Contents

Part I General Introduction of Software

1.1 System Required

●Processor: Intel Pentium®4 or above

●Memory: 1024MB (2048MB and above recommended)

●Operating System: Windows XP SP3, Windows Vista SP2，Windows7 or Windows8

●Web Browser: Internet Explorer6.0 or above

●Adobe FlashPlayer10

●Adobe Reader

1.2 Preparation before Using the Software

1.2.1 Service Checking

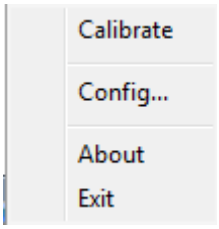
“Red Light” shows the equipment fails to connect to computer or the connection is broken.

“Green Light” shows the connection is on.

1.2.2 Calibrate

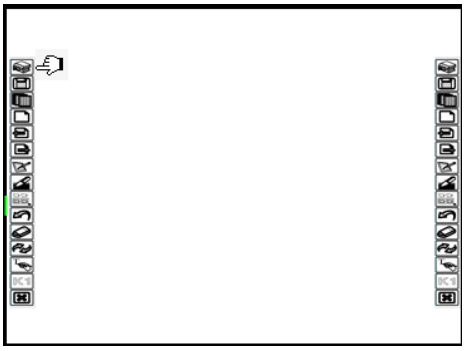
Usually the equipment needs a “9 points calibrate”

The way to locate: Click the button “Calibrate” on the Server. See Picture1- 1 Calibrate.



Picture1- 1 Calibrate

After the nine points calibrate with reminds of cursor, the shortcut key interface shown in Picture1- 2 Calibration Shortcut Key will appear on the calibrate interface. Following the cursor, users need to click the relevant shortcut keys. Now, the calibration is done.



Picture1- 2 Calibration Shortcut Key

1.2.3 Check the accuracy of calibration

Hold the pen to slide on the surface of equipment while check the path of cursor.

1.2.4 Software Startup

Three ways to start the software:

1．After installation, the software can be run from Windows desktop shortcut key or start menu shortcut key.

2．Click any one shortcut on Whiteboard.

3．Pick up any one pen in the pencil box.

1.3 **Device Customization**

User can use the device customization function to edit the hotkey keys.

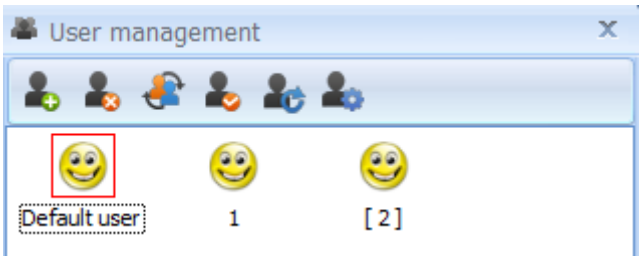
1.3.1 Add users

Path: Configuration—Users management

Two users (“1””2”) are added, see Picture1- 3 Add Users.

The head photo in red box is the starting user who is also the “Default User”.

The user in [] is the current operating user who is user”1”.



Picture1- 3 Add Users

Usually we set “Default User” as the “Starting User”; Every operator can add his own user, just switch to his user when plan to operate the software.

1.3.2 Setting the default width of pen

Path: Configuration—System Configuration—Setting of Pen.

1.3.3 Customize the Function Keys

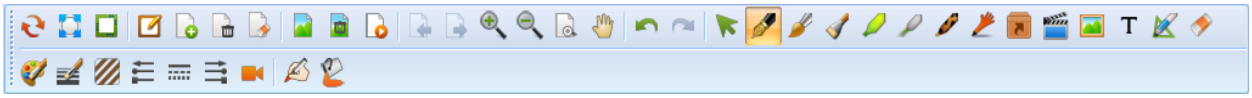
Path: Configuration—Device Customization

Some function keys are distributed on both sides of some devices. You can find the way to customize the function keys and others configuration.

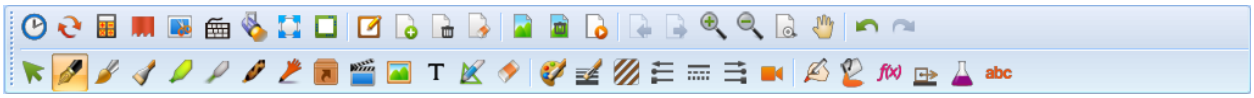
1.3.4 Customize Menu bar and Tools bar

Path: Configuration—Configuration Interface

Users can customize the Menu bar and Toolbar that can be dragged to different position. See Picture1-4 Default Toolbar. See Picture1- 5 Toolbar after Customizing.



Picture1- 4 Default Toolbar



Picture1- 5 Toolbar after Customizing

1.3.5 Save automatically

Path: Configuration—System Configuration—Others.

Open the “Save automatically”, if it close accidentally, you can start the software again. So your loss will be minimized.

Part II Overview

Four usage modes are supplied by Multidiscipline Whiteboard Software.

2.1 Windows Mode

Window Mode is similar to the operating mode of WINDOWS.

2.2 Frame Mode

Frequently used teaching tools are placed at the borders of the main interface in the Frame Mode to facilitate your use in preparing or giving lessons. You may choose “View” in the menu bar and “Frame Mode” in the drop-down menu to switch from Window Mode to Frame Mode.

2.3 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. Choose “File” in the menu bar at the bottom of Frame Mode and click “Full-screen Mode” in the drop-down menu, the Frame Mode is switched to Full-screen Mode.

