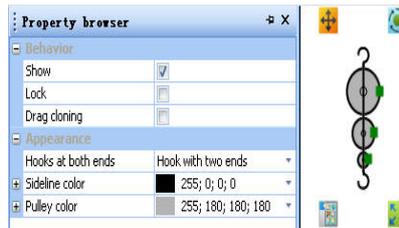
Newton's Law Toolbar

When you click the Spring Button  in the drop-down menu and drag in the slide, a spring pops up. You may modify the number of hooks and color of the spring in the property browser.



Spring Property Browser

When it comes to the pulley block, once you click Pulley Block (Three Pulleys) Button  in the sub-menu and drag in the slide, a pulley block pops up. You may choose to have a hook or not, the sideline color, and the pulley color in the property browser.



Property Browser of Pulley Block

Physical State

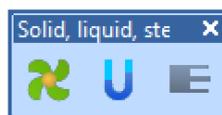
Table 22: Details of Physical State Buttons

Button Name	Functions		Example
 States of Matter	 Propeller	A propeller is generated when you click this button.	
	 Manometer	A manometer is generated when you click this button.	
	 Cylinder	A cylinder is generated when you click this button.	

When you click the States of Matter button  in physics toolbar, the toolbar pops up.



Dragging the upper blue bar at the top of the box changes the menu into a new toolbar. You can move it to any position by clicking and dragging the title bar.



States of Matter Toolbar

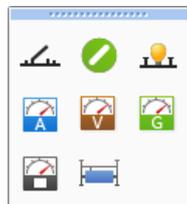
Electricity

Table 23: Details of Electricity Functions Buttons

Button Name	Functions		Example
 Electricity	 Switch	An electric switch is generated when you click this button.	
	 	An electric knob is generated when you click this button.	

Knob		
 Lamp	An electric light is generated when you click this button.	
 Ammeter	An electric ammeter is generated when you click this button.	
 Voltmeter	An electric voltmeter is generated when you click this button.	
 Galvanometer	An electric galvanometer is generated when you click this button.	
 Custom Table	An electric custom table is generated when you click this button.	
 Slide Rheostat	An electric sliding rheostat is generated when you click this button.	

When you click Electricity Functional Button  in physics toolbar, the Electricity Toolbar pops up.



Electricity Toolbar

Take the sliding rheostat as an example. When you click Sliding Rheostat Button  in the sub-menu and drag in the slide, a sliding rheostat pops up. You may modify it by dragging the green control point of the sliding rheostat.



Sliding Rheostat before modification



After modification

Electricity Schematics

Table 24: Details of the Electricity Schematics Buttons

Button Name	Functions	Example
 Electricity Legend	 Battery	A battery is generated when you click this button. 
	 Battery Pack	A battery pack is generated when you click this button. 
	 Two-way Switch	A two-way switch is generated when you click this button. 
	 Switch	An open switch is generated when you click this button. 
	 Light	An electric light is generated when you click this button. 
	 Electric Bell	An electric bell is generated when you click this button. 
	 DC Motor	A DC motor is generated when you click this button. 
	 AC Motor	An AC motor is generated when you click this button. 
	 Ammeter	An ammeter is generated when you click this button. 
	 Voltmeter	A voltmeter is generated when you click this button. 
	 Resistance	A resistance is generated when you click this button. 
	 Sliding	A sliding rheostat is generated when you click this button. 

	Rheostat		
	 Ground	A ground is generated when you click this button.	
	 Capacitor	A capacitor is generated when you click this button.	
	 Speaker	A speaker is generated when you click this button.	

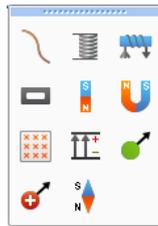
Electromagnetism

Table 25: Details of the Electromagnetism Buttons

Button Name	Functions		Example
 Electromagnetism	 Wire	A wire is generated when you click this button.	
	 Coil	A coil is generated when you click this button.	
	 Coil A	A coil is generated when you click this button.	
	 Iron Core	An iron core is generated when you click this button.	
	 Bar Magnet	A bar magnet is generated when you click this button.	
	 U-shaped Magnet	A U-shaped magnet is generated when you click this button.	
	 Magnetic Field	A magnetic field is generated when you click this button.	
	 Electric Field	An electric field is generated when you click this button.	

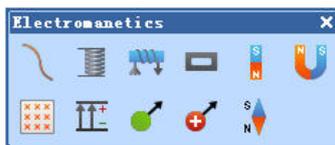
 Electric Charge	An electric charge is generated when you click this button.	
 Electron positron	An electron-positron is generated when you click this button.	
 Small Magnetic Needle	A small magnetic needle is generated when you click this button.	

When you click the Electromagnetism Button  in Physics Toolbar, the Electromagnetism Toolbar pops up.



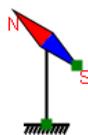
Electromagnetism Toolbar

Dragging the upper blue bar in the toolbar, the Electromagnetism Toolbar comes out. You may move it to any position by clicking its title bar.

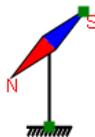


Electromagnetism Toolbar

A small magnetic needle is generated when you click Small Magnetic Needle Button  and drag in the slide. When you drag the green control point, you may rotate the small magnetic needle.



Small Magnetic Needle before Modification



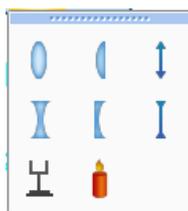
Small Magnetic Needle after Modification

Optics

Table 26: Details of the Optic Buttons

Button Name	Functions	Example
 Convex Lens	A convex lens is generated when you click this button.	
 Semi-convex Lens	A semi-convex is generated when you click this button.	
 Converging Lens Symbol	A converging lens symbol is generated when you click this button.	
 Concave Lens	A concave lens is generated when you click this button.	
 Semi-concave Lens	A semi-concave lens is generated when you click this button.	
 Diverging Lens Symbol	A diverging lens symbol of physical optics is generated when you click this button.	
 Optical Bracket	An optical bracket is generated when you click this button.	
 Candle	A candle is generated when you click this button.	

When you click the Optics Button  in Physics Toolbar, the Optics Toolbar pops up.



Optics Toolbar

Dragging the upper blue bar in the toolbar, the Optics Toolbar comes out. You may move it to any position by clicking its title bar.

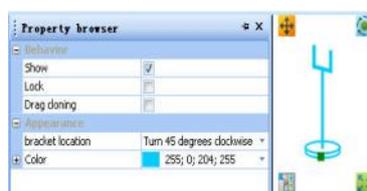


Optics Toolbar

An optical bracket is generated when you click Optical Bracket Button  in the sub-menu and drag in the slide. You may modify the location and color of it in the property browser.



Optical Bracket



Optical Bracket after Modification of Properties

Chemistry Toolbar

The chemistry toolbar provides functional buttons and images that include chemical symbols, the periodic table, atomic structure, lab equipment and tools to facilitate your teaching.

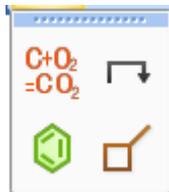
When you click the Toolbar Button  and select Chemistry Toolbar in the drop-down menu, the toolbar pops up.



Chemistry Toolbar

Chemical Symbols

You may use this tool with the screen keyboard or computer keyboard to input and display the chemical equation. When you click the Chemical Symbol  Button, the toolbar pops up.



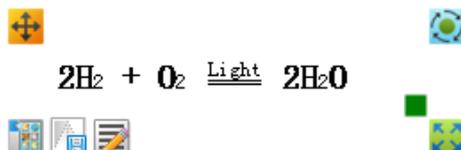
Chemical Symbol Toolbar

Dragging the upper blue bar in the toolbar, the Chemistry Toolbar comes out. You may move it to any position by clicking its title bar.



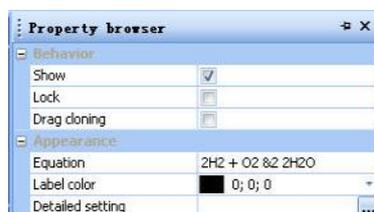
Chemical Symbol Toolbar

The default chemical equation pops when you click the Chemical Equation Button  and anywhere of the.



