

Atutility Universal Converter Development Notes

Yahoo Widgets Edition

I. About Yahoo Widgets

Yahoo Widgets is a desktop Widgets platform. It runs on Windows 2000/XP/Vista, and Mac OS X 10.3.9 or greater.

The programming language is Javascript and XML.

You can learn more about Yahoo Widgets [here](#).

II. Development environment

- OS: Microsoft Windows Vista Home Basic
- Yahoo Widgets SDK 4.0
- XML Notepad 2007: for XML editing
- Notepad++ 4.1: for Javascript editing

III. Prerequisites

- Familiar with XML
- Good at Javascript
- Download and install Yahoo Widgets SDK 4.0
- Read and finish the Widget Creation Tutorial

IV. Create directory structure

- Create the following directory
 - \yahoo_widgets\Atutility Universal Converter
 - Contents
 - Resources

V. Create widget.xml in Contents directory

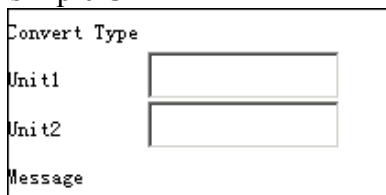
- Yahoo Widgets introduced Widget Metadata at Version 4.0: widget.xml. This file includes information such as the Widget's name, author etc.

- the contents of widget.xml

```
<?xml version="1.0" encoding="utf-8"?>
<metadata>
  <name>Atutility Universal Converter</name>
  <version>0.1</version>
  <identifier>com.atutility.universal_converter</identifier>
  <author name="Huang Kai" organization="atutility.com"
href="http://atutility.com"/>
  <copyright>(c) 2006-2007 atutility.com</copyright>
  <description>Convert anything</description>
  <platform minVersion="4.0" />
</metadata>
```

VI. Plan the user interface

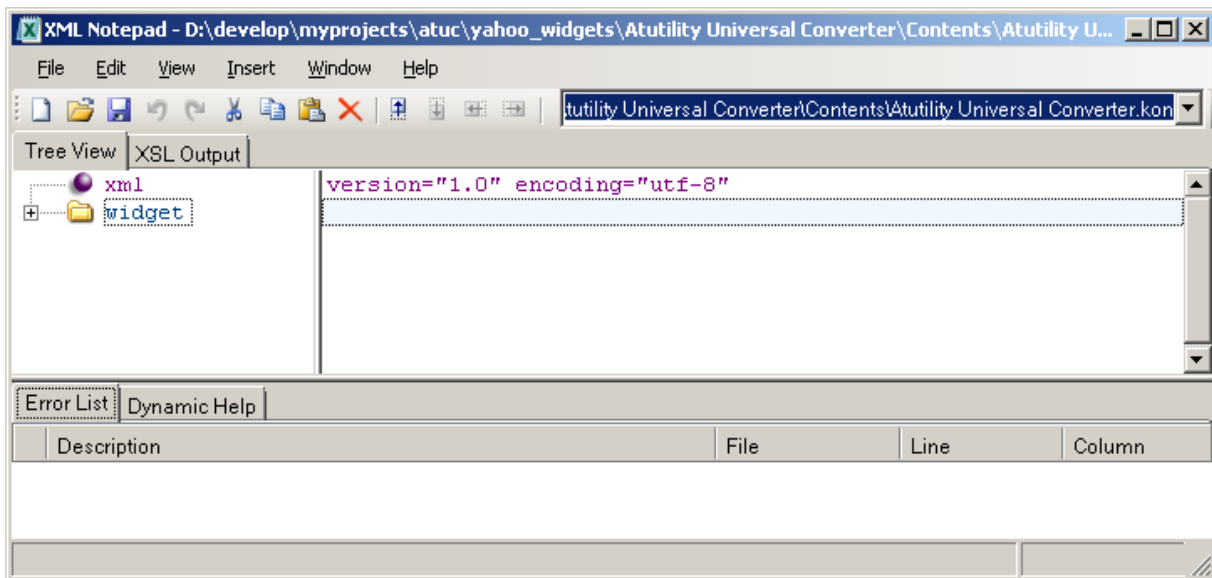
- I am not good at graphical designer, so I just use OpenOffice Draw to designed the most simple UI