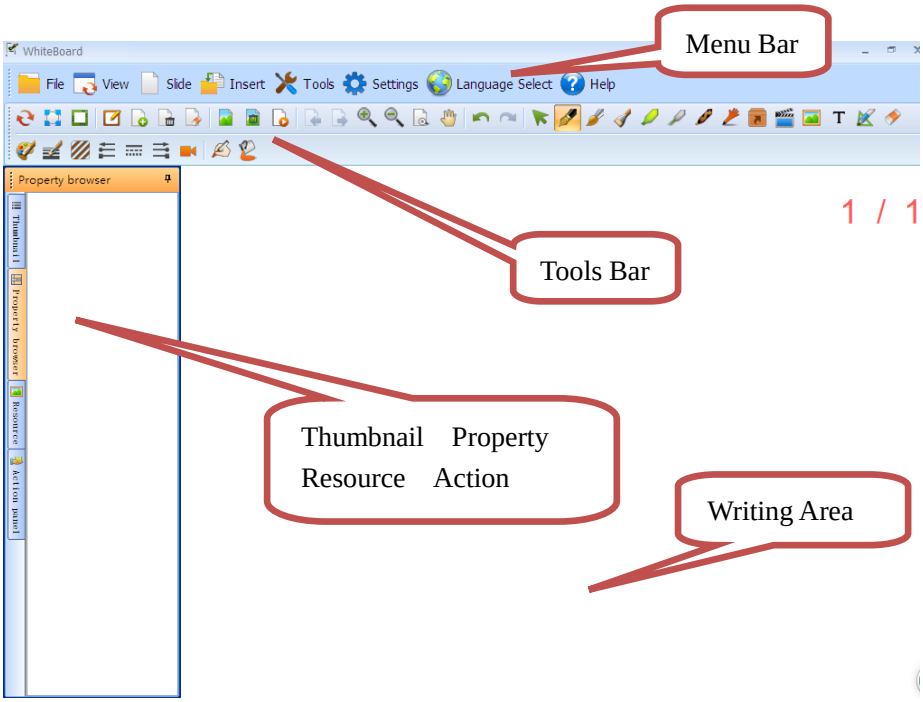
2.4 Desktop Mode

You may click the Switch Button  to switch to Desktop Mode. In this condition, you actually have left whiteboard software and may operate or endorse any application programs in WINDOWS system by mouse. Also, the OFFICE document can be available to annotate. See Picture2- 1Main Toolbar in Desktop Mode.

Picture2- 1Main Toolbar in Desktop Mode

Part III Introduction of Main Interface in Window Mode

Multidisciplinary Whiteboard Software provides four application modes to satisfy your different needs. The manual mainly takes the case of Window Mode to introduce the sub-discipline function column and different teaching function for you. See Picture3- 1Window Mode.



Picture3- 1Window Mode

3.1 File

Buttons	Functions
New	A new writing file is created when you click this button.
Open	An existing hht file is opened when you click this button.
Save	You may save the current file as hht format when you click this button.
Save as	You may choose different locations and names to save the current writing file as hht format.
Close file	Close the files.
Import	Import the current writing content in the format that supported by the software

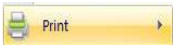
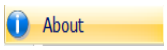
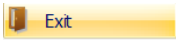
	Export the current writing content in the format that supported by the software
	You can send attachment in the chosen format.
	Print the current files.
	The current software version and other information are provided when you click this button.
	The software is existed when you click this button.

Table 1

3.2 **View**

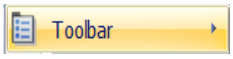
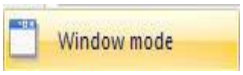
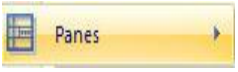
Buttons	Functions
	Switch to subjects: General Tools、Math、Physics、Chemicals、English.
	Switch to Window Mode
	Switch to Frame Mode
	Switch to Full-Screen Mode
	Switch to left side Panel ：Thumbnail、Property Browser、Resource Panel、Actions Panel.

Table 2

3.3 **Slide**

Buttons	Functions
 **Annotation Page**	You may write or annotate in PPT or other softwares.
 **New Slide**	Provide new screen slide, white slide, blue slide or black slide for you.
 **Delete Slide**	You may delete the current slide by clicking this button.
 **Erase Slide**	You may erase the whole content in the slide by clicking this button.

 **Page up**	You may return to the previous slide by clicking this button.
 **Page down**	You may step to the next slide by clicking this button.
 **Birds's 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 the whole contents of the current slide
 **Move**	When you put more than one fingers on the screen, you can move the slide to use the screen unlimitedly.
 **Slide Replay**	You may replay the slides by clicking this button.
 **Zoom in**	You may zoom in the slide by clicking this button.
 **Zoom out**	You may zoom out the slide by clicking this button
 **Background Color**	Set the background color of current slide.
 **Background Image**	Set the background image of current slide.
 **Delete Background Image**	Delete the back ground image of current slide**.**

Table 3

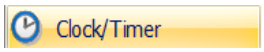
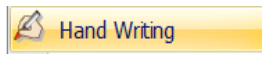
3.4 **Insert**

Buttons	Functions
 **Resource**	There are local resource and network resource , you can drag the resources directly to the whiteboard to use, it is quick and easy.
 **Media**	Insert media and play it.

 **TextBox**	You may insert and modify text by the function of TextBox.
 **Vector Graphic**	You may draw the vector graphics by clicking the vector graph.
 **Common Graph**	You may draw the optional graphics by clicking the optional graph.
 **Visualizer**	Depend on Vsiualizer, you can drag teaching materials onto slide to annotate them.

Table 4

3.5 **Tools**

Buttons	Functions
	This tool provides the functions of clock and countdown timer.
	The calculator is popped up when you click this button. You may operate on it directly.
	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.
	This tool provides identification tool for your handwriting. It can recognize your handwriting as the printed character.
	You can capture current content on the screen.
	When you click this button, the screen keyboard is popped up.
	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.
	This tool provides a dedicated window to play FLASH , PPT and other presentation files.
	A new window is added on the original slide to write
	A local amplifier with coordinate scale is provided for you

	A screen recorder with coordinate scale is provided for you
	This tool can record、play、save、and stop operations of the current page.
	The whole software page will be covered by semi-transparent layer, which can prevent the mistake operation when we do not use whiteboard software.

Table 5

3.6 **Configuration**

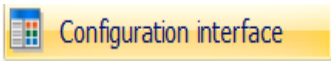
Buttons	Functions
	Include user settings、shortcut box、settings、pen setting page information、and automatically save.
	Add、delete、and manage users
	Check the function keys of device and set which shortkey available to be customized.
	Add or delete functions according to users' needs.

Table 6

3.7 **Language**

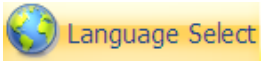
Buttons	Functions
	Switching national languages

Table 7

3.8 **Help**

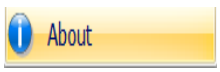
Buttons	Functions
	Offer some help of software.
	Check for the latest version.
	Offer some information about the current version of software.

Table 8

3.9 **Panel**

3.9.1 Thumbnail Panel

Thumbnail panel provides the indexical function for the slide. You may cut, copy, paste or adjust the slide location by using thumbnail. When you click the button  on the left side of the slide. The Panel will pop out. The button of right top corner is “Hide/Lock”.

3.9.2 Property Panel

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.

Three ways to open Property Panel:

First way: When you click the button  on the left side of the slide. The Panel will pop out.

Second way: Choose the object, and click the left bottom button  , then property browser pops out.

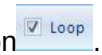
Third way: Click the “Panel” in the menu of “View”, and select the “Property Browser”.

3.9.3 Resource Panel

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

Local Resource: It contains default resources, favorite resources, local system resources.

3.9.4 Actions Panel

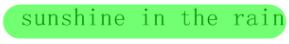
Functions of Actions Panel Buttons: Add Actions Button  , Delete Actions Button  , Actions Move Up Button  , Actions Move Down Button  Whether to Loop Button 

.

After completing all the action setting, once you click on the graph or character, they begin to perform actions.