Default Chemical Formula

You can edit the chemical equation by opening the property browser. You can modify the formula, color, and specified settings.



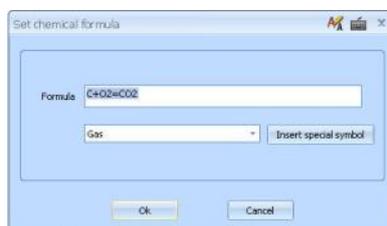
Property Browser of Chemical Equation

When you modify the formula, just type in the coefficients, chemical symbols, and the subscripts and it will automatically make them appear as they should in the chemical equation.



Input Chemical Equation

When you click the  button in the detailed setting, the dialog box of “Set Chemical Equation” pops up.



Dialog Box of Setting Chemical Equation

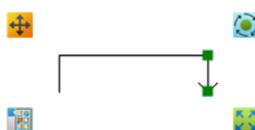
You may select special symbols by clicking on the Insert Special Symbol Bar to insert a special symbol into the equation.



Special Symbols for Chemical Formula

The two-lane bridge tool expresses the transferring direction elements in a chemical reaction.

A two-lane bridge pops up when you click two-lane bridge button  and drag it into the blank space of the slide.

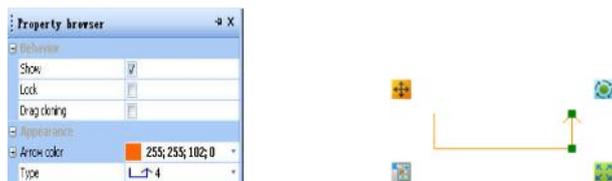


Two-lane Bridge

You may modify the properties of current two-lane bridge in its property browser by clicking on the type drop down arrows. This changes the direction and orientation of the arrow.



Two-lane Bridge before Modification of Properties



Two-lane Bridge after Modification of Properties

You can display the structure diagram of a benzene ring with Benzene Ring Structure Tool. A Benzene ring is popped up when you click the Benzene Ring Button  and dragged into the slide.



Diagram of Benzene Ring

You can modify the properties of current object in its property browser.

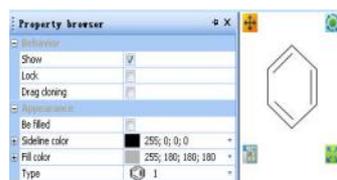
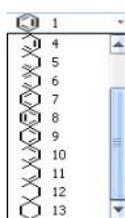


Diagram of Benzene Ring

You can change the number of lines in the ring by clicking on the drop down symbol in the Type box.



Type Menu

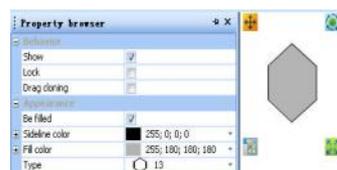


Diagram of Benzene Ring after Changing Properties

The chemical bond tool pops up when you click the Chemical Bond  button



Chemical Bond Image

You can edit the Chemical Bond in its property browser by clicking on the drop down box in the Type bar.



Property Browser of Chemical Bond



Chemical Bond after Modification of Properties

Schematic Diagram of the Atomic Structure

The number of and atom's electrons and protons can be displayed with this tool. Click Atomic Structure Button  and drag it into the slide. The default atomic number is 17.



Diagram of Atomic Structure

You can modify the color in the Properties Browser.



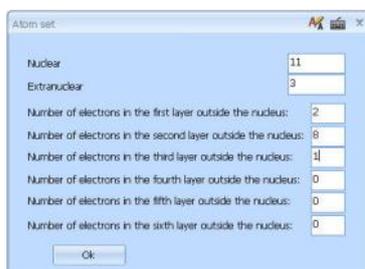
Property Browser of Atomic Structure Diagram



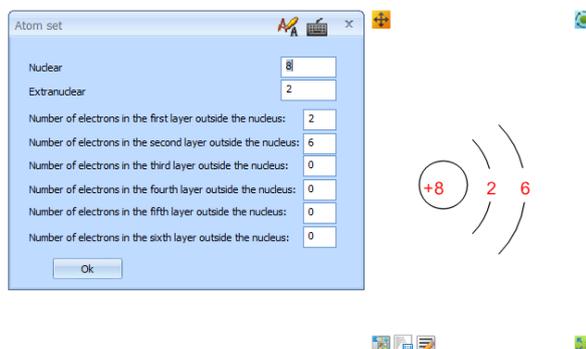
Atomic Structure Diagram after Modification of Properties

You can change the number of protons and electrons in each layer in the detailed setting.

When you click the  button, the Atom Set box pops up. To change the atomic number, change the number in the "Nuclear" setting. Changing this number will not automatically change the rest of the diagram. To change the number of shells shown, change the number in the "Extranuclear" setting. If there aren't electrons in the shell, you must select zero.



Details of Atom Set box



Atomic Structure Diagram after Modification of Properties

Chemical Equipment

When you click the Chemical Equipment Button , the sub-toolbar is popped up, which provides images of various types of equipment used in chemical experiments—balance, weight, alcohol lamp, flame, thermometer, and others.



Sub-toolbar of Chemical Equipment

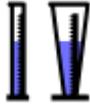
When you drag the upper blue bar in the toolbar, the Chemical Equipment toolbar comes out. You may move it to any position by clicking its title bar.



Sub-toolbar of Chemical Equipment

Table 27: Details of the Chemical Equipment Buttons

Button Name	Functions		Example
 Chemical Instrument	 Balance	A balance is generated when you click this button.	
	 Weight	A weight is generated when you click this button.	
	 Alcohol Burner	An alcohol lamp is generated when you click this button.	
	 Flame	A flame is generated when you click this button.	

	Thermometer	A thermometer is generated when you click this button.	
	Measuring Cylinder/Cup	A measuring cylinder or cup is generated when you click this button.	
	Iron Stand -1	An iron stand is generated when you click this button.	
	Tripod	A tripod is generated when you click this button.	
	Iron Stand-2	An iron stand is generated when you click this button.	
	Test Tube Clip	A test tube clip is generated when you click this button.	
	Burette Clamp	A burette clamp is generated when you click this button.	
	Forceps	Forceps is generated when you click this button.	
	Spoon	A spoon is generated when you click this button.	
	Combustion Spoon	A combustion spoon is generated when you click this button.	
	Wood Block	A wood block is generated when you click this button.	
	Plug	A plug is generated when you click this button.	
	Glass Plug	A glass plug is generated when you click this button.	

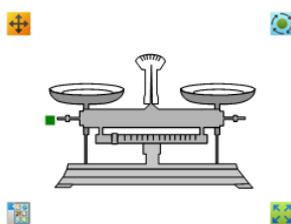
	Glass Rod	A glass rod is generated when you click this button.	
	Wire Gauze	A wire gauze is generated when you click this button.	
	Evaporation Pan	An evaporation pan is generated when you click this button.	
	Glass Tube	A glass tube is generated when you click this button.	
	Arbitrary Glass Tube	An arbitrary glass tube is generated when you click this button.	
	Glass Catheter	A glass catheter is generated when you click this button.	
	Rubber Pipe	A rubber pipe is generated when you click this button.	
	U-shaped Pipe	A U-shaped pipe is generated when you click this button.	
	Condenser Tube	A condenser tube is generated when you click this button.	
	Plastic Head Dropper	A plastic head dropper is generated when you click this button.	
	Drying Tube	A drying tube is generated when you click this button.	
	Acid Burette	An acid burette is generated when you click this button.	
	Alkali Burette	An alkali burette is generated when you click this button.	

 Funnel	A funnel is generated when you click this button.	
 Long-necked Funnel	A long-necked funnel is generated when you click this button.	
 Spherical Separator Funnel	A spherical separator funnel is generated when you click this button.	
 Separator Funnel	A separator funnel is generated when you click this button.	
 Kipp's Apparatus	A Kipp's Apparatus is generated when you click this button.	

The chemical experiment instruments supplied in the chemical toolbar are provided in object format. You may set or modify the experimental object according to your needs to reach the goal of your virtual experiment. The following is an example of the operational methods of some of the equipment:

Balance

A balance is generated when you click the Balance Button  in the sub-toolbar and drag in the slide.



