

EngAGe: An Engine for Assessment in Games

Tutorial teachers

EngAGe is a tool aimed at developers and teachers for the integration of assessment in educational games.

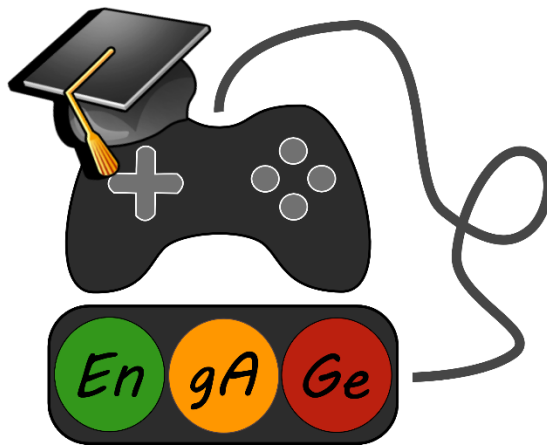
Developers create games using it and teachers can:

- Use the games with their students
- Modify the games using an online editor
- Visualise learning analytics (i.e. graphs showing information about how the players played)

This tutorial is aimed at teachers that are interested in the concept and would want to learn how to use the tool.

If you haven't already, you should complete the pre-questionnaire prior to doing the tutorial

The link to the pre-questionnaire: <http://goo.gl/forms/DHOzSkuJBS>



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1. Get to know EngAGe's interface

1.1. Login as a teacher

Once you have completed the pre-questionnaire (<http://goo.gl/forms/DHOzSkUJBS>), you can create yourself a teacher's account on EngAGe, please use the same email address you gave on the questionnaire.

Go to: <http://engage.yaellechaudy.com/login> , sign up and log in.

The screenshot shows the 'New Teacher' registration form on the EngAGe website. The form includes fields for Username, Email, Password, and Password confirmation. A dropdown menu for 'Idschool' is set to 'test'. A red circle highlights the 'Create Teacher' button at the bottom left. Three green callout boxes provide instructions: '1. Click here' points to the 'log in' button in the top right; '2. Fill the form then click here' points to the 'Create Teacher' button; '3. Click here and log in.' points to the 'sign up as teacher' button in the top right.

1.2. Manage your students and classes

In the menu, go to 'Students > Manage students'. In this page you can create, modify and delete students.

Check that you already have 4 students and two classes, a geography one and a French one.

Create a student profile for yourself so you can play the games.

The first screenshot shows the 'Listing students' page with a table of existing students. A red circle highlights the 'New Student' button at the bottom left, with a green callout box saying 'Click here'. The table data is as follows:

Group	Username	Password	Date of birth	Gender	Actions
French	Lisa	lisa	1990-01-24	f	Show Edit Destroy
	Cloé	cloe	1992-05-06	f	Show Edit Destroy
Geography	Noémie	noemie	2003-08-07	f	Show Edit Destroy
	Manon	manon	2001-09-12	f	Show Edit Destroy

The second screenshot shows the 'New student' form. It includes fields for Username, Password, Date of birth, Gender (set to 'female'), and Group (set to 'Teacher'). A red circle highlights the 'Create Student' button at the bottom left. Three green callout boxes provide instructions: 'Enter at least a username and password' points to the Username and Password fields; 'Select 'Teachers' class' points to the Group dropdown menu; 'Click here' points to the 'Create Student' button.

If you want to create new classes, go to 'Students > Manage groups'.

1.3. See your games

In the menu, go to '*Games > Manage games*'. You have been given access to two games:

- *EU mouse* is a geography game to learn EU countries
- *vocShoot* is a game to learn French words

1.4. See your students' access to the games

In the menu, go to '*Games > Manage students access*'. In this page you can see which of your students have access to which game.

Give access to the 'EU mouse' game to your geography class and to 'vocShoot' to your French class. To do so you can either click on the cells of the table modifying each student's access manually, or you can use the form on top of the table.

Game access to students

Click on any cell of the table to change the version to be played. You can also assign versions to all students or to a group in particular. Changes will not be effective until you click the "save changes" button.

