

New Practices in Flexible Learning

Just-In-Time Learning Assistant Installation Guide

Vlad Mezin

Holmesglen Training and Development

© 2003 Australian National Training Authority

This work has been produced with the assistance of funding provided by the Commonwealth Government through the Australian National Training Authority. Copyright for this document vests in ANTA. ANTA will allow free use of the material so long as ANTA's interest is acknowledged and the use is not for profit.

ISBN 1 920906 36 3 web edition

*An initiative within the Australian Flexible Learning Framework for the National Vocational
Education and Training System 2000-2004*

*Managed by the Flexible Learning Advisory Group on behalf of the Commonwealth, all States and
Territories in conjunction with ANTA*



Contents

List of tables and figures	iv
Installing YOLA for the Building and Construction Toolbox	1
Step 1: Install YOLA components and mapping file.....	1
Step 2: Install the YOLA frameset for each of the Building and Construction Toolbox resources.....	2
Step 3: Replace the popup window script.....	2
Step 4: Launch YOLA.....	3
Installing YOLA for another resource	4
Step 1: Install ‘_yola_engine’ folder	4
Step 2: Install ‘_yola_support’ folder	4
Step 3: Create and install an ‘imsmanifest.xml’ file.....	4
Step 4: Edit config.xml.....	5
Step 5: Install the YOLA frameset.....	6
Step 6: Install the trigger page	7
Step 7: Launch YOLA.....	9
Adding support content to YOLA.....	10
Step 1: Create a folder for the new support content	10
Step 2: Create and install the learning content XML file	10
Step 3: Install media files	11
Step 4: Update the YOLA learning content, content packaging file (‘imsmanifest.xml’).....	12
Mapping resource pages to content areas	13
Appendix 1: YOLA learning content areas and keywords.....	14

List of tables and figures

Figure 1:	Root of Building and Construction Toolbox folder	1
Figure 2:	YOLA enabled folder	2
Figure 3:	YOLA with Demolition resource.....	3
Figure 4:	config.xml file	5
Figure 5:	HTML frameset code	7
Figure 6:	Javascript code for testing frame existence	8
Figure 7:	YOLA frameset	9
Table 1:	XML elements, their attributes and usage	10
Figure 8:	YOLA learning content XML file	11
Figure 9:	A resource node in imsmanifest.xml.....	12
Figure 10:	Example of a resource XML node for a page.....	13
Table 2:	YOLA learning content areas and keywords.....	14

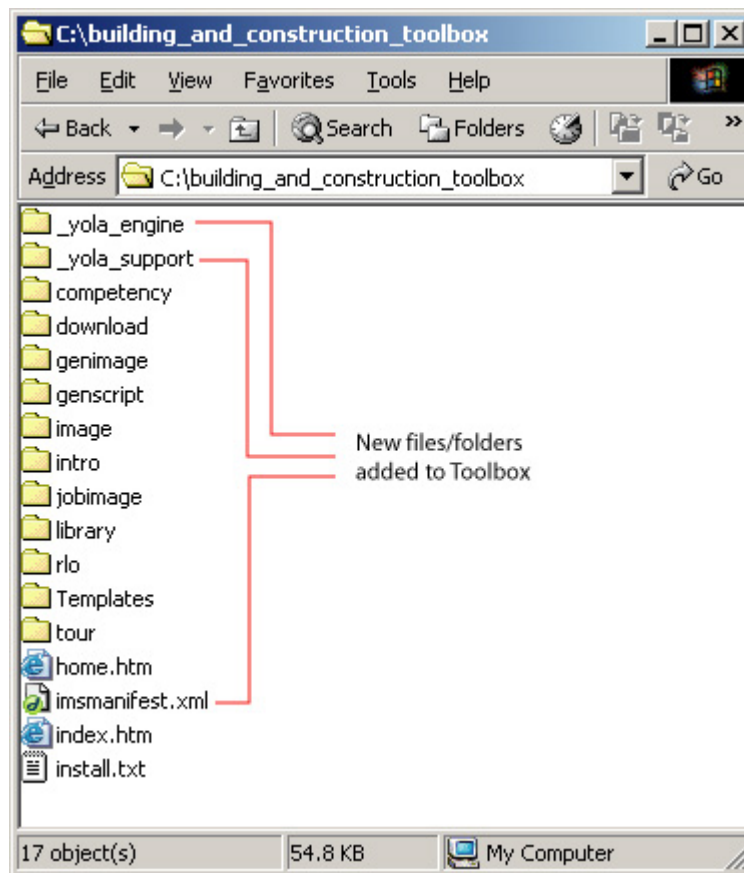
Installing YOLA for the Building and Construction Toolbox

In the Building and Construction Toolbox YOLA is installed for the resources. The following steps outline how to install YOLA for the Building and Construction Toolbox.