Part IV Usual Operation of Preparing Courseware

4.1 "Pen Box" Tab

Buttons	Functions	
Hard Pen	You may imitate the writing strokes of pen, ball-pen, chalk and other hard pens when you click this button	
Soft Brush	You may imitate the calligraphy of writing brush when you click this button. You may paint out the vigor and depth of the stroke with it.	
Combined Pen Brush	You may imitate the writing effect of Tibetan, Arabic when you click this button.	
Highlighter	You may imitate the effect of highlighter when you click this button. You may choose different color to indicate the key points.	
Laser Pen	The laser pen stroke keeps shining to attract the attention of audience till your next operation.	
Texture Pen	You may write stokes with various textures.	
Intelligent Pen	The hand-drawn graphics can be recognized by the intelligent pen, such as line, angle, triangle and	**Hand-drawn Graphics before Identification** / **Graphics after Identification**

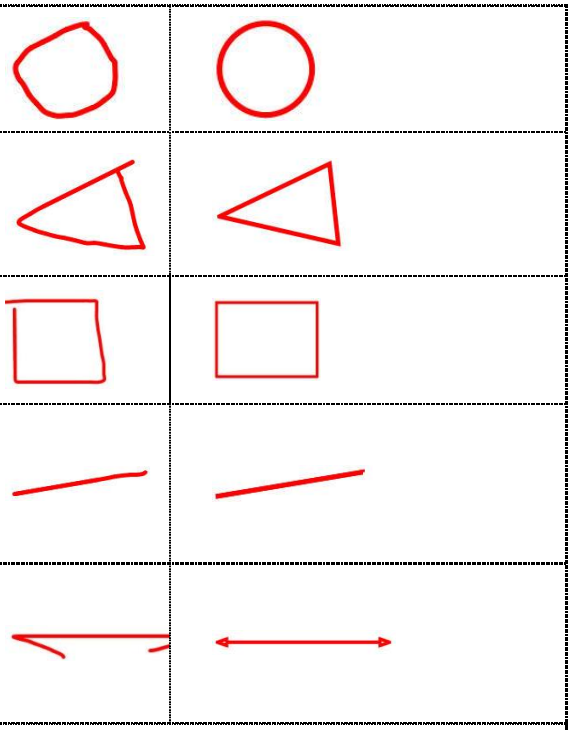
<table>
<tr><td></td><td>etc. Different control points are supplied for different graphics to adjust the shape of the graph as shown in the right picture.</td><td colspan="2">  </td></tr>
<tr><td> 
Gesture Pen</td><td>You may use gesture pen to make various gesture operation on the slide, such as to turn to next slide, to 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.</td><td>Stroke of Gesture</td><td>Function</td></tr>
<tr><td></td><td></td><td></td><td>Turn to next page</td></tr>
<tr><td></td><td></td><td></td><td>Turn to previous page</td></tr>
<tr><td></td><td></td><td>  </td><td>Region Erase</td></tr>
<tr><td></td><td></td><td>  </td><td>Choose an object</td></tr>
</table>

Table 9

4.2 **Basic operation of objects in software**

4.2.1 Select

Picture4- 1 Select Object

Click the single object, user can select this object. See "polygon" and number "3" shown in Picture4- 1 Select Object.

If there are one more objects on page, users have to click button  See Picture4- 2 Select Objects. Actually there are three objects included in object "三". The selected state is shown in picture

Picture4- 2 Select Objects

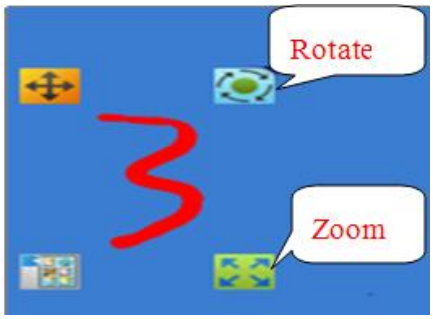
4.2.2 Move

If there a single object on page ,just click to select it. If there is more than one object on the current page, just select these objects and then click the "Move" button to move. See Picture4- 3 Move.

Picture4- 3 Move

4.2.3 Rotate and Zoom

Select the object and rotate it by the button "Rotate". Select the object and zoom it by the button "zoom" see Picture4- 4 Rotate and Zoom.



Picture4- 4 Rotate and Zoom

4.2.4 Properties of Objects

Select the object, and click the button  . More operation on objects will be achieved.

4.2.5 Combine

Users can combine several objects in the software page into one integral part, which is referred to as the Combined Object.

The object will be as one object, if users do any operations on this object.

4.2.6 Lock

Users can lock current object, and the locked object may not be moved. Also, the Locked object cannot be operated like “move””rotate” and etc. Check current object, and select “Lock” from the drop-down menu of the Edit button.

4.2.7 Clone

Select one object or a group of objects, and click the button “clone”. Users can clone one copy of object. User can also clone lots of copy by dragging clone.

4.2.8 Order

Users can adjust the display order of current object. Select the Display Order option from the Edit drop-down menu, to complete the following operations, such as move to top, move up, move down and move to bottom

4.2.9 Edit

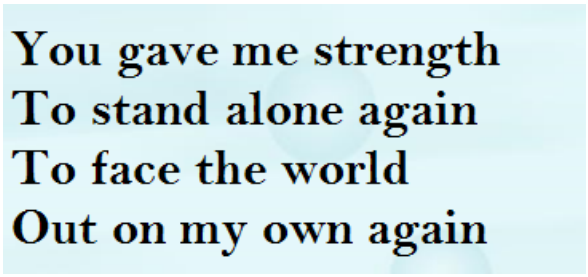
Click some objects. The button “Edit”  shows up on the left bottom of the object. Users can edit objects include text box、English words and etc by this button shown in Picture4- 5 Edit.

Picture4- 5 Edit

4.3 **Text Input**

4.3.1 Keyboard Input

Select the “TextBox  ” button from the toolbar and click once or hold and drag the mouse pointer to create a text box, as shown in Picture4- 6 The text box editor.

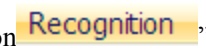


Picture4- 6 The text box editor

4.3.2 Handwriting Recognition Input

Select the “Handwriting Recognition  “button from the toolbar, the software will converts handwritings to printed characters.

4.3.3 Third Option of Text Input

Use the smooth pen, brush pen , bamboo pen , highlight pen and gesture pen to write the contents; then click the “Recognition 

” button in the property menu to convert the handwritings to printed characters.

4.4 **Media**

Path：Resource----Media

Select the media and drag it on writing area. See Picture4- 7 Videos.

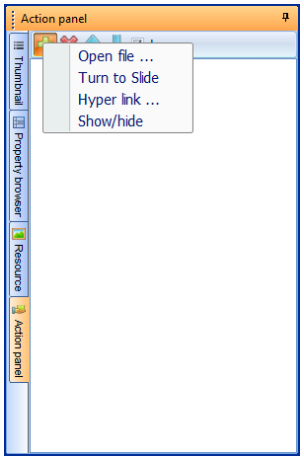
Picture4- 7 Videos

The most of media formats are supported by this software. If a prompt “No Decoder” pops out, please install “FinalCodecs.exe” “Mplayer.exe” and so on.

