

## Introduction to Shells and Widgets

The vision of the iTEC project focuses on making it easier for teachers to make use of interesting, engaging technologies in the classroom, and providing teachers and learners with new ways to collaborate, create, communicate share and learn. The technologies in question include mobile devices, interactive whiteboard technologies and software, and a wide range of web-based tools and services. Here are some terms we will be using in this module:

Shell – This is the name given to a learning environment which a teacher can tailor with tools, services and resources that are required for learning activities. A common example of a shell is Moodle, which is an online space used by many teachers in Europe. Other examples of a shell are Smart Notebook and Promethean Active Inspire. What all these shells share in common is that they are able to make use of tools called Widgets

Widgets – Widgets have been around for a long time. They include small desktop applications such as calculators or the well-known weather forecast apps that many people have on their desktops. They can also be web-based applications that can be integrated into a web page. The widgets we will be using are web-based tools and content designed to be embedded within a shell.

The reason we are using widgets and shells is to make it very easy for teachers to:

1. Discover new learning tools and content
2. Make use of these resources in a familiar and easy to use environment
3. Introduce new teaching and learning activities using the tools discovered

Later in this module we will also see how the shells and widgets allow teachers to bring together their own collection of widgets from tools and resources found on the internet. To help you understand shells and widgets better, we are going to use them in the next activity.

### Structure of this Module

This module has been designed to give you hands on experience of using technology, so that you can continue to use it after the course is complete. In this module you can work at your own pace through the activities. The course tutor will be here to help if you have any difficulty, or want to know more about the topics covered. There are three activities for you to complete, and each has a learning objective. You are expected to spend approximately 1 hour on each activity:

#### Activity 1 – Introduction to Future Scenario Learning Tools

Objective: You should be able to access and explore iTEC Technologies (Shells and Widgets)

#### Activity 2 – Technologies Used By Case Study Teachers

Objective: You will be able to generate ideas for making use of technologies to support innovative and advanced pedagogical approaches.

#### Activity 3 – iTEC Tools (Widget Store and Widget creation)

Objective: You will be able to make use of an iTEC shell to find and create widget tools which you can use to add innovation to your lessons.

## Activity 1 – Introduction to Future Scenario Learning Tools

### 1.1 – Login to your “Course” in the iTEC Shell

To get started using Shells and Widgets you will be given a “shell” course to use. This shell uses Moodle, but you do not need to be familiar with Moodle. It is simply a web page that you can log into and use to find and arrange widgets for your lessons.

#### Step 1 – Finding your the iTEC Shell

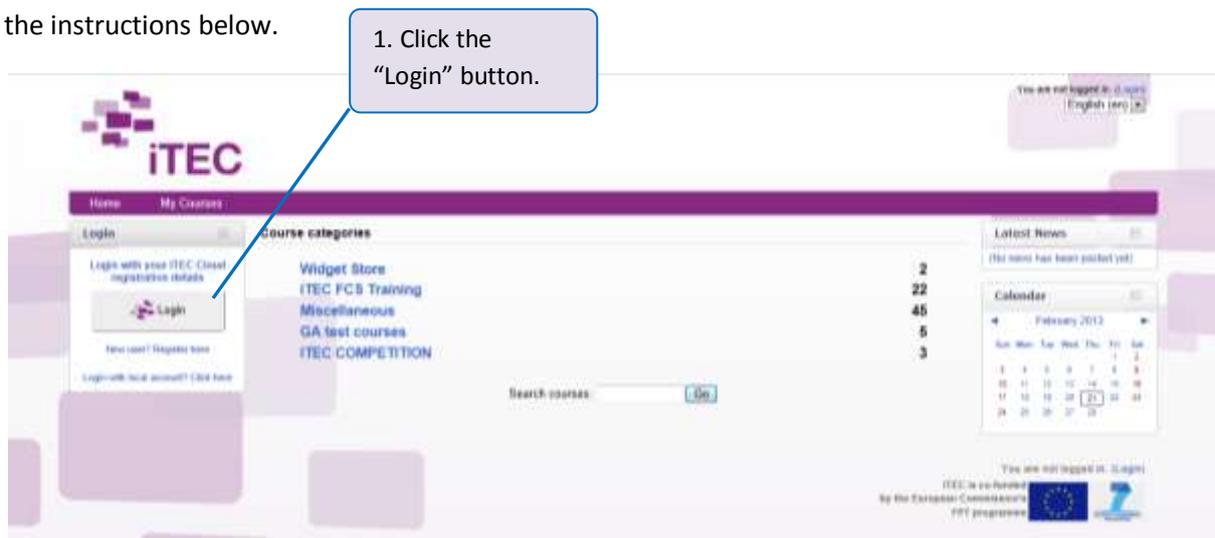
Clicking on this link will take you to the Moodle platform: <http://itec-moodle.eun.org/>

