

Drawtivity OER - Drawing Activity and Creation/Adaptation system

Submitted by Tony Lowe (Webducate – www.webducate.net)

Project aims:

1. To develop a new type of e-learning activity and related web based authoring system based on the participant drawing a line or area on an image.
2. To develop an example web based e-learning activity authoring system built specifically to facilitate open, easy to use activity authoring, sharing, re-use and adaptation.
3. Through demonstrating a resource authoring system with functionality to support the philosophy of OER built in, it is hoped that this approach will be adopted in other education resource related authoring systems.

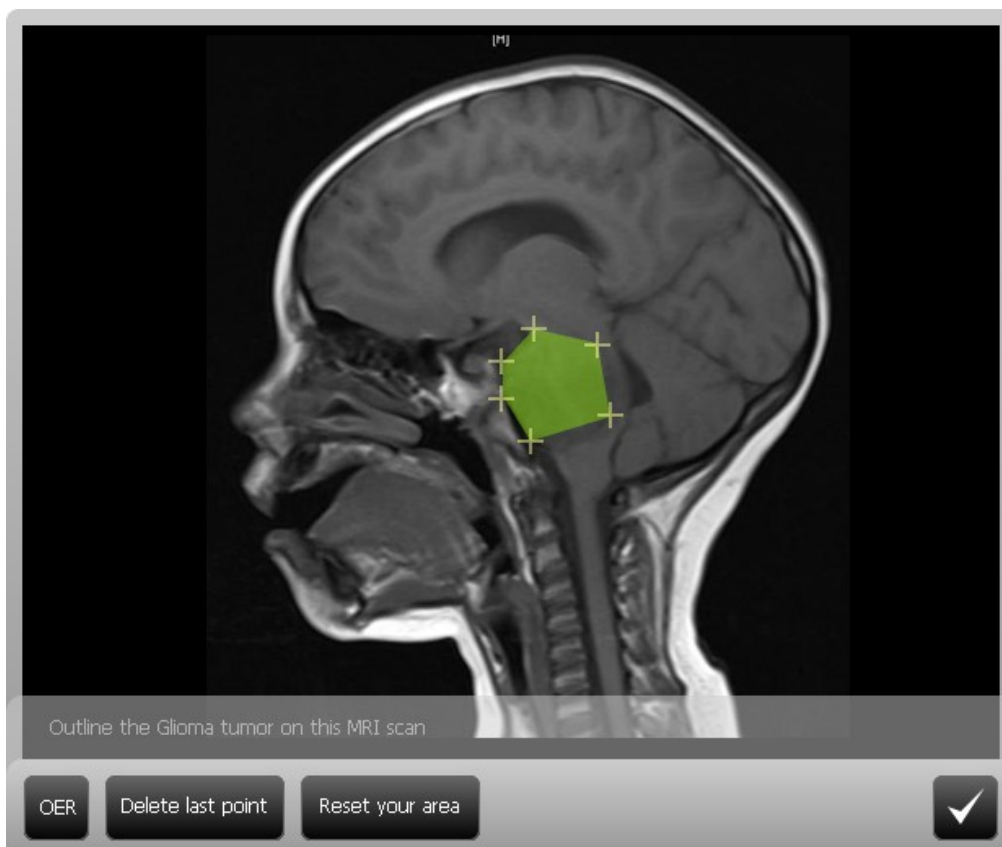
Amount requested -

The adaptation issue

A problem with most published web based education resources is that they are difficult if not impossible to adapt for reuse due to the nature and complexity of their constituent files. Generally it is necessary to have a copy of the same authoring software and also have access to the original source files in order for adaptation to be a viable option. This proposal sets out to create an easy to use web based authoring system for a new type of learning activity which also provides a pathway for the rapid and easy adaptation of these activities by educators wishing to re-use them in different contexts. In doing this it is hoped to demonstrate a new model of content authoring and re-authoring that could be applied to other types of learning resource authoring systems.