Balance

Alcohol Lamp

An alcohol lamp is generated when you click the Alcohol Lamp Button  in the sub-toolbar and drag it into the slide.



Alcohol Lamp



Alcohol Lamp after Inclination

When you rotate the alcohol lamp the liquid level changes with the inclination of the container. You may modify the attributes of the alcohol lamp in the property browser.



Properties of Alcohol Lamp

You can modify the properties of the alcohol lamp, such as with/without the lampshade, with/without alcohol, the color of alcohol, etc.



Alcohol Lamp after Modification of Properties

You can modify the height of alcohol with the green control point inside of the alcohol lamp.



Height of Alcohol before Change

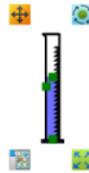


Height of Alcohol after Change

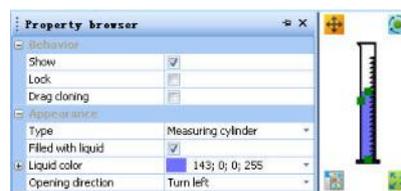
Measuring Cylinder/Cup

The measuring cylinder/cup is generated when you click the Measuring Cylinder/Cup Button

 in the sub-toolbar and drag in into the slide.

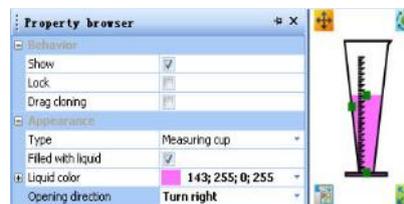


Measuring Cylinder/Cup



Property Browser of Measuring Cylinder

You can modify the attributes of the object in its property browser. You may modify the type of current object, with/without liquid, liquid color, opening direction, etc.

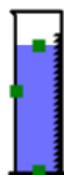


Measuring Cylinder after Modification of Properties

You can modify the liquid height and the volume of measuring cup with the green control point.



Measuring Cylinder before Modification of Properties



Measuring Cylinder after Modification of Properties

Chemical Container

Normally used chemical laboratory containers are provided by Chemical Container Tool, such as: test tube, beaker, volumetric flask, flask, distilling flask, sink, gas collecting bottle, conical bottle, reagent bottle, drainage tube, retort and so on. When you click the button of Chemical Container, the sub-toolbar pops up.



Sub-toolbar of Chemical Container

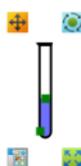
Table 28: Details of the Chemical Vessel Buttons

Button Name	Functions	Example	
 Chemical Vessel	 Test Tube	A test tube is generated when you click this button.	
	 Flask	A flask is generated when you click this button.	
	 Distillation Flask	A distillation flask is generated when you click this button.	
	 Beaker	A beaker is generated when you click this button.	
	 Sink	A sink is generated when you click this button.	
	 Gas Collecting Bottle	A gas collecting bottle is generated when you click this button.	
	 Conical	A conical bottle is generated when you click this button.	

	Bottle		
	Volumetric Flask	A volumetric flask is generated when you click this button.	
	Retort	A retort is generated when you click this button.	
	Reagent Bottle	A reagent bottle is generated when you click this button.	
	Drainage Tube	A drainage tube is generated when you click this button.	

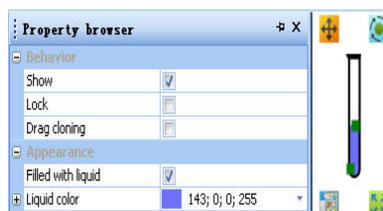
Test Tube

When you click the Test Tube Button and drag it into the slide, a test tube is generated.



Test Tube

You may modify the attributes of current object in the property browser.



Property Browser of Test Tube

You may select whether the test tube is filled with liquid or not, and modify the liquid color.



Test Tube after Modification of Properties

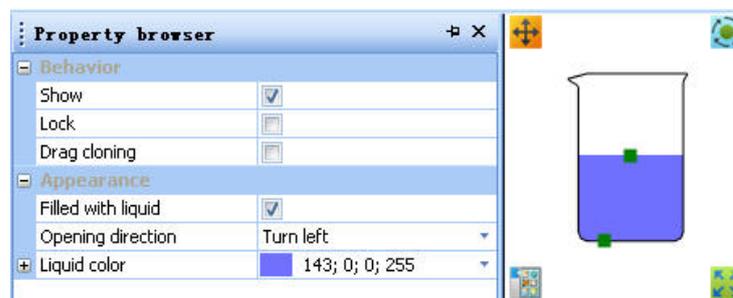
Beaker

When you click the Beaker Button  in the sub-toolbar and drag in the whiteboard slide, a beaker is generated.



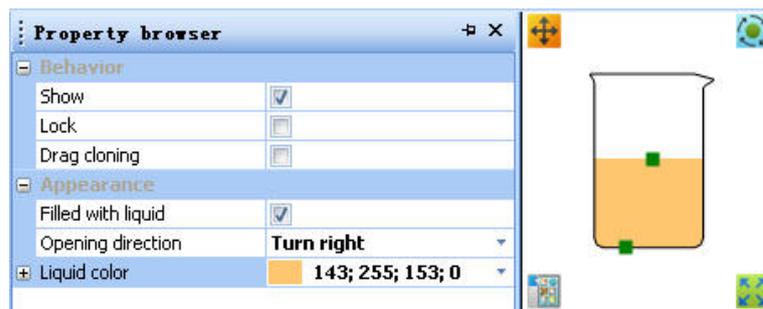
Beaker

You may modify the attributes of current object in its property browser.



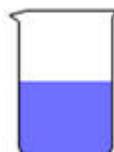
Property Browser of Beaker

You may set whether the beaker is filled with liquid or not, the opening direction and liquid color.

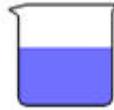


Beaker after Modification of Properties

You may adjust the liquid level and the shape of beaker via the green control point.



Beaker before Modification



Beaker after Modification

Other Functions

Table 29: The detailed functions of the Other Functions Buttons

Button Name	Functions		Example
 Other	 Solid	A solid is generated when you click this button.	
	 Bubble	Bubbles are generated when you click this button	
	 Water Drop	A water drop is generated when you click this button.	

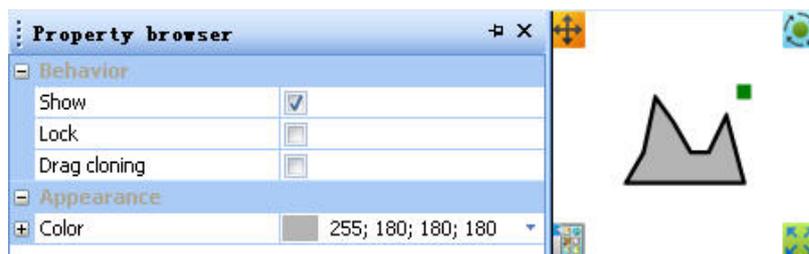
Solid 

When you click the Solid Button  and drag in the whiteboard slide, a solid is generated.

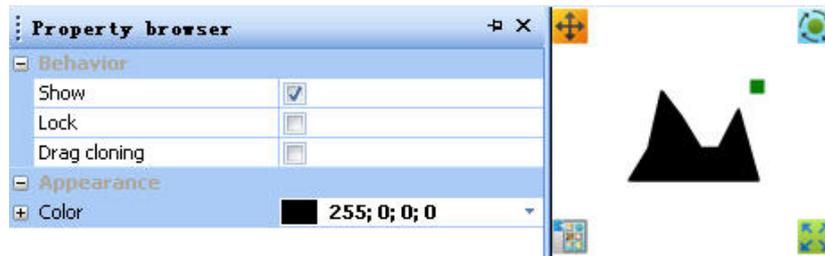


Solid

You may modify the color of current object in its property browser.



Solid before Modification of Properties



Solid after Modification of Properties

You may adjust the size and shape of the solid via the green control point.