#### Step 2 – Login with your own personal registration details

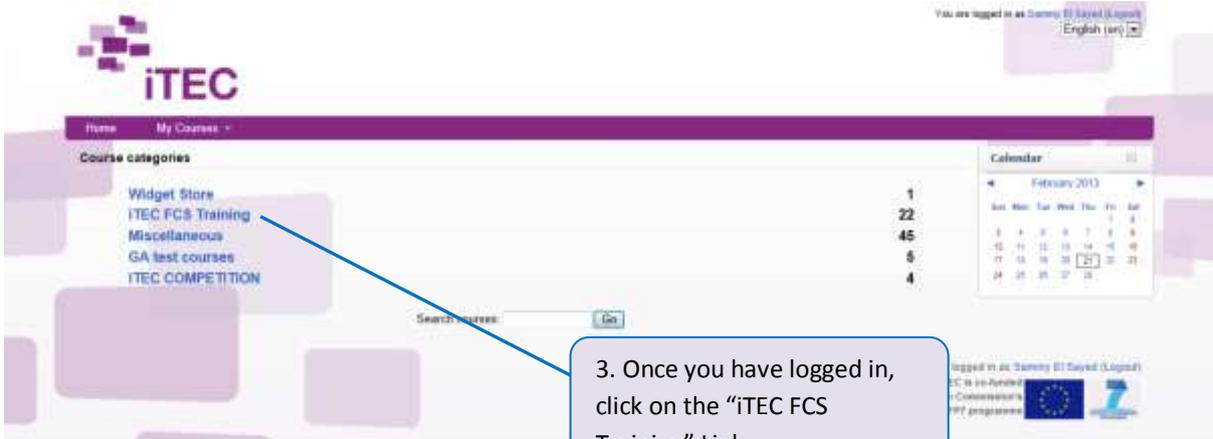
Your tutor will provide you with a:

- Login name
- Password

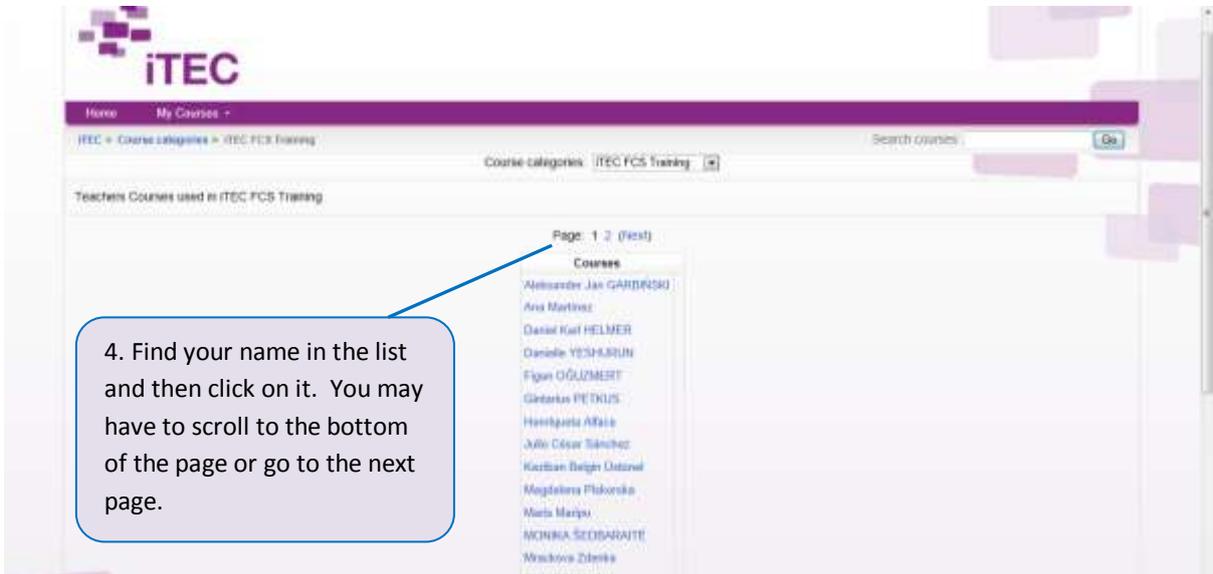
It’s important that you do not lose this information. Use the login name and password by following the instructions below.



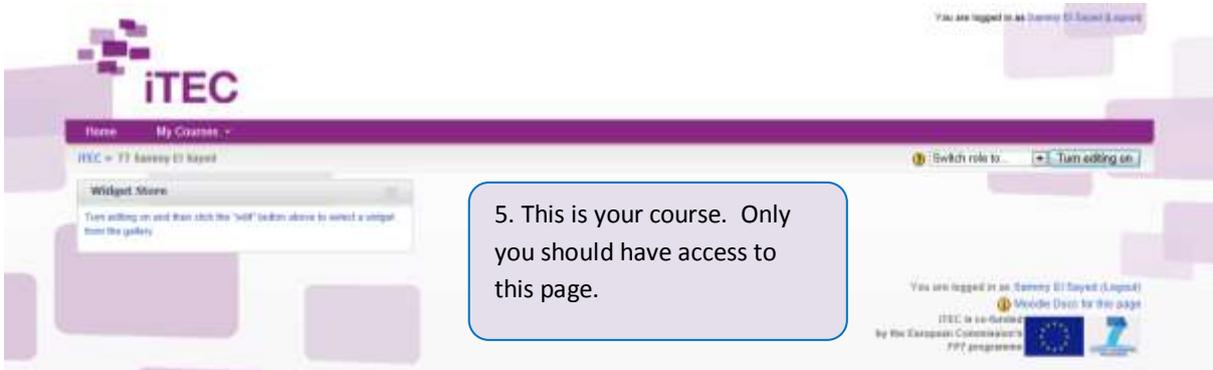
### Step 3 – Finding your course in the shell



The screenshot shows the ITEC website home page. The user is logged in as 'Sammy El Sayed'. The navigation menu includes 'Home' and 'My Courses'. Under 'Course categories', there is a list: 'Widget Store', 'ITEC FCS Training', 'Miscellaneous', 'GA test courses', and 'ITEC COMPETITION'. A blue callout box with a pointer to the 'ITEC FCS Training' link contains the text: '3. Once you have logged in, click on the “ITEC FCS Training” Link'. Other elements include a search bar, a calendar for February 2013, and a footer with logos for the European Commission and FP7 programme.