4.5 **Action Panel**

Path: Panel—Action Panel.

4 kinds of actions are included: Open file、Open webpage、Page changing and Action looping.

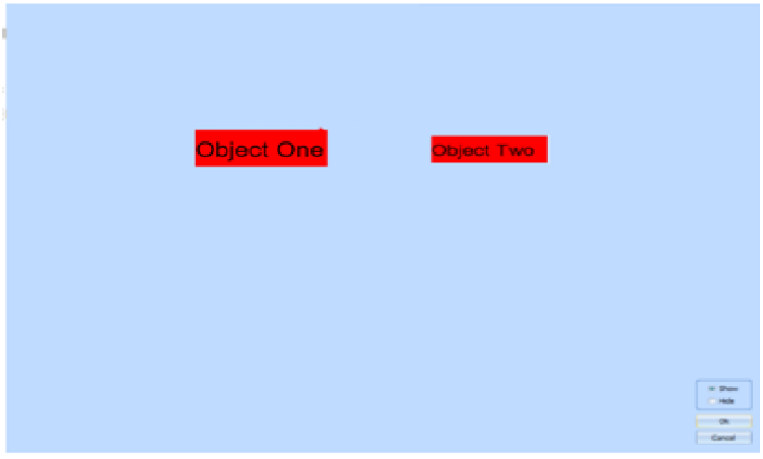


Picture4- 8 Actions

For example, to set display or hid settings of objects, click the object one and object two.

First step: set the property of object two as “Hide”.

Second step: Choose the object one, click the option “hide/display” button of menu  . Then the setting of “hide/display” pops out.See Picture4- 9 Setting of “hide/display”.



Picture4- 9 Setting of “hide/display”

Third step: Choose the object two, click “OK” to finish setting “hide/display”.

Fourth step: Back to your slide, click the object one, and the object two will display.

4.6 **Screen Annotation**

An important function of Screen Annotation is to annotate the Office document. The software performs the seamless switching function between the mouse and pen in the Screen Annotation state. If users want to write in it, they may click any one pen. If users want to open the file or implement other operation, it is only necessary to double click the file to be opened or click Open for a long time.

Picture4- 10OFFICE Annotation Toolbar

Embed Annotation Content: Click this button to embed the annotation content into the Office file.

Page Up: Click this button to page up the PowerPoint file in the Screen Annotation state, and establish corresponding Screen Annotation page.

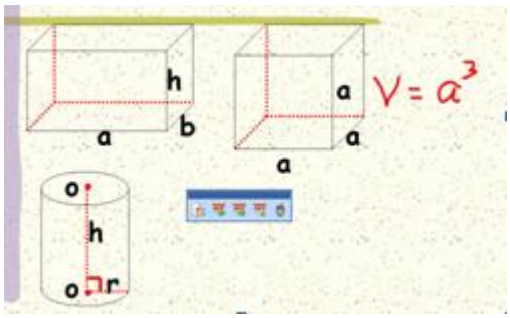
Page Down : Click this button to page down the PowerPoint file in the Screen Annotation state, and establish corresponding Screen Annotation page.

Stop Playing : Click this button to stop playing the PowerPoint file in the Screen Annotation state. Before you stop playing the PowerPoint file, the software will prompt users whether it is necessary to embed all of the annotation content into the PowerPoint file. Furthermore, corresponding Screen Annotation page of the PowerPoint file will be converted into the common page.

Mouse Mode : Click this button to convert the Handwriting Operation state into Mouse State from Pen State.

The following will describe it by taking the PowerPoint file as an example.

Open one PowerPoint file on the desktop mode and switch to playing mode. And select one pen from Toolbar, like hard pen, then the screen annotation mode starts. See Picture4- 11PPT Annotation.

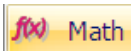


Picture4- 11PPT Annotation

If users want to save the written and annotated content, click Embed ; Click Stop Playing , At this time, it will display the dialog box “if save changes to file”, all you need is to click “Yes”.

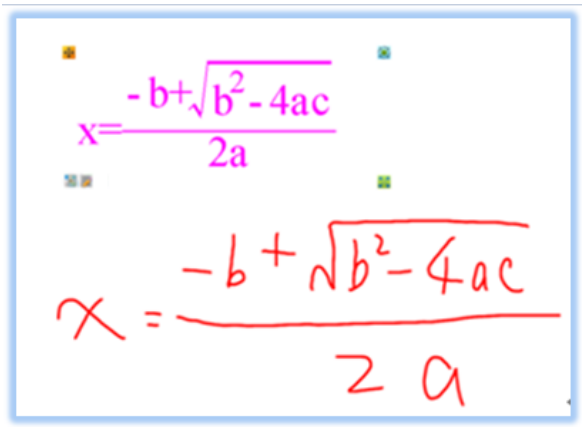
Part V Multi-Subject

5.1 Mathematics

The Mathematics Toolbar provides the functions commonly used in Mathematics teaching. Click “View” Menu—“Toolbar”—  button，the Mathematics toolbar will be popped.

5.1.1 Hand-sketched Equations

The function of the hand-sketched equations converts hand written equations to printed characters. Click the  symbol after open the mathematic subject tool; then click in the writing area or drag it to the writing area to create the editing window of hand-sketched equation where users write mathematic equations as illustrated in Picture5- 1 A hand-sketched mathematic equation.



Picture5- 1 A hand-sketched mathematic equation

The correct way of writing equations:

The variations in handwriting styles among users may cause errors in the recognizing process. Currently, the overall recognition percentage of the system is 90 percentages. The time required to recognize a hand-sketched equation depends on the number of stroke in an equation. The more strokes, the more time it takes to convert into a printed form. The current version allows a maximum of 35 strokes in a single hand-sketched equation. Therefore, hand-sketched equations which are complied the following requirements, can be recognized and converted more correctly.

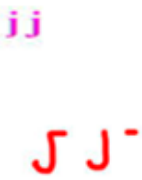
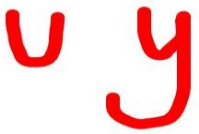
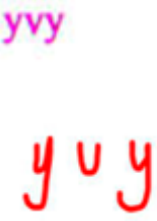
- Follow the formal sequence and form of stroke strictly while writing the equations.
- Write neatly and specification clearly.
- To delete the handwriting contents: Whenever an error occurs while using the hand-sketched equations feature, erase the selected area by smudging the pointer and re-draw the contents.