The diagram shows a rectangular window with a title bar. Inside the window, the text 'Convert Type' is positioned at the top left. Below this title, there are two rows of input fields. The first row is labeled 'Unit1' on the left and has a rectangular text box to its right. The second row is labeled 'Unit2' on the left and also has a rectangular text box to its right. At the bottom left of the window, the word 'Message' is written.

- By clicking “Convert Type”, there'll have a drop down menu showing the types you can choose from

- By clicking the Unit1/Unit2, you can select the convert unit
 - Enter the value in the Text1/Text2, the converted value will be updated automatically in Text2/Text1
 - The message will also show the converting result
- VII. Create “Atutility Universal Converter.kon” in Contents directory
- Open the file in Notepad, and add the following text
`<?xml version="1.0" encoding="utf-8"?>`
`<widget></widget>`
 - Save the file, then open it in XML Notepad:



- Add debug to the widget:
 - debug: on
- Add a window to the widget:
 - window: name=main, title=Atutility Universal Converter, width=400, height=100, visible=true, minimumVersion=4.0
- Create a background image:
 - image: src=Resources/background.jpg, zOrder=0
I use Irfan View to create the background image. The zOrder make sure it's the most bottom layer of the widgets
- Add 4 text to the window, from the top to bottom
 - text: name=type, vOffset=10, zOrder=2, text=Acceleration
 - text: name=unit1, vOffset=25, zOrder=2, text=Meter/sq.sec (m/sec²)
 - text: name=unit2, vOffset=40, zOrder=2, text=Foot/sq.sec (ft/sec²)
 - text: name=message, vOffset=55, zOrder=2, wrap=true, width=400
- Add 2 textarea to the window:
 - textarea: name=value1, vOffset=15, zOrder=2, lines=1, hOffset=180, width=220, bgOpacity=255, bgColor=#ffffff
 - textarea: name=value2, vOffset=30, zOrder=2, lines=1, hOffset=180, width=220, bgOpacity=255, bgColor=#eeeeee, editable=false
- Open the kon file from the Yahoo Widgets Doc:

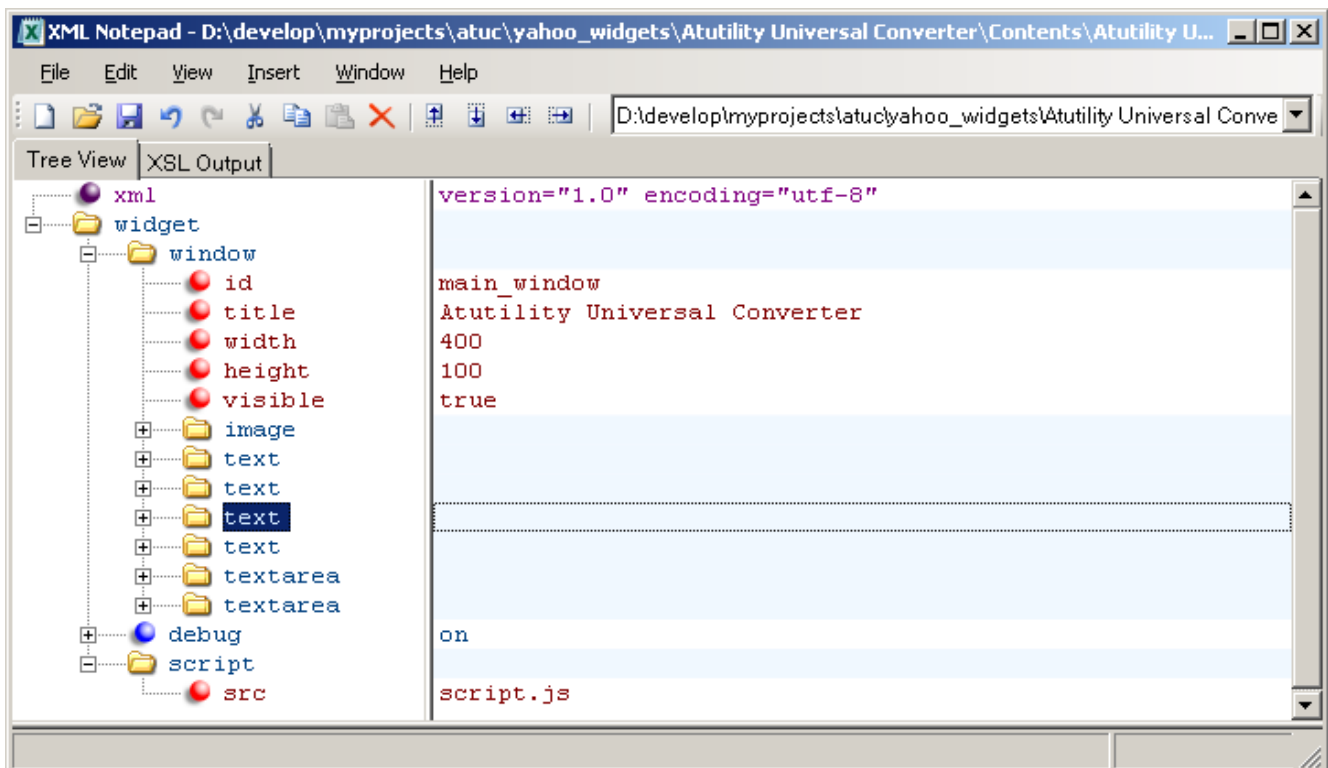


VIII. Add JavaScript to the widgets

- Create a file: script.js in the Contents folder
- Add a script element in widget
 - script: src=script.js
- Add attributes to text
 - text: name=type, onClick=type_onClick();
 - text: name=unit1, onClick=unit_onClick('unit1', 25);
 - text: name=unit2, onClick=unit_onClick('unit2', 40);
 - textarea: name=value1, onKeyUp=calc(); onKeyPress=value_onKeyPress();
- In script.js, implement those functions
 - type_onClick: show a dropdown menu, let user select what type for the conversion
 - unit_onClick: show the unit of the conversion type
 - value_onKeyPress: process the input and calculate the result
 - calc: calculate the result
- supporting functions:
 - type_menu_onSelect: change the type/unit1/unit2/message text accordingly
 - unit_menu_onSelect: change the unit(1/2)/message text accordingly, and do the calculation
 - message: display the message

IX. Finish the 0.1 version

- The screenshot of XML Notepad



- The screenshot of running widgets

Length	
Meter (m)	1
Foot (ft)	3.280839895013123
1 Meter (m) = 3.280839895013123 Foot (ft)	

- Package and deploy
 - Add aboutbox
 - I'm not a graphical designer, so I managed to create a picture using Paint

```

Atutility Universal Converter
Version 0.1
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Email: huangkai31@gmail.com hk22@yahoo.com

```

- Insert an element to widget:
 - about-box: about-image=Resources/about.jpg
 - Reload the widget, right click on it and select “About...”, you will see the about image displayed
 - Turn off debug:
 - change the value of debug element to: off
 - Package it using “Widget Converter”
 - drag and drop the folder “Atutility Universal Converter” to Widget Converter, convert it to flat file, and it will create “Atutility Universal Converter.widget” in the folder
 - Submit to Yahoo Widgets! <http://widgets.yahoo.com/gallery/upload.php>
- X. Plan for the next version
- Better graphics
 - Remember last choice
 - Copy the result to clipboard