Solid before Modification



Solid after Modification

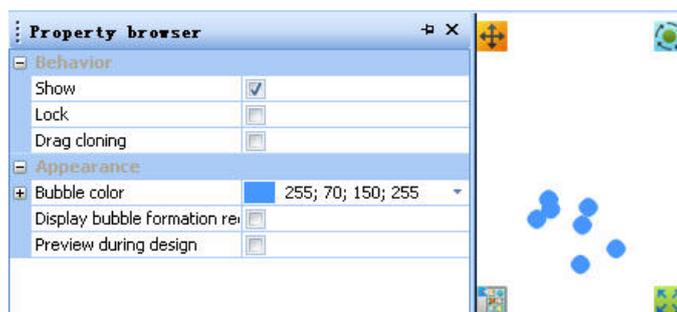
Bubbles

When you click the Bubble Button  and drag in the whiteboard slide, a bubble is generated.



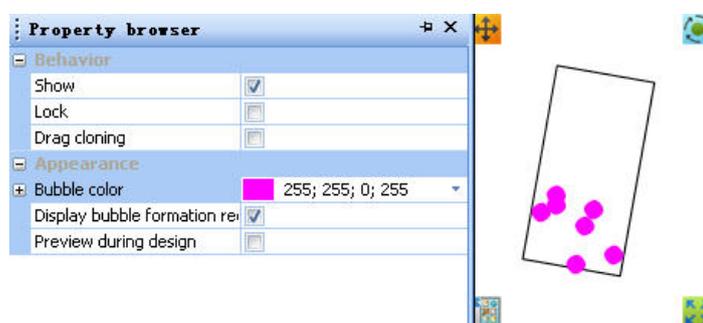
Bubble

You may modify the attributes of bubble in its property browser.



Property Browser of Bubble

You may modify the color of the bubbles and the bubble generation area, the display bubble generation area, and preview it while you are designing it.



Bubble after Modification of Properties

English Toolbar

When you click Toolbar Button  in the menu bar, click the “English” option in the drop-down menu and the English toolbar pops up. When you click Phonetic Function Button

 and drag in the slide, the default word and phonetic symbol are generated.





Default Word and Phonetic Symbol

You may modify the attributes of the word and phonetic symbol in its property browser.



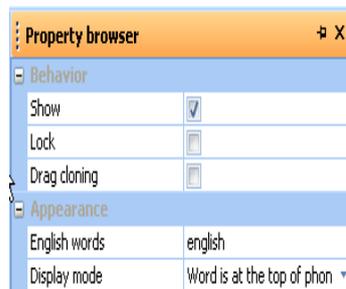
Property Browser of Word

The display mode of the word and the phonetic symbol is modified.

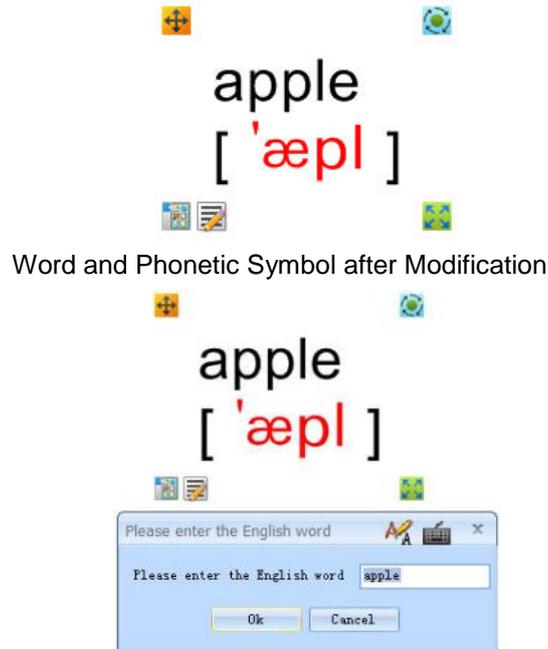


Modify Display Mode of Word and Phonetic Symbol

You can key in a new word in the “English Word” option of property browser panel. For example, when you key in “apple”, this word and its corresponding phonetic symbol are displayed on the slide.



Property Browser



General Toolbar

The General Toolbar provides frequently used tools for teaching such as the curtain tool, wrapscreen tool, spotlight tool and the windows viewer.

When you click the button of  on the toolbar, and select the general option in the drop down menu, the general tool pops up on the slide.



General Toolbar

There are twelve general tools offered by the General Toolbar. They are: clock/timer, calculator, curtain, handwriting identification, screenshot tool, screen keyboard, spotlight, windows viewer, wrapscreen tool, handwriting window, magnifier and screen recorder.

Clock/Timer

When you click the Clock/Timer Button  and drag in the slide, the clock or timer is generated. This tool provides the function of clock and a reverse timer. There are two ways to display the tool: a digital clock and a quartz clock. When you click the left button of the mouse on any place on the clock, the control menu shown in Control Menu pops up. You may select the time mode or the clock mode in the menu, and set the properties, such as the countdown timer and clock transparency.

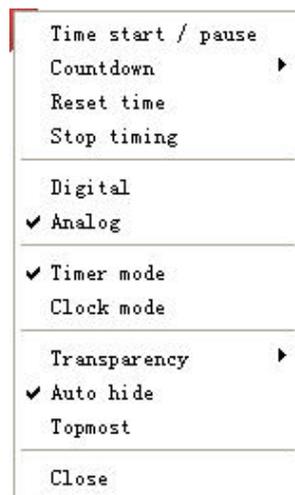
You may select the countdown timer in the control menu. You can set the countdown timer by moving the pointer on the quartz.



Digital Clock



Quartz Clock

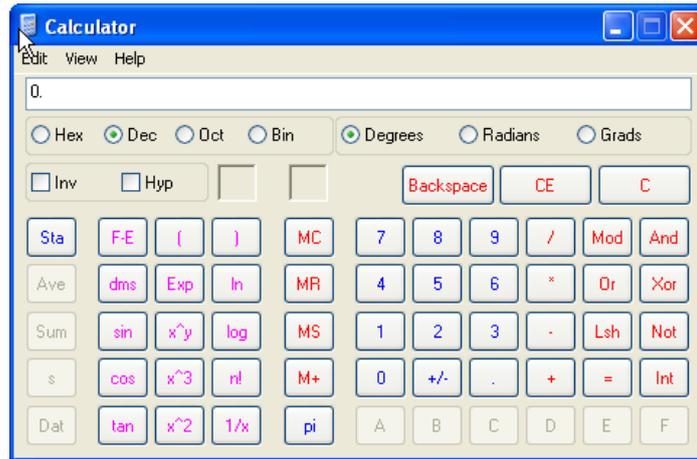


Control Menu

When you select the option of Exit in the Control Menu, the Clock/Timer exits from the whiteboard slide.

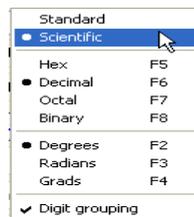
Calculator

The calculator pops up when you click the Calculator Button .



Calculator Tool

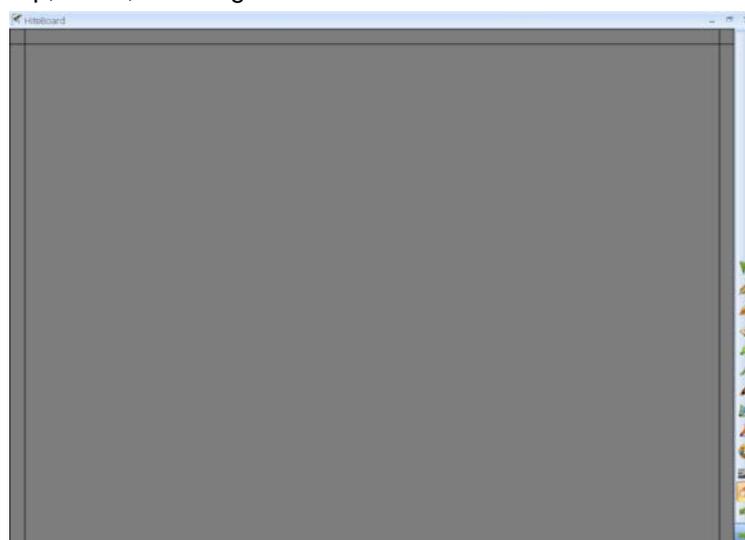
You may calculate by clicking the buttons directly. In addition, you can click the View Button to select the calculation type in the drop-down menu.