The screenshot shows the 'ITEC FCS Training' page. The breadcrumb trail is 'ITEC > Course categories > ITEC FCS Training'. The page title is 'Teachers Courses used in ITEC FCS Training'. Below the title is a list of names: Alexander Jan GARTNICKI, Ana Martinez, Daniel Kai HELMER, Daniela YESHURUN, Filip OGLUMERT, Gintaras PETRUS, Henriette Alfaro, Julie César Sánchez, Karim Belqas Ouzari, Magdalena Plakonska, Wafa Marjui, MONINA SCOBARAITE, and Miroslava Zdenka. A blue callout box with a pointer to the list contains the text: '4. Find your name in the list and then click on it. You may have to scroll to the bottom of the page or go to the next page.' The page also shows 'Page: 1 2 (first)' and a search bar.



The screenshot shows the 'Widget Store' page. The user is logged in as 'Sammy El Sayed'. The page title is 'ITEC > ITT Sammy El Sayed'. A 'Widget Store' pop-up is visible, with the text: 'You are editing on and then click the "add" button above to select a widget from the gallery'. A blue callout box with a pointer to the pop-up contains the text: '5. This is your course. Only you should have access to this page.' The page also shows a 'Switch role to...' dropdown and a 'Turn editing on' button. The footer includes logos for the European Commission and FP7 programme.

**Well done – I hope that was easy so far? It shouldn't get any more difficult as we work through the module.**

You can find out more about shells and Moodle on the iTEC Website. This may be helpful after you have completed this course:

This link takes you to the page describing shells. It includes a detailed manual describing how to use Moodle as a Shell, including setting up courses, adding pages to a course and adding other content to a page: <http://itec.eun.org/web/guest/shells>

## 1. 2 – Finding the widgets

Now that you can access your online course, you will need to add some tools and content. In the next steps you are going to add some widgets to your course. To find the widgets you need to open the “Widget Store”. This is a bit like an App Store, which you will be familiar with if you have a smart phone or tablet.

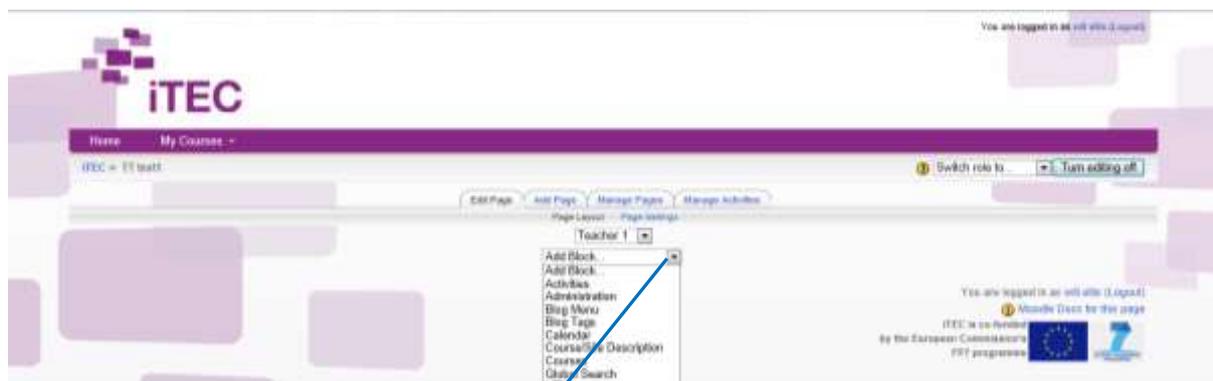
The following animation provides an introduction to the widget store. You can take some time to watch this before or after this activity. It also covers widget creation, which we come to later in the module: [http://youtu.be/CpUPG1l\\_RoY](http://youtu.be/CpUPG1l_RoY)

### Step 1 – Adding the Widget Store to your course.

First make sure that you are logged into your course, following the step in 1.1 above. Then follow the instructions below:



1. Click here where it says “Turn editing on”. It should now say “Turn editing off.”



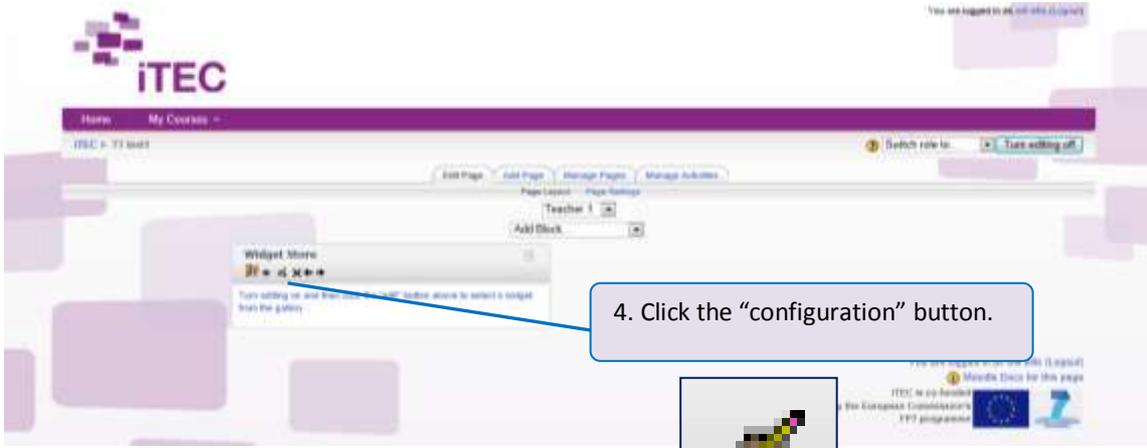
2. Click the “Add Block” button and a menu will appear.