Specify access for: Geography to play the game: EU mouse version: 0 - initial Update table

Group	Student	EU mouse	vocShoot
French	Cloé	no access	no access
	Lisa	no access	no access
Geography	Manon	no access	0 - initial
	Noémie	no access	no access
Teacher	my name	initial version	0 - initial

Save changes

After your changes, the table should look like that:

Group	Student	vocShoot	EU Mouse
French	Cloé	initial version	no access
	Lisa	initial version	no access
Geography	Manon	no access	initial version
	Noémie	no access	initial version
Teachers	me for testing	initial version	initial version

2. Play the game

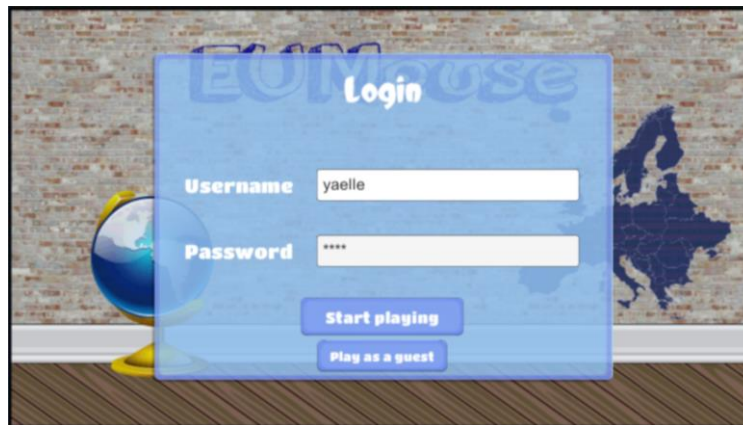
In the menu, go to '*Games > Manage games*'.

Click the '*play*' button associated to the *EUmouse* game, it will open a new window and take you where the game is hosted. You might need to use Firefox and install the Unity Web player plugin if you don't have it already.

2.1. Login as a student

In the step 1.2, you have created a student account for yourself, log in to the game using the username and password you have created and click the start button.

Notice that before you are allowed to play, you will be asked a few questions.



Note: If it doesn't work, go back to the steps 1.2 and 1.4 and make sure that you have the correct username and password and that you have given yourself access to the game you are trying to play.

2.2. During the gameplay

When you play, make sure you notice the following:

2.2.1. Scores

On the top of the screen, the game keeps track of your scores.

- 1) the number of distinct EU countries found
- 2) the total number of EU countries found
- 3) the lives you have left



Note that the game was based on the EU before 2007, therefore 3 countries are missing; we will correct that in part 4 of this tutorial.

2.2.2. Feedback

On the bottom left corner, an information icon allows you to access the game's feedback.



2.3. On the menu screen

On the menu screen, on the bottom left corner, you have access to further information about the game. You can see:

- 1) A description of the game



- 2) The badges you earned



- 3) The leaderboard of the game

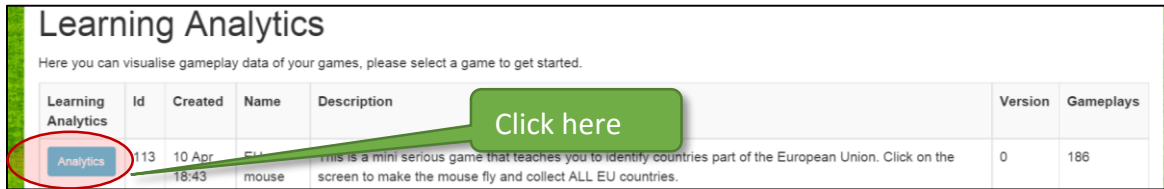


3. Visualise gameplay data

3.1. [Learning analytics page](#)

In the menu, go to 'Learning Analytics'.

Click on the 'Analytics' button of the game you just played.



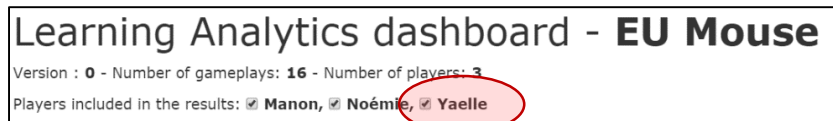
Learning Analytics	Id	Created	Name	Description	Version	Gameplays
Analytics	113	10 Apr 18:43	EU Mouse	This is a mini serious game that teaches you to identify countries part of the European Union. Click on the screen to make the mouse fly and collect ALL EU countries.	0	186

Note: the more data there is (number of gameplays), the longer it will take to load the page, it's totally normal and it might take up to a few minutes.

On the newly open page, you can see lots of charts. There are three different types of blocks:

- The **blue blocks** display basic information about who played, when and how many times.
- The **orange blocks** display information about scores and performances.
- The **green blocks** display more detailed information about the actions performed by the players and the feedback received in the game.