Select Calculation Type of Calculator

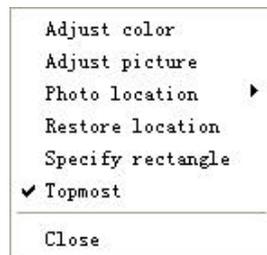
Curtain

When you click the Curtain Button , the whole slide is covered. You may move the curtain tool by dragging it up, down, left or right.



Pop up Curtain Tool

When you click anywhere on the curtain, the control menu pops up. You may select the corresponding functions according to your needs: adjusting the curtain color, changing the graph location, specifying the rectangle, etc.

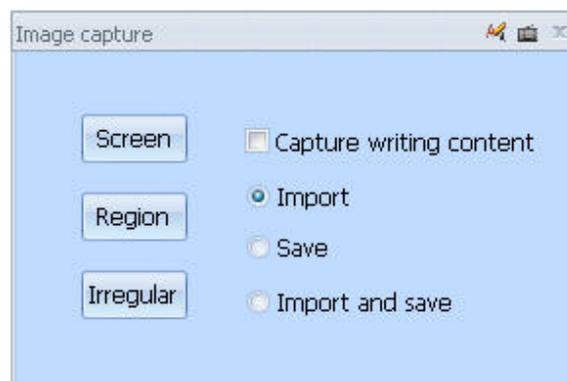


Control Menu of Curtain

Screenshot Tool

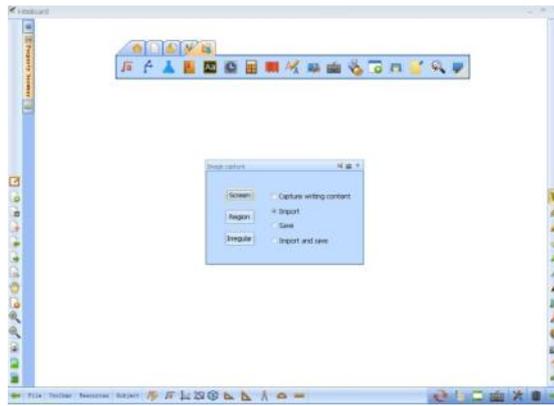
When you click the Screenshot Button , the dialog box of Image Interception pops up. The Screenshot tool provides the function of capturing current screen images. There are three different interception methods provided for you: screen interception, regional interception and irregular interception.

If you click the Screen Button, you may intercept the current content on the screen. If you click the “Region” button, you can select the rectangular region to be intercepted, via dragging on the screen. If you click the “Irregular” button, you may select the region to be intercepted by drawing the curve of any shape in the slide.



Dialog Box of Image Interception

Take the “screen” interception as an example. When you click the Screen Button and wait for one second, the currently displayed slide will be intercepted. Now if you drag in the whiteboard slide, the captured image will show up in the slide.



Screenshots figure effect

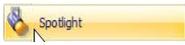
Screen Keyboard

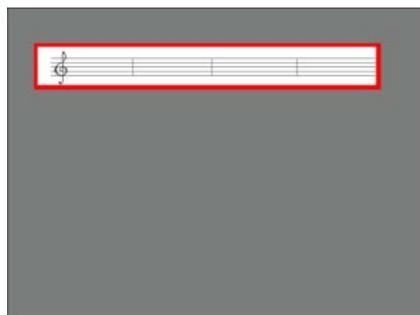
The screen keyboard tool pops up on the slide when you click the Screen Keyboard Button. This tool imitates the computer keyboard and can be used by clicking directly.



Screen Keyboard

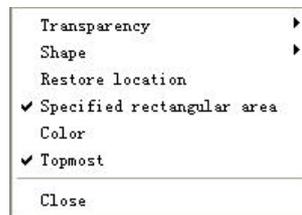
Spotlight

The spotlight effect comes on when you click the Spotlight Button . The spotlight can illuminate a region of the screen to make the audience focus on the lighted region and enhance the teaching effectiveness.



Spotlight Effect

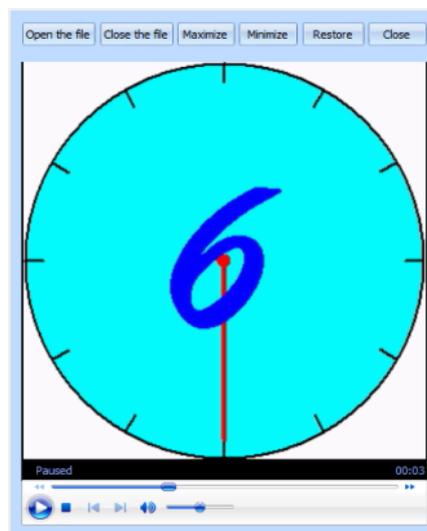
When you click the gray area of the spotlight, the spotlight control menu pops up. You can modify the shape and transparency of the spotlight, move or rotate it, and adjust the size of it.



Control Menu of Spotlight

Windows Viewer

The windows viewer pops up on the slide when you click the Windows Viewer Button . This tool provides a special window to play presentation files, such as FLASH, PPT, etc. It also provides three functional buttons. The "Minimum" functional button is used to hide the window in presentation; the "Maximum" functional button is used to display the window in full screen; and the "Restore" functional button is used to restore window to the default size.



Windows Viewer

When you click the Open File Button, the Open Dialogue Box pops up. Through this action you can select any file in the system. After you select Open, the file is played in the windows viewer.

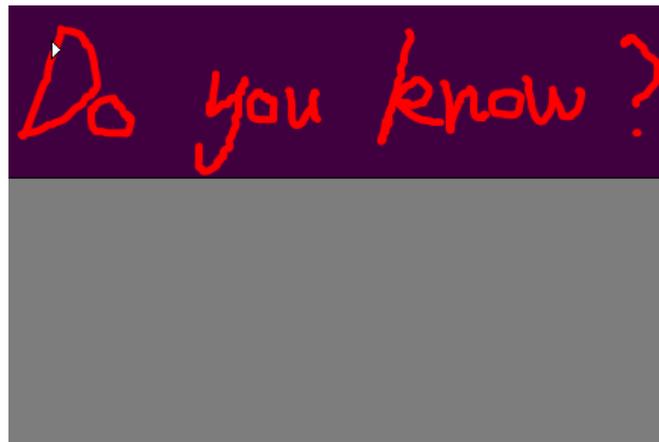


Open Dialogue Box

When you are browsing a PPT file, you may turn pages by clicking anywhere in the window. Moreover, you may control the process of PPT by dragging the scrolling bar on the right side.

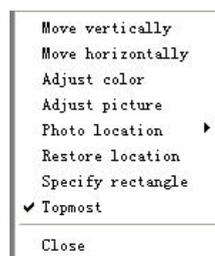
Wrapscreen

When you click the Wrapscreen Button , the whole whiteboard will be covered. This tool is used to make the audience concentrate on the uncovered content as the other part is covered.



Effect of Wrapscreen

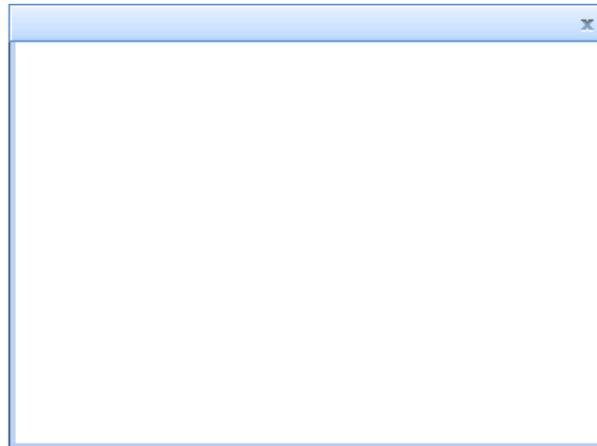
When you click on any place of the curtain, the control menu pops up, in which you may select the corresponding function according to your needs: to move the curtain horizontally or vertically, to adjust the color or picture of the curtain, etc.