Step 1: Install YOLA components and mapping file

From the YOLA CD-ROM copy the '_yola_engine' folder, '_yola_support' folder and the 'imsmanifest.xml' (mapping file) file to the root of the Building and Construction Toolbox folder. The root of the Building and Construction Toolbox folder should appear as in Figure 1.

Figure 1: Root of Building and Construction Toolbox folder

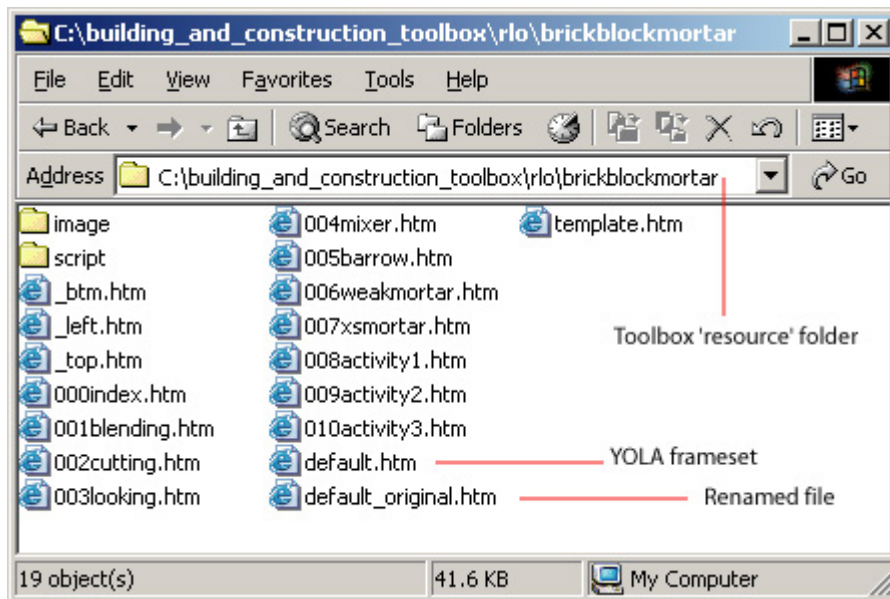


Step 2: Install the YOLA frameset for each of the Building and Construction Toolbox resources

Open the 'rlo' folder in the Building and Construction Toolbox. This folder contains folders for each of the resources in the Toolbox. Each folder contains a 'default.htm' file – rename this file 'default_original.htm'.

Once all the files have been renamed, copy the 'default.htm' file (YOLA frameset) from the '_yola_engine' folder into each of the resource folders. An example of a resource folder modified in this way is illustrated in Figure 2.

Figure 2: YOLA enabled folder



Step 3: Replace the popup window script

The Building and Construction Toolbox displays the resources in a 'popup' window. Since YOLA will use part of this window, the popup needs to be resized to accommodate YOLA. This is done by replacing the file that controls the size of the popup.

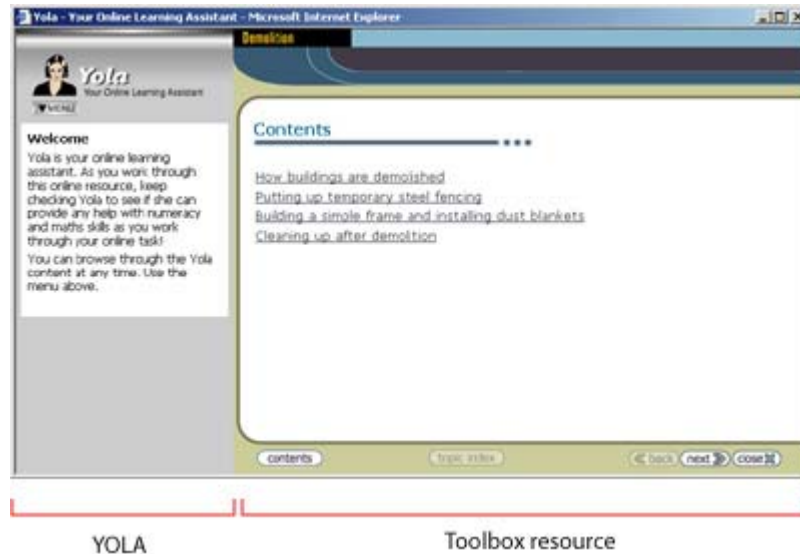
From the '_yola_engine' folder copy the 'popup.js' to the 'genscript' folder of the Building and Construction Toolbox – replace the existing file.