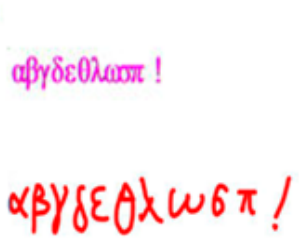
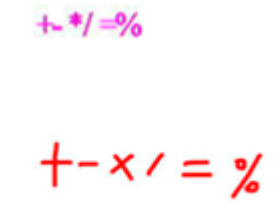
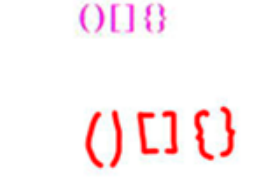
● Special conditions: For example, to recognize a "radical" symbol, the system needs a combination of a radical symbol and a number in order to convert correctly. A radical symbol without a number in it will be expressed as“.”. There are three types of mathematical formulas can be recognized by the hand-sketched equations function: the number signs, basic operators and special operators. The supported inputs of each category are listed in the following table.

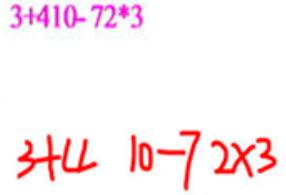
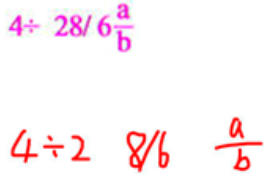
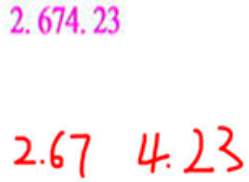
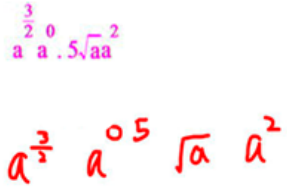
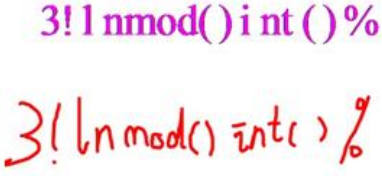
Category	Symbol	
Number Sign	Digit	0~9
	English alphabet	a~z lower case
	Greek letter	α，β，γ，δ，ε，θ，λ，ω，σ，π，Π，Σ，！
	Math symbol	+，-，x ，*，/，−，÷， =，.，√，%
	Other character	(，)，[，]，{，}
Basic Operator	Power	a^3
	Fraction	—
	Radical	√
	Decimal	·
Special Operator	Trigonometric function	sin, cos, tg, ctg
	Inverse trigonometric function	sin-1, cos-1, tg-1, ctg-1
	Logarithm	lg, ln
	Fractorial, sum, modulo, round	！,**Σ**, mod(),int()

When users input hand-sketched math formulas, there are different ways of inputting different characters or symbols as illustrated in the table below. The handwritten note is shown right below the converted outputs in the diagram.

Input	Input method	Image output
a,b,c,d,e,f,g,h	Input neatly according to the normal specifications and sequence of writing.	
i	The character “i” consists of two parts. Write it according to the order shown. 	 

j	The character “i” consists of two parts. Write it according to the order shown. 	
k	The character “k” shall be drawn in 1 stroke according to the order shown. 	
l,m,n	Write the characters “l, m, n” neatly according to their writing specifications.	
o	Write the character “o” neatly according to its writing specification.	
p,q,r,s,t,u,v,w	Write the characters “p, q, r, s, t, u, v, w” neatly according to their writing specifications.	
x	The character “x” shall be drawn according to the order shown. 	
y	The character “y” shall be drawn according to the order shown. 	

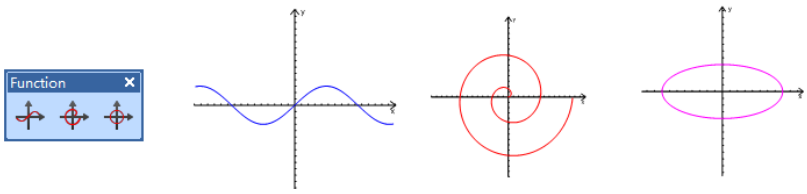
α , β , γ , δ , ε , θ , λ , ω , σ , π , ! α, β, γ, δ, ε, θ, λ, ω, σ, π, !	Write the symbols “α, β, γ, δ, ε, θ, λ, ω, σ, π, ! ” neatly according to their writing specifications.	
Π , Σ	Write the symbols “**Π, Σ**” neatly according to their writing specifications.	
+ , - , * , / , = , %	Write the symbols “+, - , *, /, =, %” neatly according to their writing specifications.	
x , ÷	Write the symbols “x, ÷” neatly according to their writing specifications.	
√	Write the "radical" symbol along with a number in order to convert correctly. A radical symbol without a number in it will be expressed as“.”	
(,), [,], { , }	Write the symbols “(,),[,],{ , }” neatly according to their writing specifications.	

Addition: + **Subtract: –** **Multiply:**	Write the symbols of the "addition, subtract, multiply" functions neatly according to their writing specifications.	
Division: /, –, ÷	Write the symbols of the "division" function neatly according to its writing specifications.	
Decimal	Write the "decimal according to the formal input.	
Power Expression: **Fraction** **Radical**	For the radical expression, write the base values with a fractional power, decimal power, radical power, and integer power, according to their formal inputs.	
Trigonometric functions: sin, cos, tg, ctg **Trigonometric functions: sin, cos, tg, ctg** **Inverse trigonometric functions: sin-1,cos-1, tg-1, ctg-1** **Logarithm: lg, ln**	Input the handwriting expressions of the trigonometric functions, inverse trigonometric functions, and logarithmic functions according to their formal forms.	
Fractorial **Logarithm** **Modulo: MOD ()** **Rounding: int ()** **Percentage: %**	Write the "Fractorial, logarithm, modulo: MOD () , rounding: int (), percentage: % " functions neatly according to their writing specifications.	

5.1.1 Functions

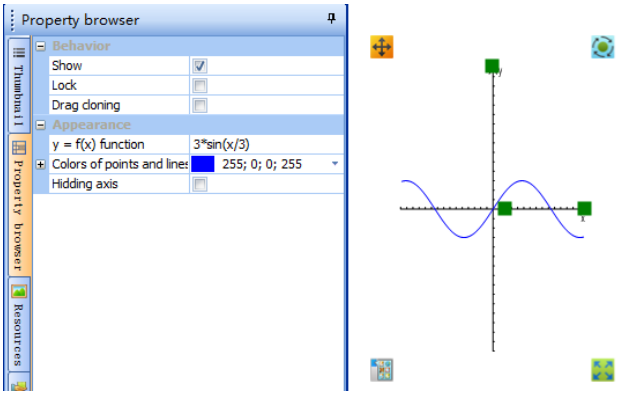
The software supports three kinds of function equations, they are explicit function equation, polar coordinate equation or parameter equation according to your needs.

1)Select the functional equation you need in the "function". And add to the edit page as Picture5- 2 Functional Equation.



Picture5- 2 Functional Equation

2) Select function object, click button  to select “display property browser” to open property browser, edit fuction and adjust coordinate will modify the Functional Equation(see Picture5- 3 Explicit function equation edit).