Control Menu

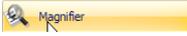
Handwriting window

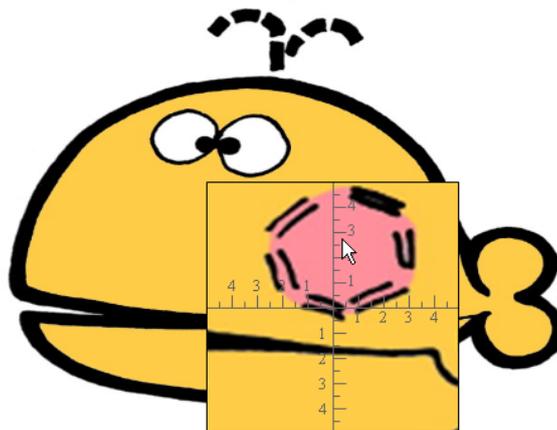
The Handwriting window pops up on the whiteboard window when you click the Handwriting Window Button . You can write in the handwriting window as well as zoom in or zoom out of it.



Handwriting Window

Amplifier

The effect of regional magnification shows up when you click the Amplifier Button . This tool provides a local amplifier with a coordinate scale.



Screen Amplifier

You may expand the local content to appropriate dimensions, via the amplifier. You could select the corresponding magnification by clicking the left mouse button at any place on the amplifier.

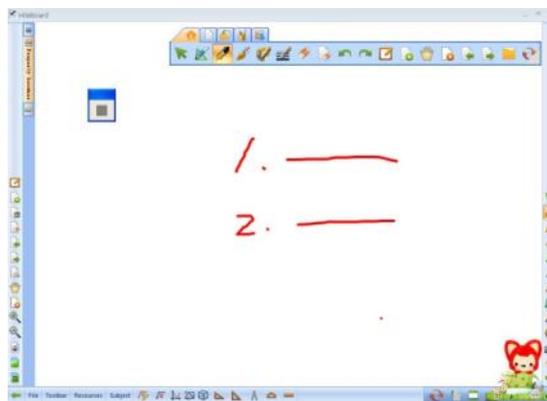
Screen Recorder

When you click the Screen Recorder Button , a recorder pops up on the slide.



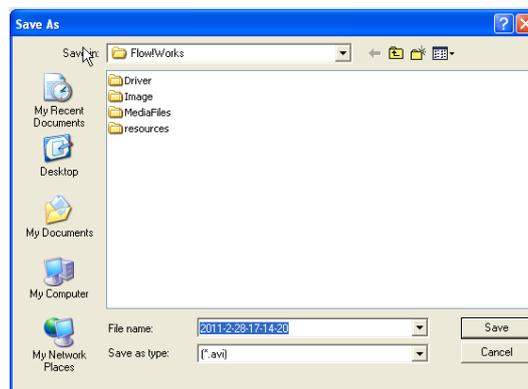
Screen Recorder

When you click the Record Button , the Stop Button  pops up, which means its beginning to record.



Recording Process

To end the recording process, please click the Stop Button . Now a Save As option pops up, in which you may select a saving location and a name. The video is saved in AVI format.

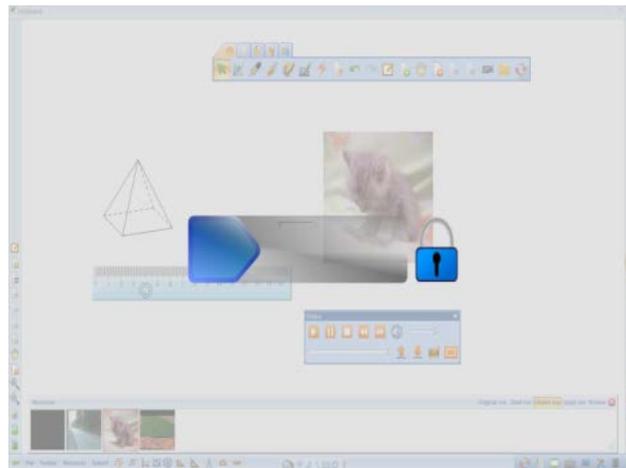


Dialog Box of Save As

Screen Lock

Click the Lock Button , and the whole software page will be covered by a semi-transparent layer, which can prevent mistakes when the white board software is not in use. It is shown

below:



Screen Lock

How to unlock the screen:

1. Press the slider on the above image to the right area to unlock the screen.
2. Click the lock button on the above image to unlock the lock.

Second method for unlock.

Introduction to the Function of Handwriting Recognition Software

Software Main Interface Introduction

The whiteboard software provides a handwriting recognition function that can analyze a user's hand written words and convert these words to input text (block letters). It can replace the keyboard or mouse operation in an interactive operation process. Clicking the "Handwriting

Recognition" button  on the "discipline Tools" option in the main toolbar, the keyboard mode toolbar of handwriting recognition will appear and you will enter the handwriting recognition status.



Keyboard Mode Toolbar

Users can find the "Tools" option in the "File" menu by selecting the "Handwriting Recognition" option to enter the handwriting recognition status.

Function Introduction

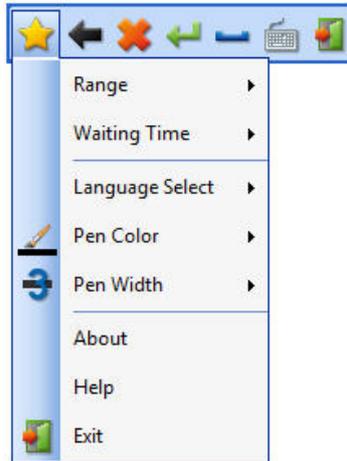
The handwriting recognition function offers two modes: keyboard mode and handwriting recognition mode. In both modes, the pen is compatible with the mouse and they can all work. To drag the moving window of the title bar at any time, click and activate window to set the input point and the input location at any time. The functions of each mode details are below.

Keyboard Mode

When first starting the handwriting recognition mode, the system will default to the "Keyboard Mode." The Keyboard function includes: "Start", "Backspace", "Delete ", "Enter", "Space", "Keyboard ", and "Exit." Each function is listed below.

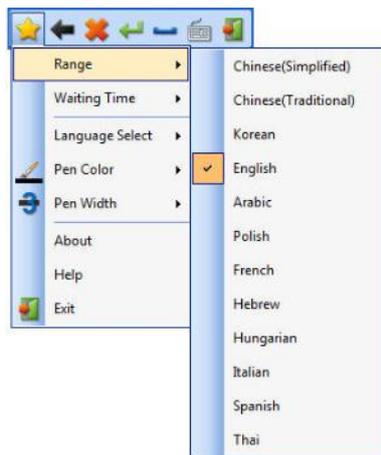
Figure 1

Click on the  Start Menu: Click button  to pop up menu item shown in Figure 2 "Start" menu, which includes: Recognition Range, Waiting time after the pen comes up, language selection, waiting time, about, help and exit.



"Start" Menu

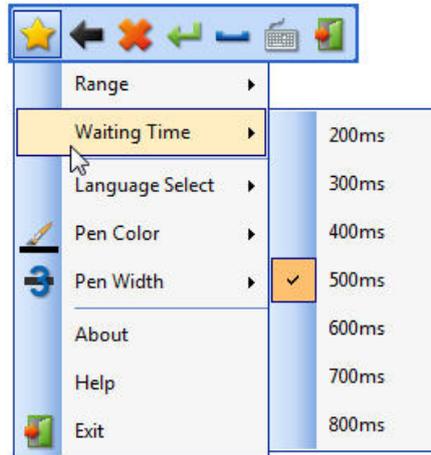
a) Click on the "Recognition Range" option, in which the user may set the category of the handwriting recognition, respectively Simplified Chinese and English.



"Recognition Range" Menu

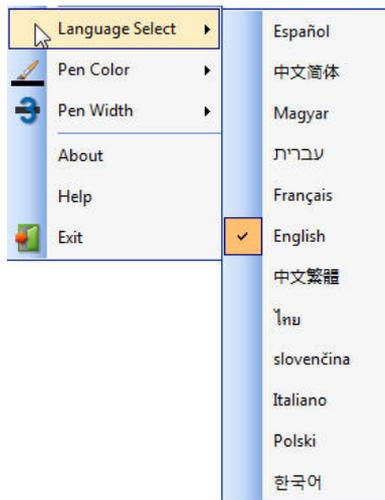
The Handwriting recognition function is able to recognize fast written words to ensure writing consistency. Its English recognition takes the word as a basis unit. Please refer to the "Function Usage Introduction" for details.

b) Click on the Waiting Time option after the pen comes up. The Waiting Time menu will appear, in which you can set the time interval between inputting characters and the recognition letters with the unit in milliseconds. The default value is 500 milliseconds.