Step 4: Launch YOLA

YOLA is now ready to be used with the Building and Construction Toolbox.

In the Building and Construction Toolbox folder open the 'index.htm' file to display the Toolbox entry page. Click the 'Enter' button to go to the contents page. From the contents page click the 'Resources' button to view all the resources in the Toolbox. Click any of the resources to view them. The resources should now appear with YOLA attached like the example shown in Figure 3.

Figure 3: YOLA with Demolition resource



Installing YOLA for another resource

The following outlines how to implement YOLA with any HTML-based resource. This type of installation may require technical expertise and HTML/javascript knowledge.

Step 1: Install ‘_yola_engine’ folder

This folder contains the YOLA sidebar component and the triggering component.

From the YOLA CD-ROM, copy the ‘_yola_engine’ folder to the root of the resource. Its location relative to the resource is not crucial – we will configure YOLA in a later step to be able to find the files and folders it needs.

Step 2: Install ‘_yola_support’ folder

This folder contains the YOLA learning content.

It is best placed in the same location as the ‘_yola_engine’ folder, but can be located elsewhere – we will configure YOLA in a later step to be able to find this folder. From the YOLA CD-ROM copy the ‘_yola_support’ folder to your preferred location.

Step 3: Create and install an ‘imsmanifest.xml’ file

The ‘imsmanifest.xml’ file is a file that defines the structure and content of an IMS compliant content package. An explanation of content packaging and standards is beyond the scope of this document. For more information regarding content packaging and IMS standards refer to the website of the IMS Global Learning Consortium, Inc, at <<http://www.imslobal.org/>>.

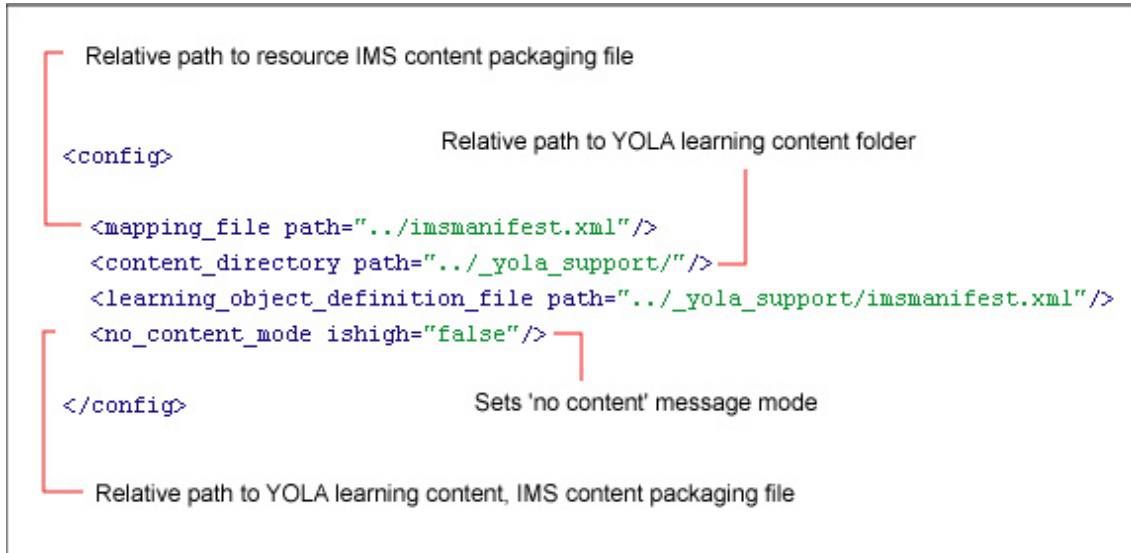
This file is used to map pages within the resource to YOLA content areas. For each page within the resource that you wish YOLA to provide learning content for you will need to assign a content area. For more information about creating an ‘imsmanifest’ file see the section ‘Mapping resource pages to content areas’.