3. Click on the Widget Store option at the bottom of the list.

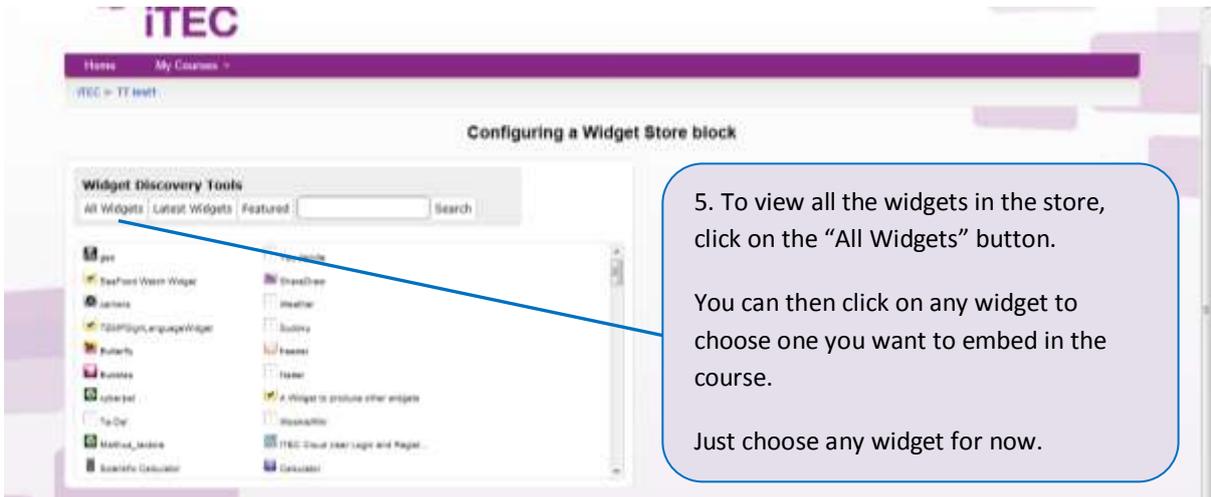
The Widget Store should appear in your course. This may take a little while if you have a slow network.

## Step 2 – Embedding a widget

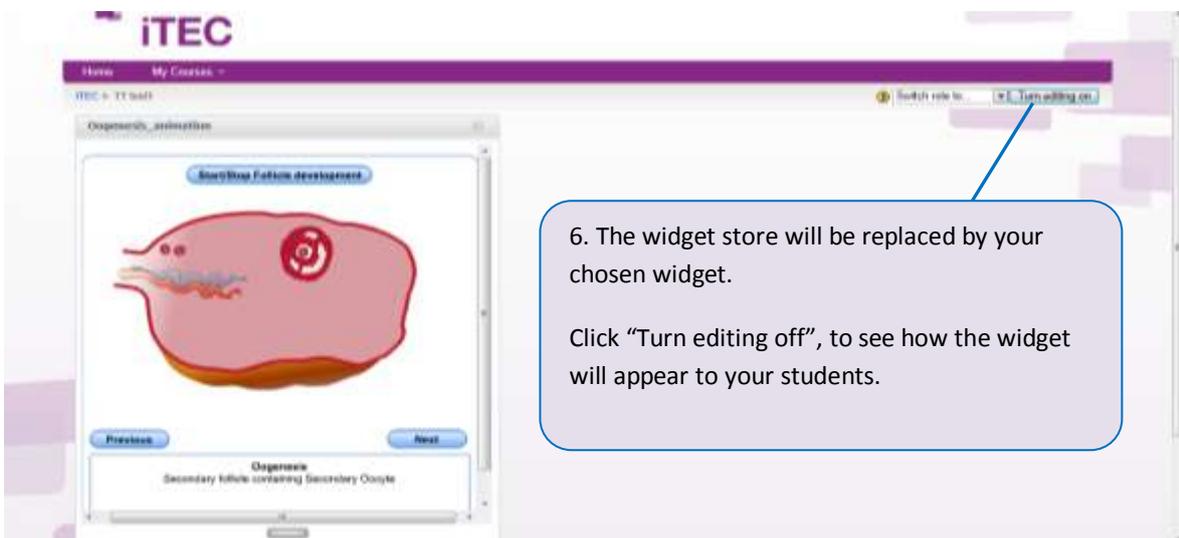
With the widget store in your course you can now choose a widget to add to the course.



4. Click the “configuration” button.



5. To view all the widgets in the store, click on the “All Widgets” button.  
You can then click on any widget to choose one you want to embed in the course.  
Just choose any widget for now.

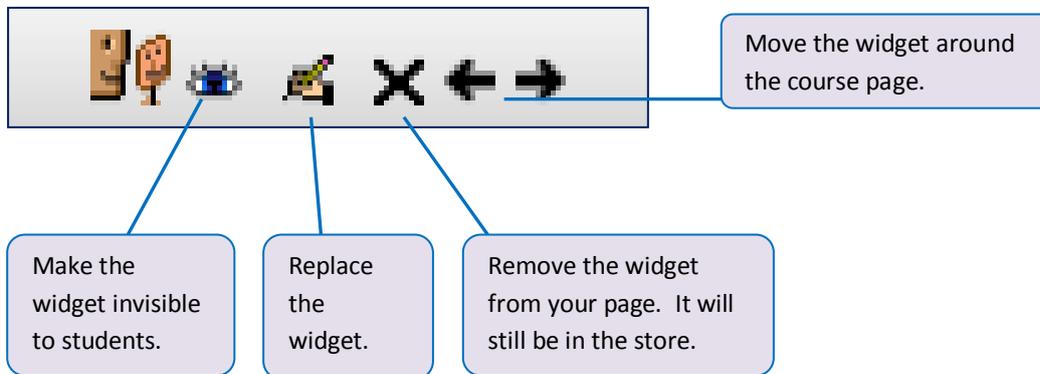


6. The widget store will be replaced by your chosen widget.  
Click “Turn editing off”, to see how the widget will appear to your students.