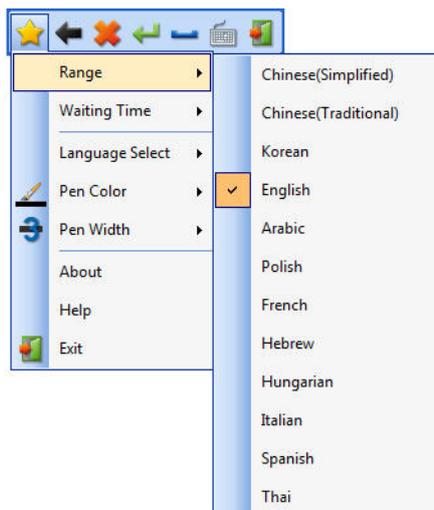
Waiting Time after the pen comes up

C) Click the option of Language Selection and a menu will appear where you can set the display language, which includes Simplified Chinese and English.



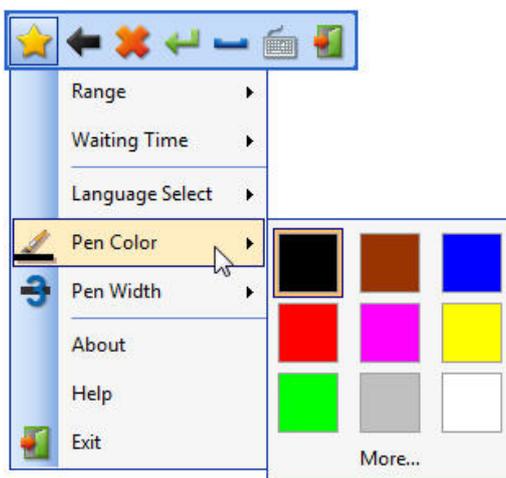
Language Selection

The system default display language is "Simplified Chinese." When you select "English", the corresponding menu item will be in English mode.



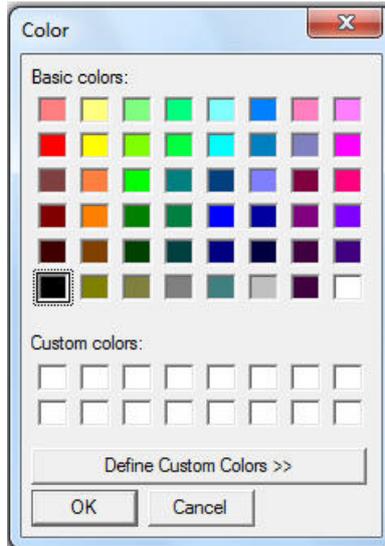
"English" menu item

D) Click the "Pen Color Settings" to pop-up the color tab. This function is used to set the color of the input stroke. The default pen color is black.



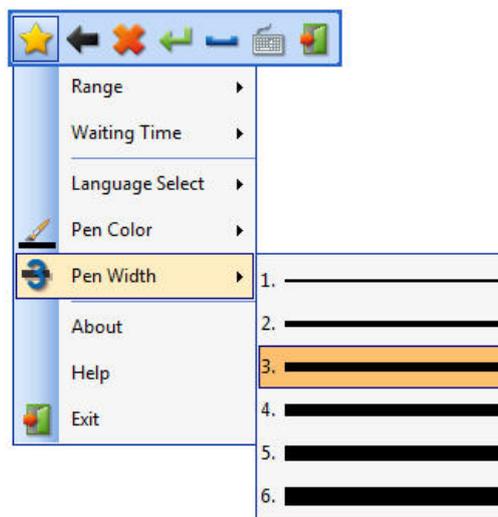
Color Palette

Users can select any color in the color palette box. Users can also click the "More" button to pop up the dialog box of Color, in which you may select more colors.



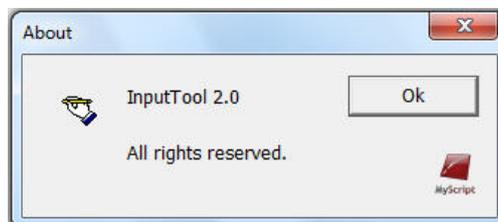
Color Dialog Box

E) Click the "Stroke Width" Setting to set the stroke width, in which six different stroke widths are offered for you. The default stroke width is "3."



"Stroke Width"

F) Click the About option and a dialog box of the current version information will pop up.



"About" dialog box

F) Click the Help option and an introduction of the Handwriting Recognition function will pop-up.

G) Click on the "Exit" button and the user will exit the Handwriting Recognition program.

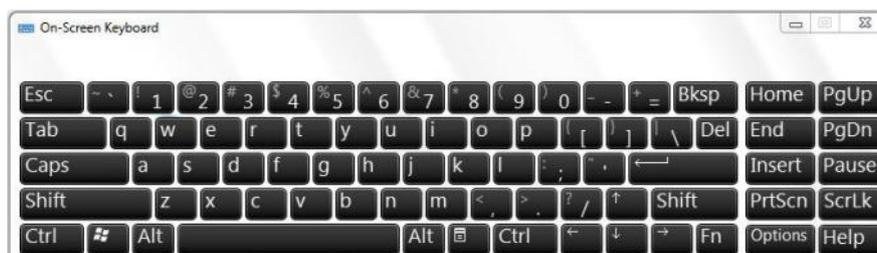
2.  Undo: When you input the wrong words, you may delete the previous words, one by one, via this button. It is similar to the “backspace” button on the keyboard

3.  Delete: This button is used to delete unnecessary words. It is similar to the “Delete” button on the keyboard as you can delete text one by one to complete the operation.

4.  Enter: Under keyboard model, when you click this button, the cursor goes to the next line. It is similar to “Enter” on the keyboard.

5.  Space: This button is similar to the “spacebar” button on the keyboard. When you click this button, you will insert a space in the text.

6.  Screen Keyboard: When you click this button, the screen soft keyboard will pop-up.



Screen Keyboard

7.  "Exit" button: Click this button to exit the Handwriting Recognition program.

2. Handwriting Recognition Mode

After starting the handwriting recognition program, using a pen or mouse to write, it will show the results of handwriting recognition and enter the handwriting recognition mode from the keyboard mode. The Handwriting Recognition tool bar buttons provides recognition functions such as “space”, “clear screen”, “Insert to screen”, and “exit”. More function details are shown below.



"Handwriting Recognition Mode" tool bar

1.  Space: Under the handwriting recognition mode, this button is used to input a "visible space character" so that the cursor moves to the right.



a_boy

space input under handwriting recognition mode

Note: Space put in under the handwriting recognition mode is similar to the “space” on the keyboard, in that it only occupies one character space.

2.  Clear screen: Click the "clear screen" button under the handwriting recognition mode, and it will delete all the handwriting recognition results. At the same time, it will also exit the handwriting recognition mode and enter the keyboard mode.

3.  Inset to screen: Under the handwriting recognition mode, the handwriting recognition results will be inserted into the cursor specified position on the page, this operation is called "Insert to screen". Click the "Insert to screen" button to insert the recognition results into the page under the cursor specified location. Meanwhile, exit the handwriting recognition mode and enter into the keyboard mode.

4.  Exit: Under the handwriting recognition mode, click this button to exit the handwriting recognition program.

Tips:

a) When writing by pen and you have the handwriting recognition results, it will enter the handwriting recognition mode from keyboard mode.

b) After the "clear screen “or "Insert to screen” operation, it will exit the handwriting recognition mode and enter the keyboard mode.

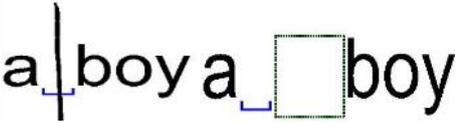
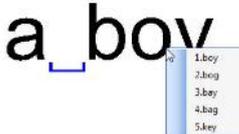
Operation Mode

The Handwriting recognition software provides two operating modes: toolbar buttons and gestures. “Gestures” means to achieve operation through hand, rather than through a toolbar button. Currently there are five gestures: "Insert", "delete ", "rewrite", "select” and "Insert to screen ", the description of these gesture operations are shown in the Table 1 gesture function menu.