The ‘imsmanifest.xml’ file should be copied to the root of the ‘resource’ folder. We will configure YOLA in a later step to be able to find this folder

Step 4: Edit config.xml

Within the ‘_yola_engine’ folder is the file ‘config.xml’. This file needs to be edited to enable YOLA to operate and must remain within the ‘_yola_engine’ folder. The file is used by the YOLA engine to determine the location of various folders and files that it needs.

Figure 4: config.xml file



All filepaths are specified relative to the location of the ‘config.xml’ file. The ‘config.xml’ file has three components that will need to be edited (see Figure 4).

- ‘Mapping_file’ – edit the ‘path’ attribute so that it contains a relative path to the ‘imsmanifest.xml’ file that was installed in step 3.
- ‘Content_directory’ – edit the ‘path’ attribute so that it contains a relative path to the ‘_yola_support’ folder that was installed in step 2.
- ‘Learning_object_definition_file’ – edit the ‘path’ attribute so that it contains a relative path to the ‘imsmanifest.xml’ file that exists in the ‘_yola_support’ folder installed in step 2.
- ‘No_content_mode’ – the ‘ishigh’ attribute can be set to true or false to make the text ‘Yola has not found any support content for this page’ that appears at the top of the YOLA sidebar appear as plain red text [ishigh = false] or as bold white text in a red box [ishigh = true]. The decision to choose either of these modes will depend on whether it is determined that users find the bold format too distracting.

Step 5: Install the YOLA frameset

YOLA appears as a 'sidebar' to the resource. This requires YOLA to exist in a frameset and the resource to be incorporated into the frameset. In other words YOLA is 'wrapped' around the resource that requires support.

Installation of the YOLA frameset is completed as follows.

1. Rename the entry page of the resource. Remember the original filename, we will use it in the next step.
2. Copy the 'yola_frameset.htm' file from the '_yola_engine' folder to the location of the resource entry page. Rename the 'yola_frameset.htm' file to the original name of the resource entry page. Now all links to the resource entry page will point to the YOLA frameset page.
3. Edit the YOLA frameset page to display the resource entry point page in the frame 'resourceframe' (see Figure 5).

For example

The 'src' attribute of the 'frame' tag with the attribute 'name' that is 'resourceframe'...

```
<frame src="default.htm" name="resourceframe" frameborder="0"
scrolling="Auto" marginwidth="10" marginheight="10">
```

becomes...

```
<frame src="default_original.htm" name="resourceframe"
frameborder="0" scrolling="Auto" marginwidth="10" marginheight="10">
```

Now if a link to the original resource entry page was to be clicked, the YOLA frameset would appear and the original resource entry page would appear within the YOLA frameset.

Note: If YOLA is applied to a popup, the popup may need to be resized to accommodate the extra width that YOLA will require (approximately 200 pixels).

4. Edit the YOLA frameset to point to the 'yola_trigger' frame to 'yola_trigger.htm' in the '_yola_engine'. Figure 5 shows an example of the YOLA frameset code.
5. Edit the YOLA frameset to point to the 'yola_engine' frame to 'yola_engine.htm' in the '_yola_engine' folder. Figure 5 shows an example of the YOLA frameset code.

Figure 5: HTML frameset code

```

relative filepath
<frameset cols="220,*" border="0" frameborder="0">

  <frameset rows="0,*" cols="*" border="0" frameborder="0">

    <!-- Point this frame to the yola trigger page -->
    <frame src="../../_yola_engine/yola_trigger.htm" name="yola_trigger"
    frameborder="0" scrolling="no" marginwidth="10" marginheight="0">

    <!-- Point this frame to the yola engine page -->
    <frame src="../../_yola_engine/yola_engine.htm" name="yola_engine"
    frameborder="0" scrolling="no" marginwidth="10" marginheight="0">
  </frameset>

  <!-- Point this frame to the content entry point page.-->
  <frame src="default_original.htm" name="resourceframe"
  frameborder="0" scrolling="Auto" marginwidth="10" marginheight="10">

</frameset><noframes></noframes>