### Step 3 – Replacing and adding widgets

You can add another widget by following the instructions above. You can also replace any widget you have added by clicking the configuration button and choosing another widget. Make sure that you have “turned editing on” to allow you to do this.

For each widget there are some additional controls.



To complete this part of the course, experiment with adding widgets and moving them around. Also, have a look at the widget store animation if you haven't done so already:

[http://youtu.be/CpUPG1l\\_RoY](http://youtu.be/CpUPG1l_RoY)

On this page of the iTEC Website you can watch a short film showing how you can add widgets to Moodle, and other shells. Take a look at the “Adding a widget to a Moodle course” film:

[http://itec.eun.org/web/guest/widgets\\_using](http://itec.eun.org/web/guest/widgets_using)

On this page you will also find a more detailed manual for the widget store:

<http://itec.eun.org/web/guest/widgets>

## Activity 2 – Technologies Used By Case Study Teachers

In this course you have used one iTEC Shell (Moodle), but there are a number of others that you could use including Interactive Whiteboard software.

### 2.1 – Using widgets in Interactive Whiteboard Shells

Please take a look at one of the two webinars below. Choose the one that is most relevant to you.

1. Example provided by SMART (Please view minutes 2.00-18.25):  
<http://www.youtube.com/watch?v=OJMhsqT-9Aw&feature=share&list=UUHBZy0pZzyrwDSfHRTqE5iA>
2. Example provided by Promethean (Please view minutes 0.00-12.40):  
<https://promethean.webex.com/promethean/lr.php?AT=pb&SP=MC&rID=55352357&rKey=2f20ce4e30485356>

There are document guides for SMART Notebook and Promethean on the iTEC Website:

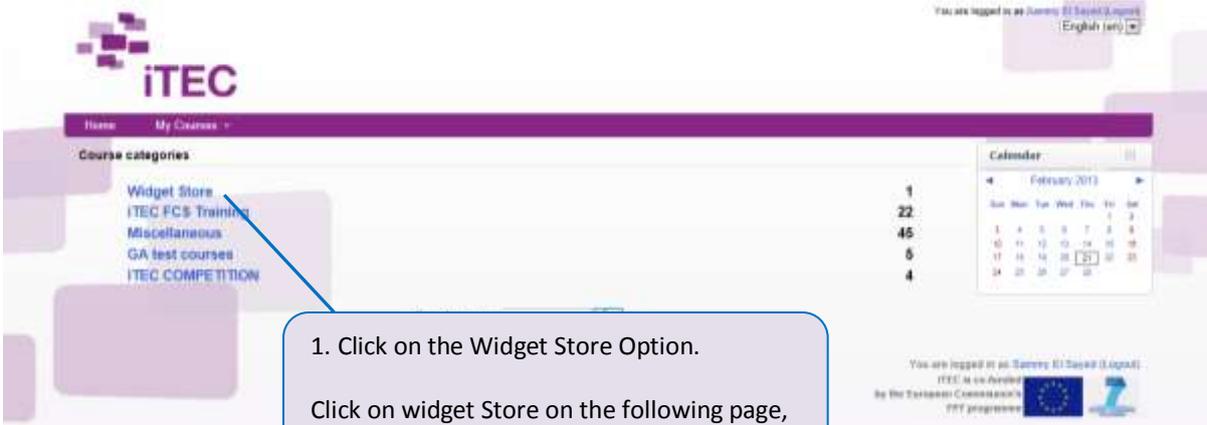
[http://itec.eun.org/web/guest/widgets\\_using](http://itec.eun.org/web/guest/widgets_using)

### 2.2 – Consider using a widget tool in your teaching

In this next activity we will return to the Widget Store to look at some of the widgets in more detail. We will also consider how they could be used in your lessons.

#### Step 1 – Open the Widget Store and view some of the widgets

Login to the Shell as explained in activity 1, then follow the instructions below when you reach the page shown here:



The screenshot shows the iTEC Moodle interface. At the top, there is a navigation bar with 'Home' and 'My Courses'. Below this, a 'Course categories' list is visible, with 'Widget Store' highlighted. A blue callout box with a pointer to 'Widget Store' contains the following text:

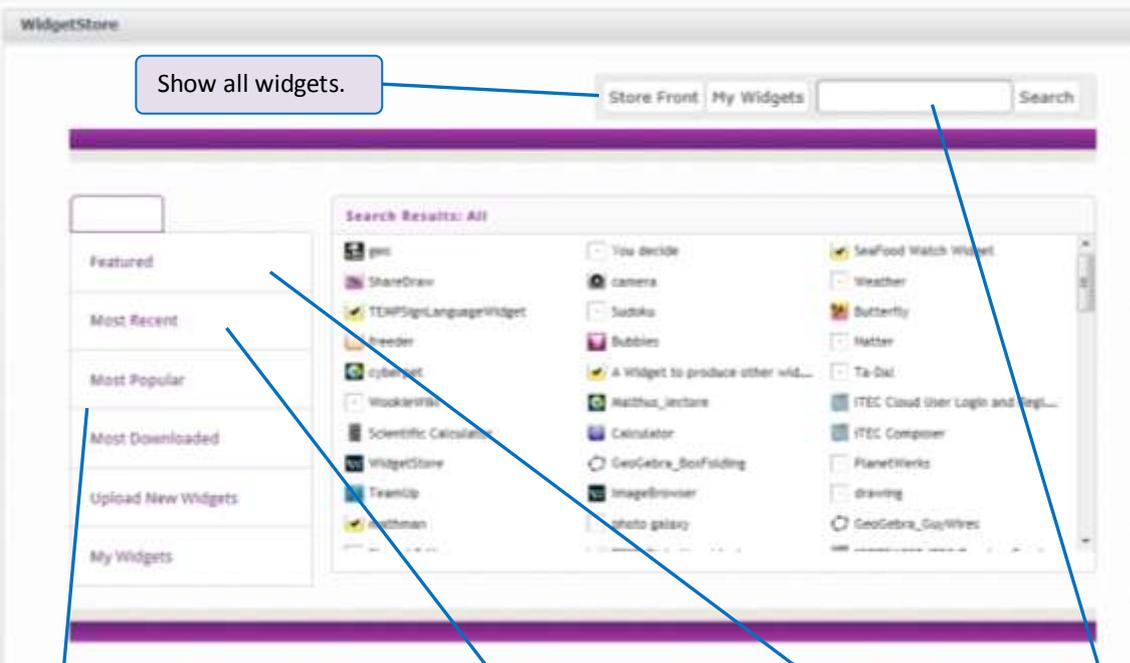
1. Click on the Widget Store Option.

Click on widget Store on the following page, and then click "Yes" to enrol yourself on the course.

The interface also shows a calendar for February 2013, a login status 'You are logged in as Sammie El Savad (Logout)', and a language selector 'English (en)'. At the bottom, there are logos for iTEC, the European Commission, and the FP7 programme.

## Step 2 – The full Widget Store

The full widget store is shown with a number of options for you to explore. Take a quick look.



The screenshot shows the WidgetStore interface. At the top, there are tabs for 'Store Front' and 'My Widgets', and a search bar. Below the search bar, there are several categories: 'Featured', 'Most Recent', 'Most Popular', 'Most Downloaded', 'Upload New Widgets', and 'My Widgets'. The main area displays search results for 'All' widgets, including items like 'ShareDraw', 'TDFSignLanguageWidget', 'Breader', 'Cybernet', 'Wookerwin', 'Scientific Calculator', 'WidgetStore', 'Travelip', 'Healthman', 'You decide', 'camera', 'Sudoko', 'Bubbles', 'A Widget to produce other wid...', 'Mathus\_instore', 'Calculator', 'GeoGebra\_BoxFolding', 'ImageBrowser', 'photo gallery', 'SeaFood Watch Widget', 'Weather', 'Butterfly', 'Matter', 'Ta-Dat', 'ITEC Cloud User Login and Regi...', 'ITEC Computer', 'PlanetWizis', 'Drawing', and 'GeoGebra\_GuyWirec'. Callouts point to various features: 'Show all widgets.' points to the search bar; 'View the most popular widgets (rated by users), or those most downloaded.' points to the 'Most Popular' and 'Most Downloaded' categories; 'View widgets recently added.' points to the 'Most Recent' category; 'View "featured" widgets selected by the administration team.' points to the 'Featured' category; and 'Search for a widget using key words.' points to the search bar.

View the most popular widgets (rated by users), or those most downloaded.

View widgets recently added.

View "featured" widgets selected by the administration team.

Search for a widget using key words.

It's important to understand, at this stage, what the widget store is, and how it's intended to work. The widget store is not meant to act as a simple content repository. The widget store acts as an open platform for sharing, in a similar way to YouTube, Wikipedia and other popular Web 2.0 community services.

The Widgets Store allows users to bring together, and share their own collection of resources taken from across the web, in one convenient place. In addition to this those resources are automatically shared with all other users. The challenge this presents, as with services like YouTube, is that this freedom will result in large amounts of "not very useful" resources.

So what makes services like YouTube a success?

- Firstly it provides a free web based location for storing resources (video in the case of YouTube, widgets in the case of the Widget Store). The widget Store goes one step further in that it links into a range of common learning platforms.
- Secondly, the growth of the Social Web – The web is now a place that thrives on user creativity and willingness to share.

- Thirdly , search-ability – Browsing through the Widget Store is not likely to get the right results, but features such as social tagging, user ratings, and recommendations are powerful ways to help the user find the right content.

In the early days of the Widget Store, as with all other services of this kind, there is some way to go to grow the number of resources and quality of social data.

### **Step 3 – Examine some widgets that may be of use.**

The following widgets have been selected for you to take a look at and consider how you may put them to use. Please discuss with your colleagues, and also consider what additional widgets may be useful to add to the Store.

#### *Basic Tools*

- Scientific Calculator - A simple tool but useful for Maths teachers.
- QR Generator – Allows users to create a QR code from a web address. Most Smart phones. have QR scanner apps allowing the user to quickly find a website.

#### *Creativity and inspiration*

- Photo Galaxy – Uses linking terms to discover related images.
- Word of the day – Can be used to inspire new ideas.
- This Day in History – A historical event of importance.
- Random Words – Similar to word of the day.
- Idea Cards – Provides ideas for student’s activities can carry out in a project or creative task.
- Piano – A small music creation widget.
- Camera – Take photos of work progress.