Picture5- 3 Explicit function equation edit

Draw the functional image need to input the correct functional expression so that we can draw the corresponding image.. Currently, the white board support the functional equation as follows:

●Sin function: y = sin (x)

●Hyperbolic sine function: y = sh (x)

●Cosine function: y = cos (x)

●Cotangent function: y = cot (x)

●Cotangent function: y = ctg (x)

●Hyperbolic cosine function: y = ch (x)

●Tangent function: y = tan (x)

●Tangent hyperbolic function: y = th (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 = arcos (x)

●Arc tangent function: y = arctg(x)

●^: Power, such as y = X2, the input mode is y = x ^ (2)

5.1.2 Plane Figure

Button Name	Functions
 **Angle**	You may darw an angle in the slide by clicking this button
 **Circle**	You may darw a circle in the slide by clicking this button.
 **Line Segment**	You may darw a line segment in the slide by clicking this button.
 **Dot**	You may darw a dot in the slide by clicking this button.
 **Arbitrary Triangle**	You may darw an arbitrary triangle in the slide by clicking this button.
 **Arbitrary Quadrilateral**	You may darw an arbitrary quadrilateral in the slide by clicking this button.
	You may darw an arbitrary pentagon in the slide by clicking this

Arbitrary Pentagon	button.
 **Regular Polygon**	You may darw a regular polygon in the slide by clicking this button.
 **Ellipse**	You may darw an ellipse in the slide by clicking this button.
 **Arc, Sector**	You may darw an arc or a sector in the slide by clicking this button.
 **Geometric Segment**	You may darw a geometric segment in the slide by clicking this button.
 **Square, Rectangular**	You may darw a square or a rectangular in the slide by clicking this button.
 **Parallelogram, Rhombus**	You may darw a parallelogram or a rhombus in the slide by clicking this button.
 **Geometric triangle**	You may darw a geometric triangle in the slide by clicking this button.

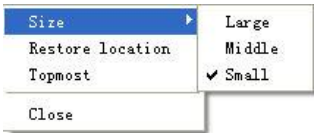
5.1.3 Three-dimensional Graph

Button Name	**Functions**
 **Cylinder**	You may draw a cylinder in the slide by clicking this button.
 **Cone**	You may draw a cone in the slide by clicking this button.
 **Totary-table**	You may draw a totary-table in the slide by clicking this button.

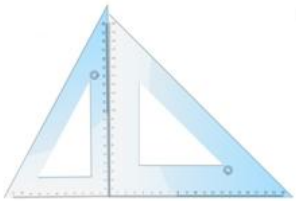
 **Cuboid**	You may draw a cuboid in the slide by clicking this button.
 **Pyramid**	You may draw a pyramid in the slide by clicking this button.
 **FrustumPyrmid**	You may draw a frustum pyramid in the slide by clicking this button.
 **Sphere**	You may draw a sphere in the slide by clicking this button.
 **Spherical Crown**	You may draw a spherical crown in the slide by clicking this button.
 **Dihedral Angle**	You may draw a dihedral angle in the slide by clicking this button.
 **Cube**	You may draw a cube in the slide by clicking this button.

5.1.4 Tool

Set Square:

The software provides the tools of isosceles right-angleset square and 30-60 degree right-angleset square (see Picture5- 4 Set Square) with which you may draw straight lines and measure distance. You also may parallel move, zoom or rotate this tool. When you click anywhere of the set square, you may move it. When you drag along the edge of scale, you may draw straight lines on the whiteboard. When you click anywhere of the set square, the dialog box 

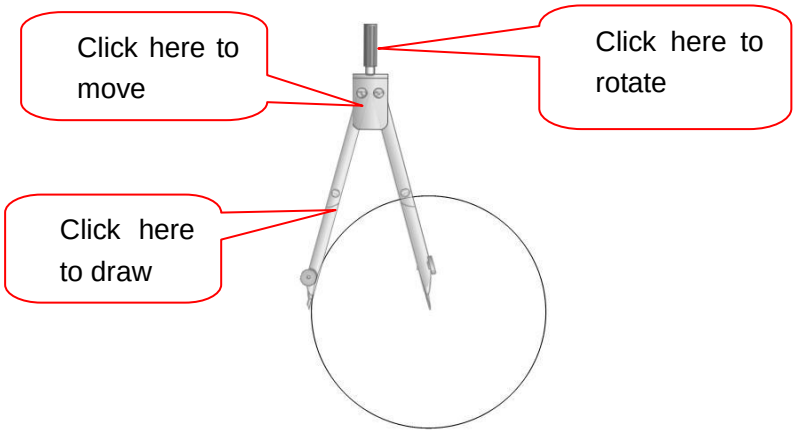
pops up, with which you may select the size or exit.



Picture5- 4 Set Square

Compasses:

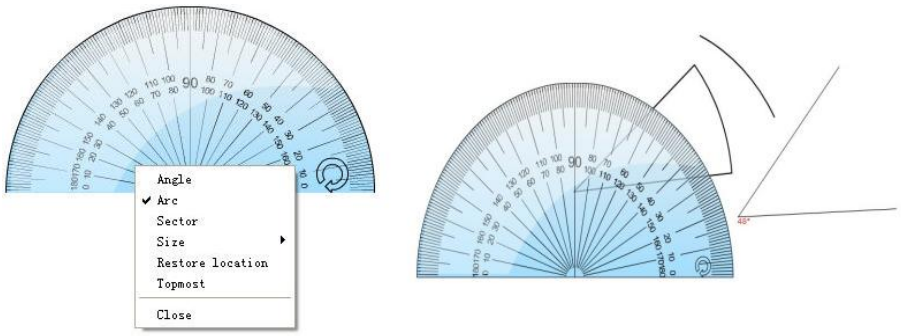
Compasses provide the basic function of drawing circle. Moreover, the compasses can be parallelly moved or rotated (see Picture5- 5 Compasses).



Picture5- 5 Compasses

Protractor:

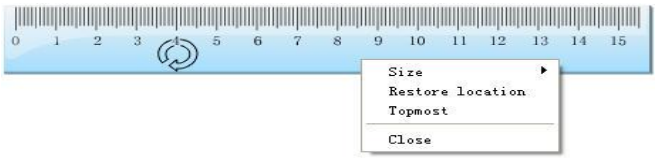
With this tool, you may measure angle and draw arcs, angles or sectors. When you click the left button of mouse on the protractor while using, the control menu shown in Picture5- 6 Protractoris popped up.