```

frame name

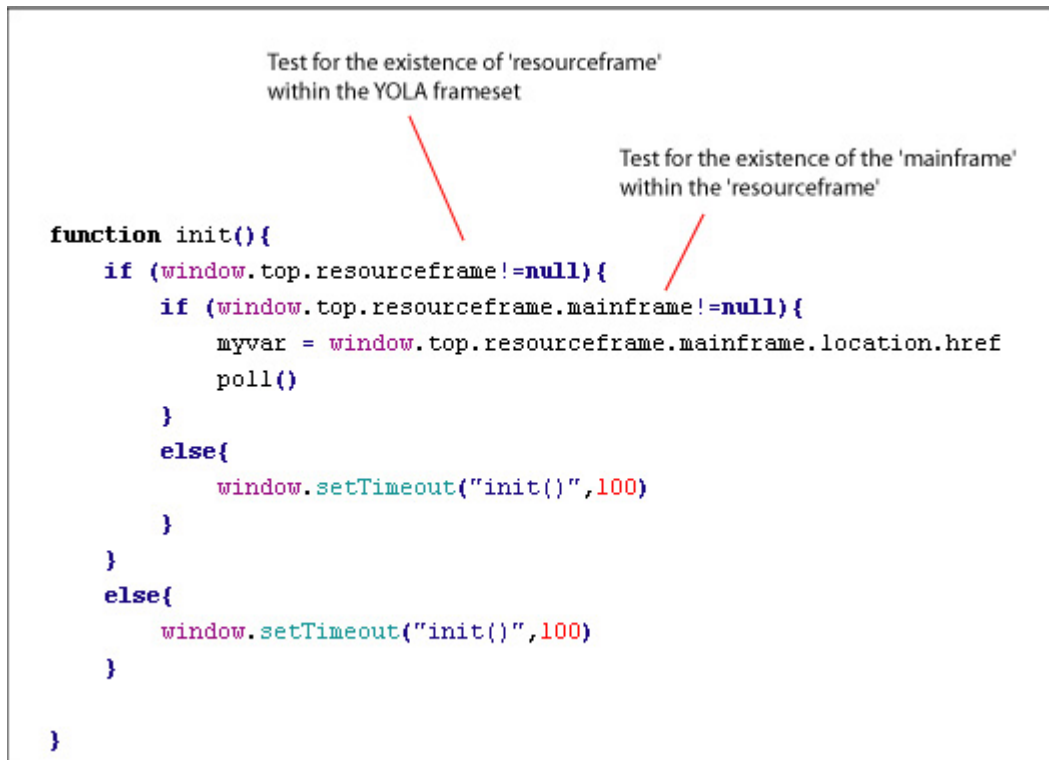
Step 6: Install the trigger page

YOLA uses a trigger page called 'yola_trigger.htm' to detect the current page of the resource that is being displayed and responds by displaying the YOLA learning content. Depending on the structure of the resource the trigger page may need to be edited so that it targets the resource correctly. This requires knowledge of javascript and HTML framesets and may require technical expertise from your system administrator.

The trigger page tests for the existence of a frame before it attempts to retrieve the URL of the resource page that exists within the frame. If the target resource page is nested within a frameset hierarchy then the existence of the frame at each level of the hierarchy must be tested.

In other words, the polling of the target frame should only begin once the entire frameset (and any nested framesets) has completed loading.

Figure 6 shows an example of code used to test for the existence of the 'resourceframe' of the YOLA frameset. It is then followed by another test for the existence of the frame named 'mainframe' within the 'resourceframe' of the YOLA frameset. The frame named 'mainframe' is a frame that exists within the resource.