#### *Collaboration*

- Six Hats – A tool supporting group discussion and critical thinking.
- Activity Group Spinner – A simple tool for making decisions e.g. who takes the lead, what project topic to choose.
- Natter - A simple tool allowing learners to communicate by text message.
- Wookie Wiki – A simple text editor for making notes. It also tracks when the notes were made and by who.
- Ta Da – A scheduling tool, allowing different group members to create and assign tasks, and track progress.
- Simple Chat - A simple tool allowing learners to communicate by text message.
- Voting – A simple quiz or voting tool.

### *Presentation and communication*

- Text to Speech – Avatar that speaks what is written in multiple languages and personalities.
- Activity Timers (Candle, Rocket, Hour Glass) – Simple tools for managing time in a group activity or presentation.

### *Learning Content*

- LRE Search Widget – Find learning resources from the thousands stored in the Learning Resource Exchange.
- YouTube – Find a video from YouTube.
- Cardiac Cycle – One of an example of interactive science learning resources.
- GeoGebra BoxFolding – One of an example of interactive maths learning resources.

### *Fun*

- Bubbles
- Maths PacMan
- Sudoku

## Activity 3 – iTEC Tools (Widget Store and Widget creation)

As discussed in Activity 2, the widget store is designed to be a place where teachers can create their own widget collections so that they can be reused and reorganised for different groups and lessons. In this section we explore how you can create and manage your own widget collections.

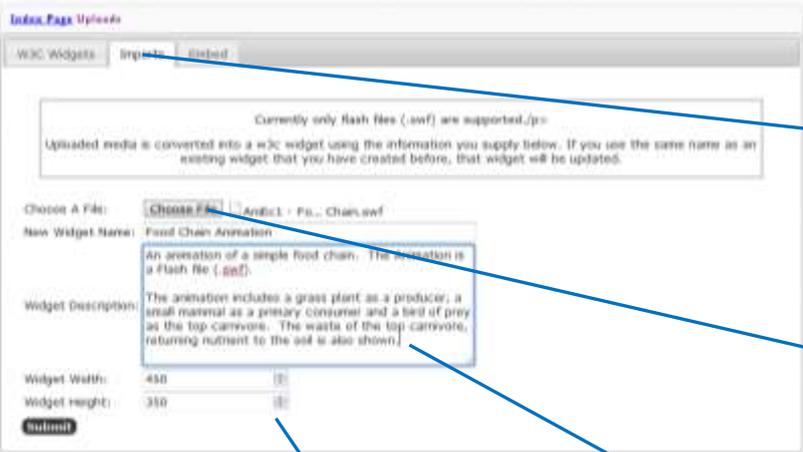
### 3.1 – Adding a Flash widget

Flash files are activities, animations and images that can be used to create a widget.

#### Step 1 - Open the Widget Store.

The widget creation tools are in the Widget Store. Follow the instructions in activity 2.2 above to get back to the Widget Store. Then click on the “Upload New Widgets” option.

#### Step 2 – Import a Flash file



The screenshot shows the 'Upload New Widgets' form in the iTEC Widget Store. The form includes a 'Choose File' button, a 'New Widget Name' field, a 'Widget Description' text area, and 'Widget Width' and 'Widget Height' input fields. A 'Submit' button is at the bottom left. Four callout boxes provide instructions: 1. Click the 'Import' button. 2. Click 'Choose File' and find a flash (.SWF) file on your computer. 3. Give the new widget a name and a full explanation (this will help others find it). 4. You will also have to provide a size for the window in which the widget will be displayed. Make sure it's not too big or there will be lots of empty space on the page. If it's too small then the user will have to use scroll bars to see it.

1. Click the “Import” button.

2. Click “Choose File” and find a flash (.SWF) file on your computer.

3. Give the new widget a name and a full explanation (this will help others find it)

4. You will also have to provide a size for the window in which the widget will be displayed. Make sure it's not too big or there will be lots of empty space on the page. If it's too small then the user will have to use scroll bars to see it.

#### Finding Flash files.

There are several places on the internet you can go to find useful flash files:

- [http://www.digitalworkshop.com/resources/res\\_education.shtml](http://www.digitalworkshop.com/resources/res_education.shtml)
- [http://www.entheosweb.com/flash\\_games/index.asp](http://www.entheosweb.com/flash_games/index.asp)
- <http://citwings.com/examples.html>

### Step 3 – Adding tags and other information to make it searchable.

Once you have submitted your widget, you will be shown the screen below and asked to add useful information describing the widget. This is a very important step as it allows others to find useful widgets relevant to them.

The screenshot shows the editing interface for a widget titled "Food\_Chain\_Animation". The interface includes several sections:

- Functionalities:** A section with a text input field and an "Add Functionalities" button. A callout box explains: "Choose functionalities that describe what the widget does. You can select several functionalities. For each function you will also be asked to indicate how well the widgets suits that functionality on a scale of 1 – 100. A score of 100 means that the widget perfectly performs the selected functionality."
- Tags:** A section with a grid of tag buttons: Scientific, Natural World, Visual, Primary, Secondary, Environment, Food Chain, and Biology. A "Select an existing tag" dropdown is set to "Choose", and there is a "Save" button. A callout box explains: "Choose from a list of tags that describe the widget."
- Your Rating:** A section with a "View Widget" button, a "View Embed Code" button, an "Average Rating" of 0 stars, and a "Your Rating" section with 5 empty star icons. A callout box explains: "Provide a star rating to indicate how useful you think it is."
- Reviews:** A section with a "Reviews: 0" label, a text input field with the placeholder "Write your review here and click 'Save' when you are finished", and a "Save" button. A callout box explains: "Provide a review for others to read."

### Step 4 – Finding your widget and making changes

If you go back to the Store Front you can find your widget by either using the search option, or clicking on "My Widgets". It's ready to add to your course in the way described in section 1.2 of this guide.