Picture5- 6 Protractor

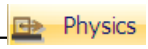
Ruler:

You may use this tool to draw straight line and measure distance. You get a straight line when you draw along the edge of scale. When you click the ruler, the selective box pops up, with which you may choose the size of ruler or exit the ruler (see Picture5- 7 Ruler)



Picture5- 7 Ruler

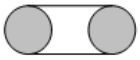
5.2 **Physical**

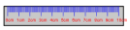
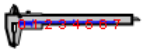
The Physics Toolbar provides the functions commonly used in physics teaching. Click “View” Menu—“Toolbar” — 

button. Physics Toolbar will be opened.

5.2.1 Mechanics ---Rectilinear Motion

The Rectilinear Motion functions in physics are specified in the following table:

Button Name	Functions	Example
 **Plane**	A plane in the physical rectilinear motion is generated when you click this button.	
 **Inclined Plane**	An inclined plane in the physical rectilinear motion is generated when you click this button.	
 **Triangle Inclined Plane**	A triangle inclined plane in the physical rectilinear motion is generated when you click this button..	
 **Conveyer Belt**	A conveyer belt in the physical rectilinear motion is generated when you click this button.	
 **Ball**	A ball in the physical rectilinear motion is generated when you click this button.	
 **Trolley**	A trolley in the physical rectilinear motion is generated when you click this button.	

Wooden Block	A wooden block in the physical rectilinear motion is generated when you click this button.	
Nightstick	A nightstick in the physical rectilinear motion is generated when you click this button.	
Lever	A lever in the physical rectilinear motion is generated when you click this button.	
Ruler	A ruler in the physical rectilinear motion is generated when you click this button.	
VernierCaliper	A vernier caliper in the physical rectilinear motion is generated when you click this button.	
Scale Viewer	A scale viewer in the physical rectilinear motion is generated when you click this button.	
Circular Groove	A circular groove in the physical rectilinear motion is generated when you click this button.	
Groove	A cavity in the physical rectilinear motion is generated when you click this button.	
Arc Skateboard	An arc skateboard in the physical rectilinear motion is generated when you click this button.	

5.2.2 Mechanics ---Newton's Law

The detailed functions of Newton's Law are introduced in the following table:

Button Name	Functions	Example
 Force	The force in Newton's Law is generated when you click this button.	
 Distance Representation	A distance representation in Newton's Law is generated when you click this button.	
 Spring	A spring in Newton's Law is generated when you click this button.	
 Spring Scale	A spring scale in Newton's Law is generated when you click this button.	
 Pulley	A pulley in Newton's Law is generated when you click this button.	
 Pulley Block (Two Pulleys)	A pulley block composed by two pulleys in Newton's Law is generated when you click this button.	
 Pulley Block (Three Pulleys)	A pulley block composed by three pulleys in Newton's Law is generated when you click this button.	
 Hook Weight	A hook weight in Newton's Law is generated when you click this button.	

5.2.3 Mechanics ---Physical State

The detailed Physical State functions are introduced in the following table.

Button	Functions	Example

Name		
Propeller	A propeller in physical state is generated when you click this button.	
Manometer	A manometer in physical state is generated when you click this button.	
Cylinder	A cylinder in physical state is generated when you click this button.	

5.2.4 Electricity

Electricity toolbar provides the functions commonly used in physics electricity teaching. The detailed Electricity functions are introduced in the following table:

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

5.2.5 Electromagnetics

Electromagnetics toolbar provides the functions commonly used in physics Electromagnetics teaching. The detailed Electromagnetics functions are introduced in the following table:

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

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

5.2.6 Optics

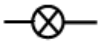
Optics toolbar provides the functions commonly used in physics Optics teaching. The detailed Optics functions are introduced in the following table:

Button Name	Functions	Example
Convex Lens	A convex lens of physical opticsis generated when you click this button.	
Semi-convex Lens	A semi-convex lens of physical optics is generated when you click this button.	
Convex Lens Legend	A convex lens legend of physical optics is generated when you click this button.	
Concave Lens	A concave lens of physical optics is generated when you click this button.	
Semi-concave Lens	A semi-concave lens of physical optics is generated when you click this button.	

Concave Lens Legend	A concave lens legend of physical optics is generated when you click this button.	
Optical Bracket	An optics bracket is generated when you click this button.	
Candle	A candle of physical optics is generated when you click this button.	

5.2.7 Electricity Legend

Electricity Legend toolbar provides the functions commonly used in physics electricity teaching. The detailed Electricity functions are introduced in the following table:

Button Name	Functions	Example
Battery Legend	A battery legend is generated when you click this button.	
Battery Pack Legend	A battery pack legend is generated when you click this button.	
Two-way Switch Legend	A two-way switch legend is generated when you click this button.	
Switch Legend	An electric leight legend is generated when you click this button.	
Light Legend	An electric light legend is generated when you click this button.	
Electric Bell	An electric bell legend is generated when you click this button.	

Legend		
 **DC Motor Legend**	A DC motor legend is generated when you click this button	
 **AC Motor Legend**	An AC Motor legend is generated when you click this button.	
 **Ammeter Legend**	An ammeter legend is generated when you click this button.	
 **Voltmeter Legend**	A voltmeter legend is generated when you click this button.	
 **Resistance Legend**	A resistance legend is generated when you click this button.	
 **Sliding Rheostat Legend**	A sliding rheostat legend is generated when you click this button.	
 **Grounding Legend**	A grounding legend is generated when you click this button.	
 **Capacitance Legend**	A capacitance legend is generated when you click this button.	

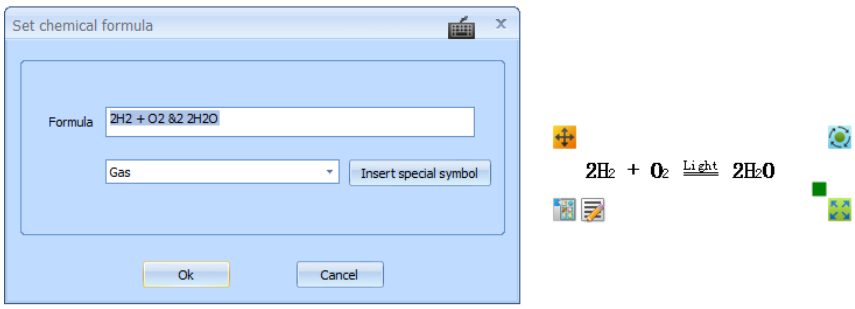
Speaker Legend	A speaker legend is generated when you click this button.	

5.3 **Chemistry**

Chemistry toolbar provides the functions commonly used in Chemistry teaching. Click “View” menu—“Toolbar” —Chemistry button. Chemistry toolbar will be popped.

5.3.1 Chemical Symbol ---Chemical equation

Open Chemical Symbol toolbar and select , drag it to current page, the default chemical equation will be placed and the chemical equation edit dialog will be popped(see Picture5- 8 Chemical equation).



Picture5- 8 Chemical equation

5.3.2 Chemical Symbol --- HandwritenChemical equation

This function can recognize handwritten chemical formula as printing form. Click the button of Handwritten chemical Formula and drag out the display box in the slide.When you write at any place in the slide, the effect of handwriting recognition is shown in the display box(similar to mathematics handwritten equation).