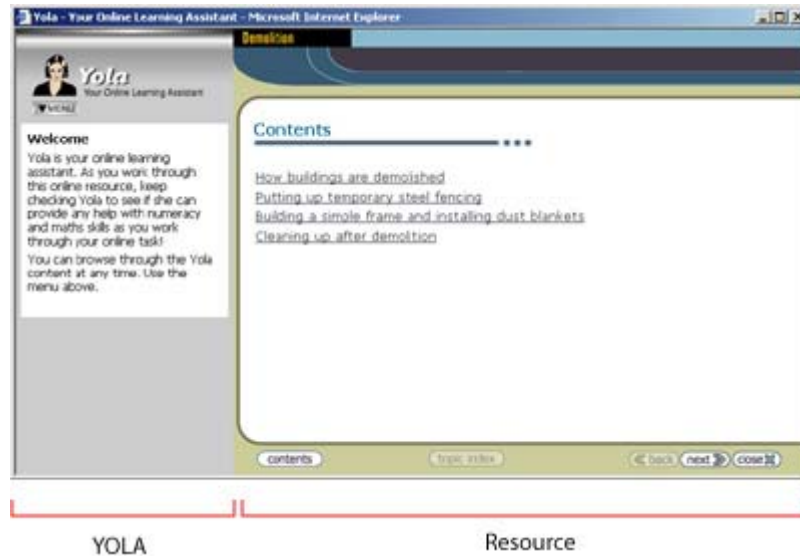
Figure 6: Javascript code for testing frame existence

Once the frames have been detected, polling can begin.

Step 7: Launch YOLA

YOLA is now ready to be used with your resource. Open the YOLA frameset page by clicking it or by clicking the link that launches it. Figure 7 shows an example of how YOLA appears within a resource.

Figure 7: YOLA frameset



Adding support content to YOLA

YOLA allows new learning content to be added as required. YOLA learning content consists of sidebar text content, sidebar flash content and major learning content that appears in a popup window of its own. You can follow the process outlined below or copy and paste an existing folder, rename it and then use it as a basis for creating a new learning content. This process may require assistance from your system administrator or someone with technical expertise in XML/HTML.

Step 1: Create a folder for the new support content

Create a new folder in the ‘_yola_support’ folder and name it appropriately. Within this new folder create a folder structure as required.

Step 2: Create and install the learning content XML file

YOLA content is defined in the XML file located in the root of the folder you created in step 1. This file contains XML markup that allows different types of content to be displayed such as:

- headings
- paragraphs
- links
- bullets
- Macromedia Flash files.

The table below describes each of the XML elements, their attributes and usage.

Table 1: XML elements, their attributes and usage

XML element	Element description	Attributes	Attribute description
<support_content>	Primary node – contains all elements.	None	
<heading>	Used to create headings.	None	
<paragraph>	Used to create paragraphs.	None	
<bullet>	Used to create bullet points.	None	
<major_resource>	Used to display a link to a HTML page containing a YOLA learning object.	URL	Relative path from the ‘_yola_engine’ folder to the HTML page
<minor_resource>	Used to display Flash content.	URL	Relative path from the ‘_yola_engine’ folder to the Flash file

Figure 8 shows an example of how an XML learning content file is structured and the YOLA page that is displayed as a result.

Figure 8: YOLA learning content XML file

The figure illustrates the mapping between the visual YOLA page and its underlying XML structure. The page content is as follows:

- Header:** YOLA logo, "Your Online Learning Assistant", and a "Menu" button.
- Section Header:** "Length"
- Text:** "Distances and lengths are measured using standard scales. Larger scales are divided into smaller scales:"
- Bullet Points:**
 - A kilometre is made up of 1000 metres.
 - A metre is made up of 100 centimetres.
 - A centimetre is made up of 10 millimetres.
- Text:** "Try the sample quiz below or learn more about length here."
- Quiz Interface:**
 - An image of a ruler with a blue rectangle placed on it.
 - Text: "How long is the rectangle?"
 - Radio button options: 10 mm, 5 mm, 10 cm, 30 mm, 3 m, 1 m.
 - A "Check answer" button.
- Text:** "Different measurements are used to measure different sizes of objects or distances."

The corresponding XML markup is shown on the right, with red lines connecting the visual elements to their code representations:

```
<?xml version="1.0" encoding="UTF-8"?>
<support_content>
<heading>Length</heading>
<paragraph>Distances and lengths are measured using standard scales. Larger scales are divided into smaller scales:</paragraph>
<bullet>A kilometre is made up of 1000 metres.</bullet>
<bullet>A metre is made up of 100 centimetres.</bullet>
<bullet>A centimetre is made up of 10 millimetres.</bullet>
<major_resource url="../_yola_support/length/default.htm">
Try the sample quiz below or learn more about length here.
</major_resource>
<minor_resource url="../_yola_support/length/image/length.swf"/>
<paragraph>Different measurements are used to measure different sizes of objects or distances.</paragraph>
</support_content>
```

Create a learning content XML file using the XML markup outlined above and save it to the folder created in step 1.