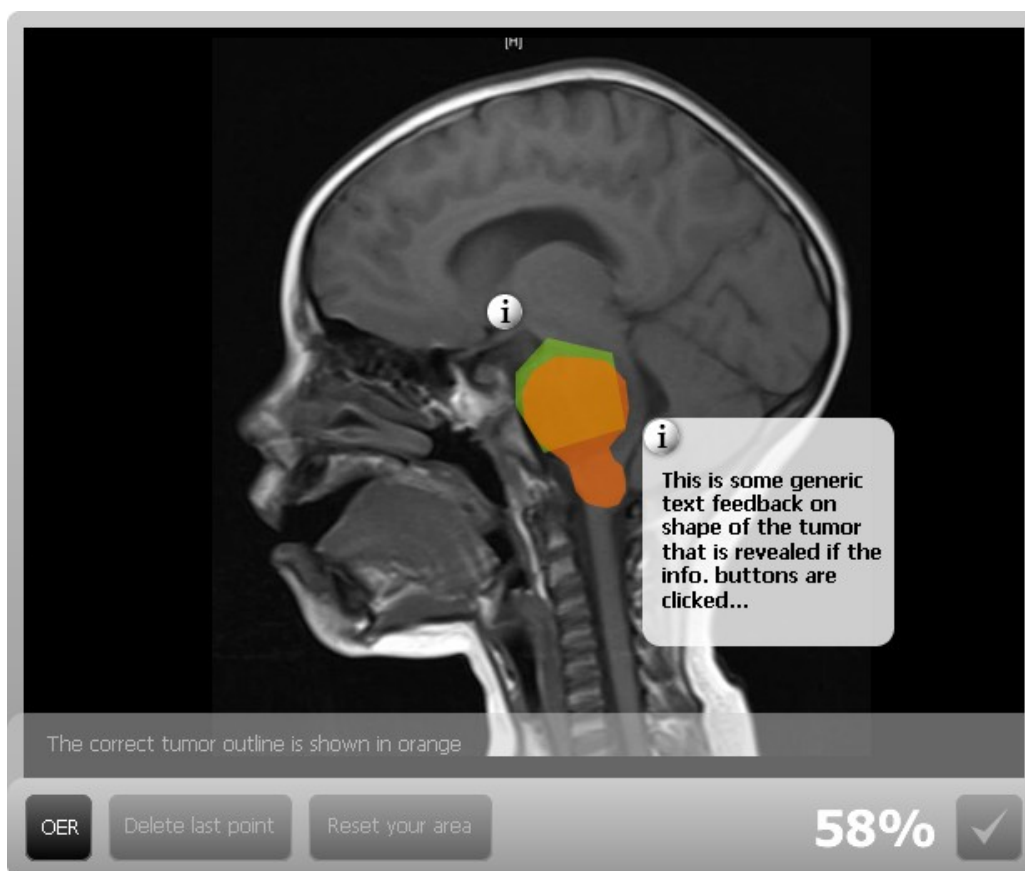
Description of the learning activity

This new learning activity will consist of an image on to which the participant is asked to draw a line or area defined by a series of XY points (see below).



Example activity screen shot showing participant attempt

On submission the participant's drawing is scored based on its similarity to a predefined answer (calculated using a mathematical algorithm measuring the distance between their points and the answer line/polygon). The activity feedback displays the correct line or area and can also offer pop-up text annotations describing key aspects of the answer (see below).



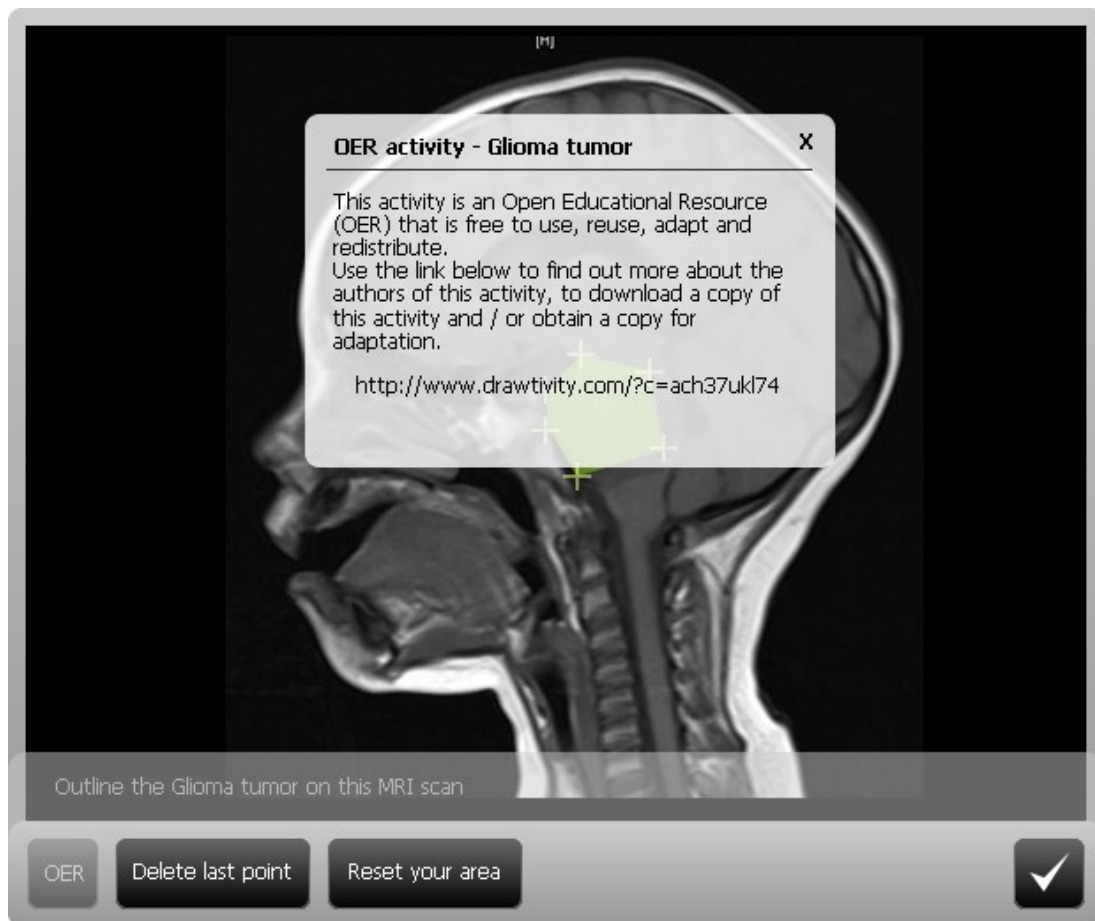
Example activity screenshot showing example activity feedback

The published activities will consist of an HTML file, an image file, a flash SWF file and an XML file. Optionally these file will be published with additional files to provide a Scorm compatible learning object.