5.3.3 Chemical Symbol ---Two-lane Bridge

The tool of two-lane bridge expresses the transferring direction of atomic electrons and valence proportion in a chemical reaction equation intuitively. A two-lane bridge pops up when you click two-lane bridge button and drag in the blank space of the slide (see Picture5- 9 Two-lane Bridge).

Picture5- 9 Two-lane Bridge

5.3.4 Chemical Symbol ---Benzene Ring

You may 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 drag in the blank space of the slide.

5.3.5 Chemical Symbol ---Chemical Bond

You mayuse chemical bond tool to display material structure.The chemical bond tool will be popped up when you click the button of  and drags in the slide.

5.3.6 Periodic Table

You may select Periodic Table to teach. When you click the Periodic Table Button  , the interface of Periodic Table will be popped up, When you click this element, the detailed information card of element Aluminum will be shown.

5.3.7 Schematic Diagram of Atomic Structure

The number of atom's outer electron layers and the number of electronics in each layer can be displayed according to the number of protons in the nucleus by this tool. The schematic diagram of atomic structure can be displayed when you click Atomic Strucutre Graph Button  and drag in the blank space of the slide.

5.3.8 ChemicaIEquiptment

Detail chemicaIequiptment please refer to the following table:

Button Name	Functions	Example
 **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 measuring cup is generated when you click this button.	
Iron Stand -1	An iron stand-1 is generated when you click this button.	
Tripod	A tripod is generated when you click this button.	
Iron Stand-2	An iron stand-2 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	A forceps is generated when you click this button.	
	A drug spoon is generated when you click this button.	

Drug Spoon		
 **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.	
 **Asbestosed Wire Gauze**	An asbestosed 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 Separatory Funnel	A spherical separatory funnel is generated when you click this button.	

Separatory Funnel	A separatory funnel is generated when you click this button.	
Kipp's Apparatus	A Kipp's Apparatus is generated when you click this button.	

5.3.9 Chemical vessel

Chemical vessel sub-toolbar is introduced in detail in following table.

Button Name	Functions	Example
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 distilling 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 Bottle	A conical bottle is generated when you click this button.	
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 is generated when you click this button.	
DrainageTube	A drainage tube is generated when you click this button.	

5.3.10 Others

The detailed functions are introduced in following table:

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

5.4 English

The Literacy Toolbar provides the teaching function of pinyin, strokes and phonetic transcription of Chinese Characters. Click “View” menu—“Toolbar” —  button to pop Literacy toolbar.

5.4.1 Phonetic

When you click Phonetic Function Button  and drag in the slide, the default word and phonetic symbol are generated.

5.5 General

The General Toolbar has been introduced in detail in Part 3.Part.

Part VI Plugin

6.1 **Visualizer**

Select the visualizer function  button from the “Insert” option; drag it to the page and the screen of Picture6- 1 The visualizer will appear.

Picture6- 1 The visualizer

Functions of the visualizer are listed below.

Button	Function
 **Start**	Initiate the review function of the visualizer.
 **Stop**	Stop the preview function of the visualizer.
 **Switch between equipments**	Switch the operations between different equipments. When the computer is connected to the visualizer and the camera, if the software is inserted with the visualizer function, the system will display the visualizer as the default setting when it is initiated. Use the “Switch between equipment” button to switch to camera, when needed.

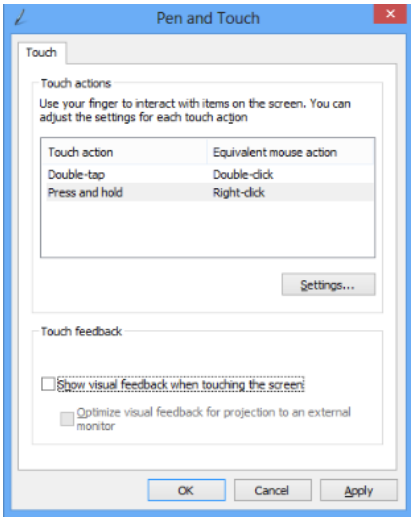
 **Photo shot**	Perform snapshot of the screen of the visualizer.
 **Zoom in**	Enlarge the image on the visualizer.
 **Zoom out**	Reduce the scale of the image on the visualizer.
 **Auto focus**	Perform automatically focusing on the image of the visualizer.
 **Turn on the lower light**	Turn on the lower light in the visualizer.
 **Turn on the upper light**	Turn on the upper light in the visualizer arm above the visualizer panel screen.
 **Turn off the light**	Turn off the visualizer light.
 **Text mode**	Switch to the text mode and edit the text contents.
 **Graphic mode**	Switch to the graphic mode and process the graphics.

6.2 **WIN7、WIN8 Operating System**

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

6.2.1WIN8 Operating System

Click “Control panel” and “Pen and touch screen” in sequence; then de-select “Touch screen display and intuitive response” feature, as demonstrated in Picture6- 2 The WIN8 touch screen adjustment.



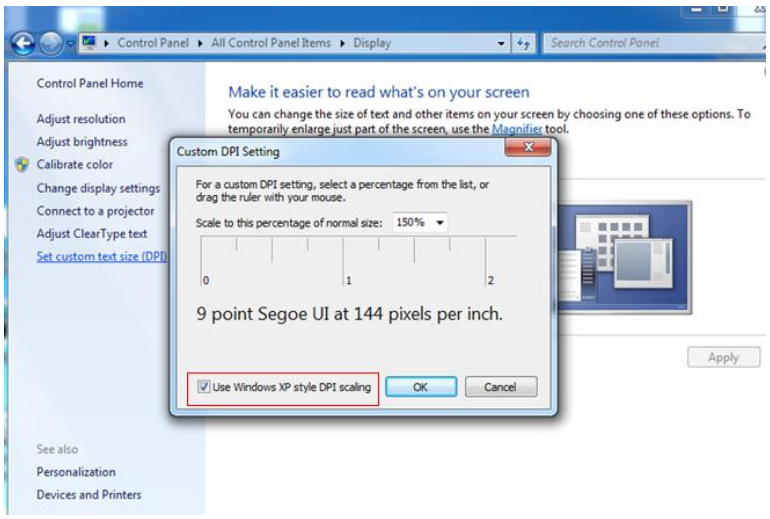
Picture6- 2 The WIN8 touch screen adjustment

Win8 system connecting the projector, conduct the following steps:

The notebook with Win8 operating system needs to use "Projector Only"mode when connect the projector to whiteboard (large screen), because of Win8 system compatibility display compatibility .

6.2.1WIN7、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 , the Custom DPI Setting option "Use Windows XP style DPI scaling" should be selected as shown in . as demonstrated in Picture6- 3 Set custom text size.



Picture6- 3 Set custom text size