Step 3: Install remaining files

Copy any remaining files that are required to the folder structure you created in step 1 ensuring that any relative paths in the learning content XML file are consistent with locations of the files they reference.

Step 4: Update the YOLA learning content, content packaging file ('imsmanifest.xml')

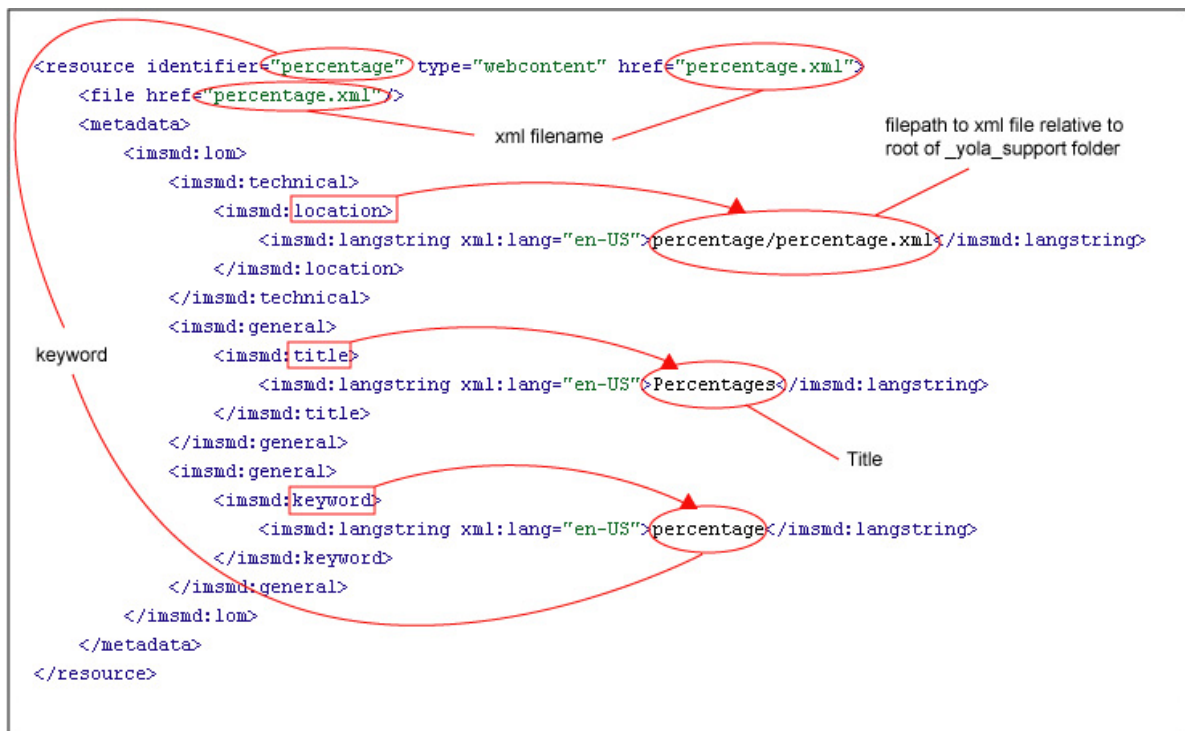
The following discussion requires an understanding of IMS content packaging and IMS metadata standards. For detailed information about IMS content packaging and IMS metadata refer to the website of the IMS Global Learning Consortium, Inc, at <<http://www.imsglobal.org/>>.

Edit the 'imsmanifest.xml' file located on the root of the '_yola_support' folder to include the new support content. This is done by adding a new 'resource' node to the 'resources' node of the file. The simplest way is to copy and paste an existing 'resource' node and then edit it as required. The three key IMS metadata elements that are used by YOLA to display content are:

- technical.location – the relative filepath to the XML file from the root of the '_yola_support' folder
- general.title – the title of learning content area (this appears in the YOLA menu)
- general.keyword – the unique word used when YOLA performs a lookup when matching learning content to a resource page. See Appendix 1 for a list of YOLA keywords and content areas.

Figure 9 illustrates a resource node and the required metadata structure. The circles indicate the areas of the node that are to be edited.