Example activity applications:

1. drawing the shape of a particular mathematical function on a graph (e.g. sine wave)
2. marking the route of a river on a map
3. indicating specific geographic features on a photograph
4. drawing the path of a nerve on a human body
5. identifying an area on the body that is served by a particular nerve
6. marking out the extent of a tumour on an MRI scan

Clicking on the activity OER button will reveal activity information and a link back to a publicly viewable related record on the activity authoring system (see below). This record will document the authoring history for this activity, any related notes offered by these authors and allow a visitor to download a copy of this learning object themselves, or copy a duplicate of this activity into their own authoring account of the web authoring system so that they can then adapt it and publish a new version.



Example activity screenshot displaying OER information and link to authoring system record

Description of the activity authoring system

The authoring system will be web based and built on open source technologies PHP and MySQL. Some aspects of the authoring system will utilise a flash based authoring interface.

Activity authors will be able to set up an authoring account on this system and will use this to quickly and easily create and publish activities.

Authoring process:

1. Create new activity/duplicate existing activity - define/edit activity title, introductory text, provide metadata summary and tags.
2. Define activity settings - line or area, colours used, line thickness, scoring parameters etc.
3. Upload image - upload a jpg, gif or swf file to be used as the subject of the activity.
4. Feedback - define the correct answer using a simple flash based interface to draw the correct line or area.
5. Annotation - define rollover pop-up text to be displayed in activity feedback to draw attention and explain key features of the answer.
6. Preview the activity
7. Publish the activity - download a zip file of the activity (optionally as a Scorm compatible learning object)

Public facing authoring system functionality

The site homepage will in addition to explaining the purpose and use of the system, provide a basic activity search facility, highlight the latest authored activities and the most popular activities by download and adaptation. Each activity will have a site listing that will allow a visitor to:

1. view the related activity summary, attribution of activity authors, metadata and number of times downloaded and duplicated.
2. preview the activity
3. download the activity files in a scorm or non-scorm format
4. duplicate a copy of this activity into their system authoring account so they can adapt and re-publish it for their own purposes
5. view related activities that have been created by adapting this original version

Project deliverables

A functioning website incorporating this authoring system openly available for use by educators. The hosting of this website will initially be funded for four years from the initial Talis grant. Webducate will pay for hosting in subsequent years.

All activities authored on the system will be published under **Creative Commons Attribution Share Alike** <http://creativecommons.org/licenses/by-sa/3.0/> (authors will agree to this condition when setting up an authoring account on the system)

The source code for this system with installation instructions licensed under **Creative Commons Attribution Share Alike** <http://creativecommons.org/licenses/by-sa/3.0/>

This system source code will be made available for download on SourceForge and this will be promoted on a variety of websites including www.webducate.net, the authoring site itself and via bloggers that can be enlisted to the cause.

The outcomes of the project will be presented at the OpenEd and the ALT-C 2010 conferences at which attendees will be encouraged to use and promote the system to colleagues.

Project milestones and proposed payment schedule

Milestone	Deadline	Payment
Project started	March 2010	
Example working activity	May 2010	
Authoring system open to reviewers	July 2010	
Hosted system made available to any user	September 2010	
Demonstration at OER conference 2010	October 2010	
Source available for download	December 2010	

Project success criteria

1. Positive feedback from system reviewers
2. A working authoring system
3. Positive feedback from system users
4. Number of registered authors (100 in the first 12 months)
5. Number of activities created (400 in the first 12 months)
6. Number of activities downloaded by non-authors (400 in the first 12 months)
7. Number of derivative activities created (200 in the first 12 months)

Sustainability

It is intended that at the end of the project duration the system will be working and will offer the ability to create useful, valuable learning activities and support sharing and re-use. Webducate will commit to fix bugs and problems that arise within the proposed initial functionality.

The hosted system will be hosted for four years using Talis funding. The hosting costs will be covered for subsequent years by Webducate.

Parties involved

System development

Tony Lowe - Webducate

Will develop the activity and authoring system based on his experience in creating and running the Webducate Dragster authoring system

Activity and authoring system testing and feedback:

Several colleagues have volunteered to participate in this project through offering to review development work as it progresses and provide feedback based on their experience as practitioners in education and learning technology.

Value for money

For a proposed project cost of £***** it is intended to develop a unique and open web based authoring tool to allow any user to create, share and repurpose drawing based activities. This will provide an opportunity for a very large number of activities to be freely created, having a significant impact on the teaching staff and students involved. The system will also provide a model for future authoring system development that will help to promote the spread and adoption of the OER philosophy.