Note: The following gestures will be generated through the press and hold of the left mouse button.

Table 1 Gesture Function Menu

Gestures Name	Performance Action	Graphic Symbol	Results
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Gestures Name	Performance Action	Graphic Symbol	Results
Insert	Draw a vertical line from top to bottom in a space between two words on the recognition results	 <p>The line will change into an input box</p>	<p>1) Insert an "insert word box" first and wait for the recognition results to be inserted into the "insert word box" position.</p> <p>2) If you do not insert in a certain time interval, the "insert word box" will be cancelled.</p>
Delete	Draw a horizontal line on the recognition results from left to right or right to left.	 <p>Delete several words Delete one word</p>	<p>1) If a horizontal line covers a word, it will delete a word. If a horizontal line covers several words, it will delete several words.</p> <p>2) If a horizontal line does not cover a word, it will not be recognized for a deletion gesture, it may be recognized, however, as a short horizontal line.</p>
Rewrite	Writing on recognition results.	 <p>Write on words</p>	<p>1) Rewrite and replace the current recognition results.</p>
Select	Click on the recognition results.		<p>1) The selection words list appears.</p>
Up-Screen	Draw a vertical line from bottom to top on the recognition results.		<p>1) The recognition results will be inputted in the position of the current active window.</p>

Function Using Introduction

This handwriting recognition software can be used together with any software, specifically to input text. All you need to do is open this software and then you can input words, punctuation in a specified location on the page.

The software can recognize fast writing, several Chinese words or English while writing. Software usage instruction is shown below:

To Input English

The steps to input English characters are similar to the steps for inputting Chinese characters. After entering the handwriting recognition program, select "English" in the "recognition range" on the "Start" menu and then you will be able to recognize English characters properly. English handwriting recognition is based on words and it will continue to write. Writing the English word "Chinese" is shown as an example.



English handwriting

After the recognition results appear, left click the mouse and the "selectable word list" appears.



Handwriting Recognition Results

Click the "Insert to screen" button, you can insert the recognition results into the designated position on the page. After Handwriting recognition is completed, click the "exit" button.



English "Insert to screen" results

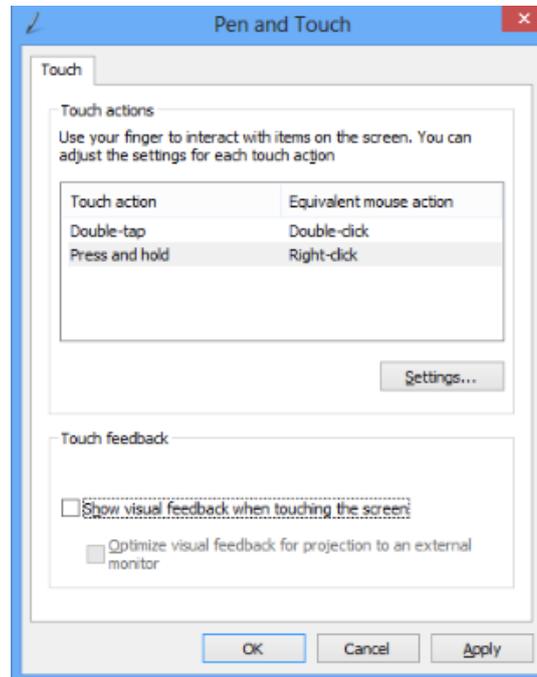
Note: The English deletion is based on words. Draw a horizontal line through word or words on the recognition results and it will delete. If the line does not go through the words, it will just become a rewrite function and it will be recognized as a short horizontal line.

WIN7,WIN8 Operating System

WIN8 Operating System

In order to optimize the software performance in the WIN8 operating system, conduct the following steps:

- Click “Control panel” and “Pen and touch screen” in sequence; then de-select “Touch screen display and intuitive response” feature, as demonstrated in WIN8 touch screen adjustment.

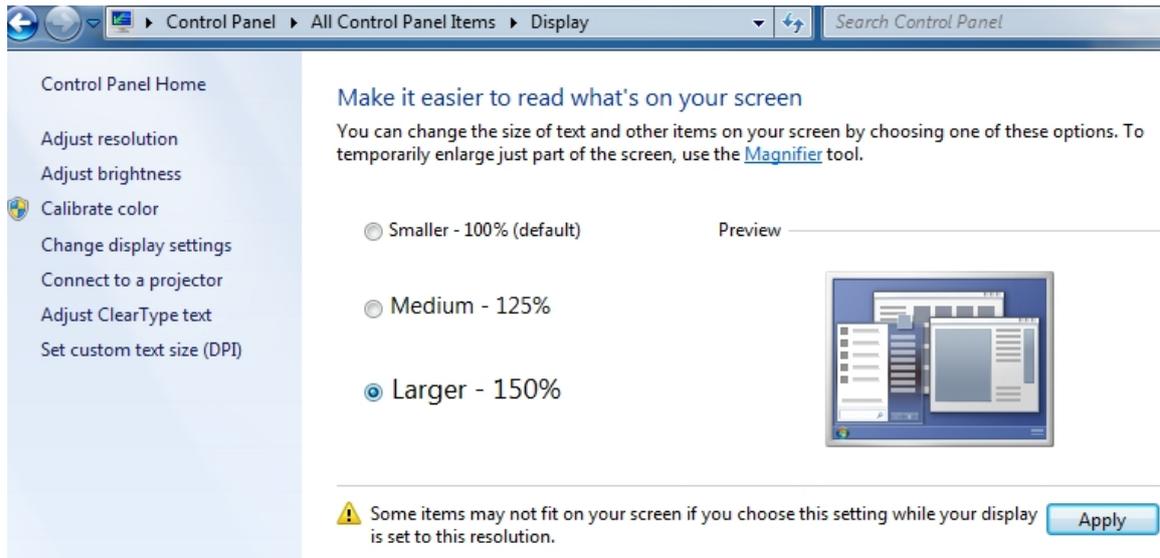


The WIN8 touch screen adjustment

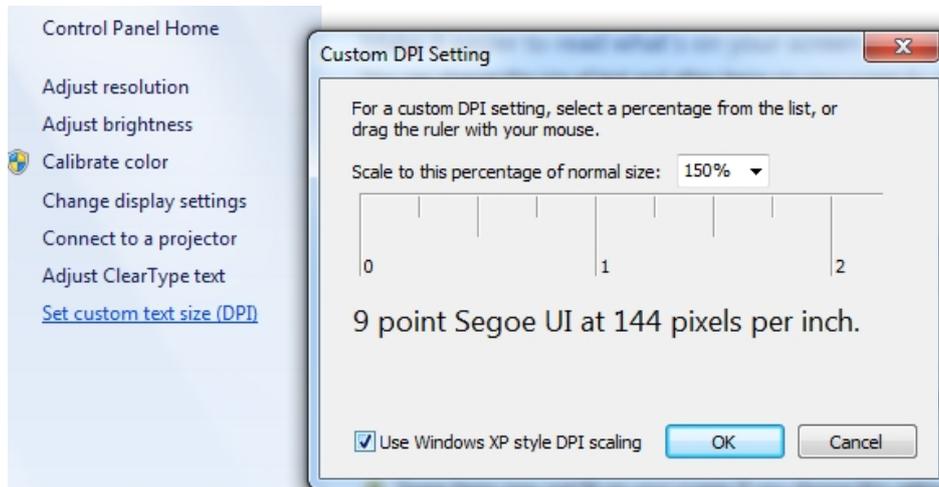
- The notebook with WIN 8 operating system needs to use "Projector Only" mode when connecting projection to whiteboard (large screen), because of WIN 8 system compatibility display compatibility .

WIN7,WIN8 Operating System

For WIN7 and WIN8 operating system, the system display-"Make text and other items larger or smaller" settings options need to be changed as follow: When the proportion is set to be "larger-150%", as shown in System display-Make text and other items larger or smaller, the Custom DPI Setting option "Use Windows XP style DPI scaling" should be selected as shown in System display-Custom DPI Setting.



System display-Make text and other items larger or smaller



System display-Custom DPI Setting