Figure 9: A resource node in imsmanifest.xml



YOLA is now ready to display the new learning content. From the YOLA menu you should be able to see a menu item for the new content area [if YOLA was open while you added the content you will need to reload YOLA].

Mapping resource pages to content areas

The following discussion requires an understanding of IMS content packaging and IMS metadata standards. For detailed information about IMS content packaging and IMS metadata refer to the website of the IMS Global Learning Consortium, Inc, at <http://www.imsglobal.org/>.

For YOLA to behave as a just-in-time learning assistant the pages in the resource that require YOLA support need to have YOLA content areas mapped to them.

This is done by creating an 'imsmanifest.xml' file for the resource and adding IMS metadata for each page in the resource that requires support.

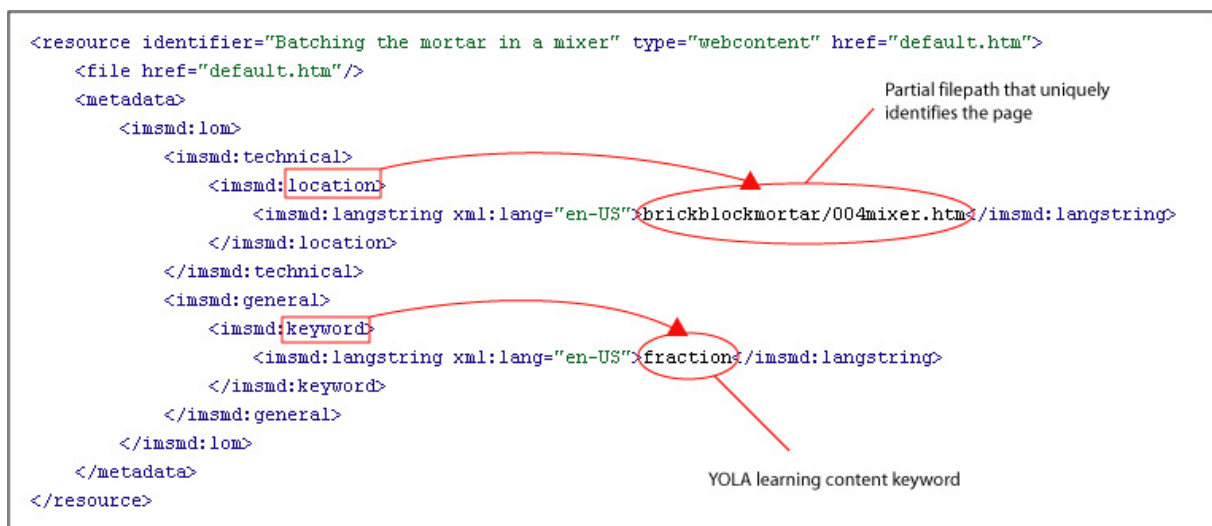
For a resource page that requires YOLA support the 'imsmanifest.xml' file will need to have IMS Learning Resource Metadata added to the resource node for the resource page [and a resource node created if one does not already exist].

The two key metadata elements that are used by YOLA to map a content area to a resource page are:

- technical.location – a partial filepath to a resource page that will uniquely identify it to YOLA
- general.keyword – the YOLA keyword for the learning content required for the page. See Appendix 1 for a list of YOLA keywords and content areas.

Figure 10 shows an example of a resource node that would appear within the 'imsmanifest.xml' file. The example tells YOLA that for the page 'brickblockmortar/004mixer.htm' the support content required is that which matches the keyword 'fraction'.

Figure 10: Example of a resource XML node for a page



These resource nodes are added for every page in the resource that requires YOLA support.

Appendix 1: YOLA learning content areas and keywords

The table below shows the YOLA learning content areas and the keywords YOLA uses to identify each.

Table 2: YOLA learning content areas and keywords

Content area title	YOLA keyword
Scale	scale
Length	length
Angles	angle
Ratios	ratio
Conversions	conversion
Multiply and divide by tens	multiplsoften
Fractions	fraction
Multiplication and division	multiply
Percentages	percentage
Measuring	measure
Area	area

**For more information contact:
Framework Communications Team
Phone: (07) 3234 1852
Fax: (07) 3237 0419
Email: enquiries@flexiblelearning.net.au**