To make changes to the widget (such as changing the size of the display window) go to the full widget store and upload the widget again, with the same name. This will replace the original widget with the new one you have uploaded. Only you, the author of the widget can make these changes.

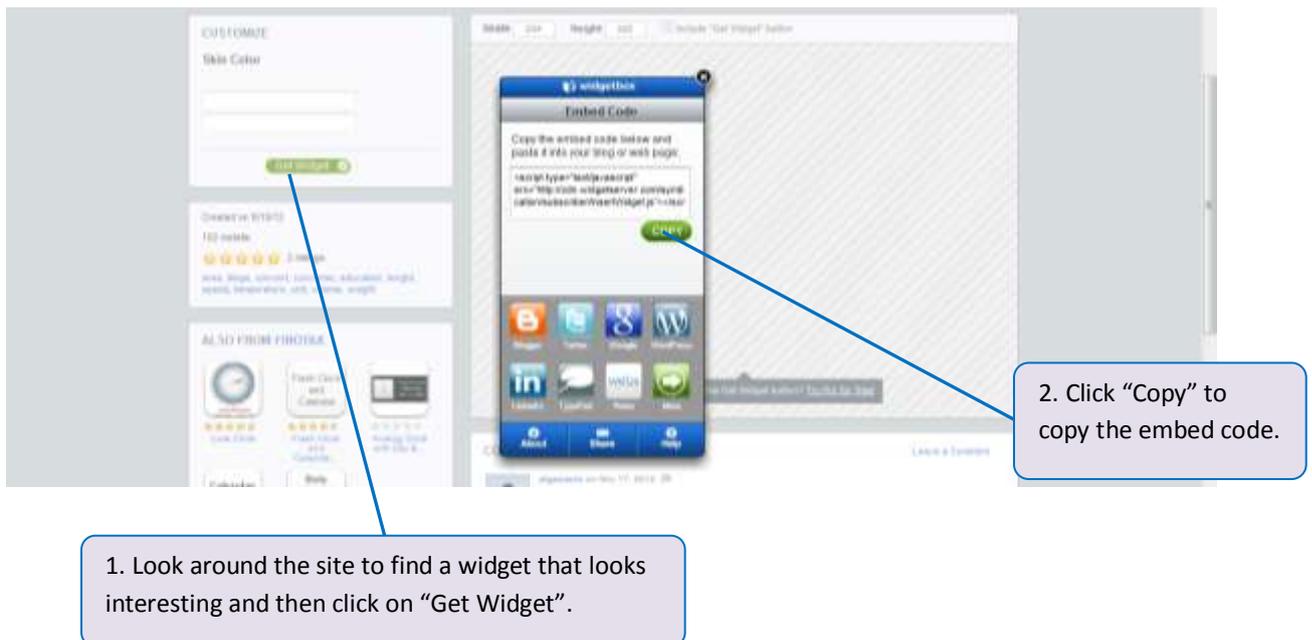
## 3.2 – Using Embed codes to add widgets

Embed codes have become increasingly popular as a simple way of taking content from one website and displaying it on another. Using embed codes you can find widgets and other resources such as video and photos, and add them to your widget collection.

### Step 1 – Find a widget in WidgetBox

The “WidgetBox” website provides example widgets you can embed in your course.

<http://www.widgetbox.com/tag/free>

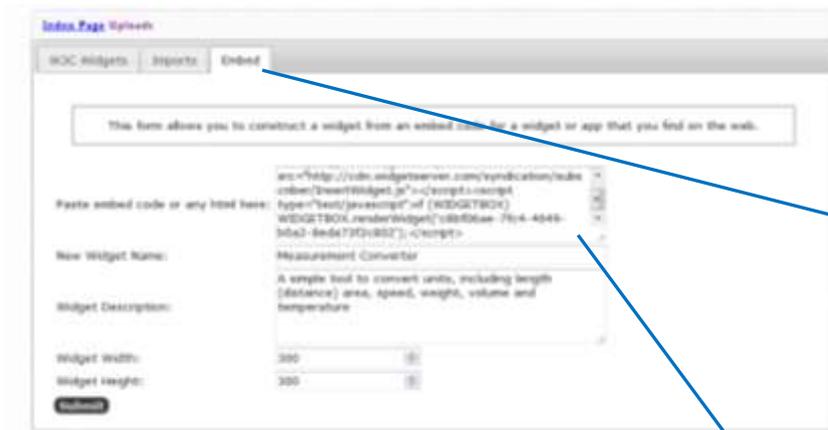


Below is an example of embed code used to create the “Measurement Converter” Widget:

```
<script type="text/javascript"
src="http://cdn.widgetserver.com/syndication/subscriber/InsertWidget.js"></script><script
type="text/javascript">if (WIDGETBOX) WIDGETBOX.renderWidget('c8bf06ae-7fc4-4649-b0a2-
8eda73f2c802');</script>
```

## Step 2 – Embed the widget in the widget store

Go back to the Widget Store and click on the “Upload New Widgets” option.



1. Choose the “Embed” option.

2. Paste the Embed code here, and complete the other details.

## Step 3 - Adding tags and other information to make it searchable.

This is exactly the same as step 3 above, for creating a Flash widget.

## 3.3 – Using Embed codes to create video widgets

This is exactly the same as the process described in Activity 3.2, but this time using an embed code from an online video file. These can be found, for example, in YouTube. First go to YouTube and find a video of interest.



1. Click on “Share” and then “Embed” to display the embed code. You will then need to select the text and copy it.

2. Make a note of the film size for the widget you create.

Finally, follow the steps described previously to embed the video as a widget, and add tags etc.