You can filter the results to hide yours by unticking your name out of the list of players.



Learning Analytics dashboard - EU Mouse	
Version :	0 - Number of gameplays: 16 - Number of players: 3
Players included in the results:	<input checked="" type="checkbox"/> Manon, <input checked="" type="checkbox"/> Noémie, <input checked="" type="checkbox"/> Yaelle

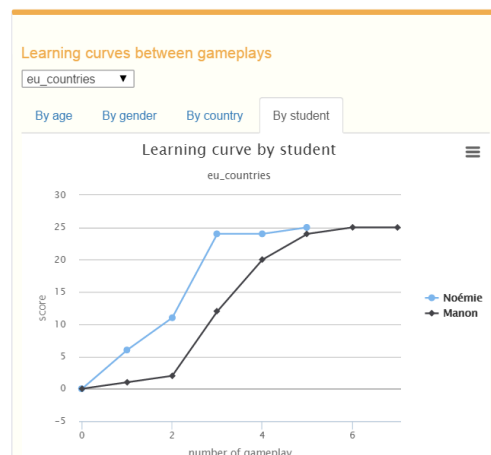
Note: If you want to learn more about the dashboard functionalities, click the 'Take a tour' button.

3.2. [Draw conclusions about the game and your students](#)

Take a closer look at some graphs in particular.

3.2.1. [Learning curves between gameplays](#)

In this graph you can see the evolution of the scores of your students from their first gameplay to their last. Notice how some students learn quickly and some others take more time. Make sure you click on the "By student" tab.



3.2.2. Most and least common actions

In this block, you can visualise most common mistakes or least common actions.

1. Select the most common new countries selected that resulted in a loss of life (- lives) to visualise the most common mistakes of your players.



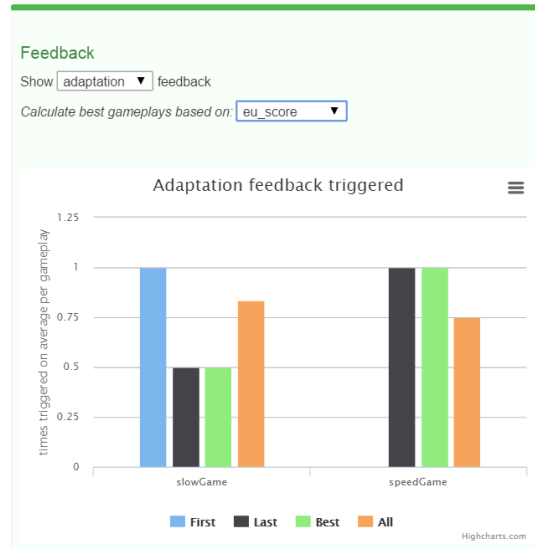
Note that Bulgaria, Romania and Croatia are considered as mistakes, when they shouldn't.

2. Try selecting the least common new countries selected that resulted in a gain in score (+ eu_countries) to see which countries are least found by your players.



3.2.3. Feedback: Adaptation of the game

Both games include adaptation options, the game speeds up or slows down based on a student's performance. In the feedback block select “*adaptation*” feedback.

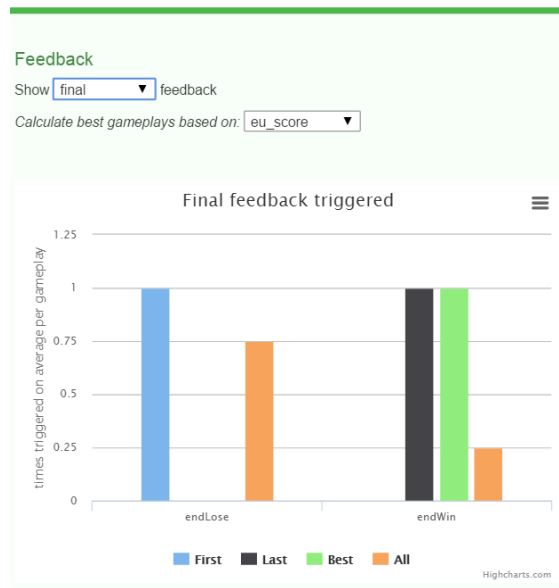


Note that half of your students still need the game to slow down in their last and best gameplays.

3.2.4. Feedback: End of game

In the same block, when you select “*final*” feedback, you will be able to see how many times the game was won and lost.

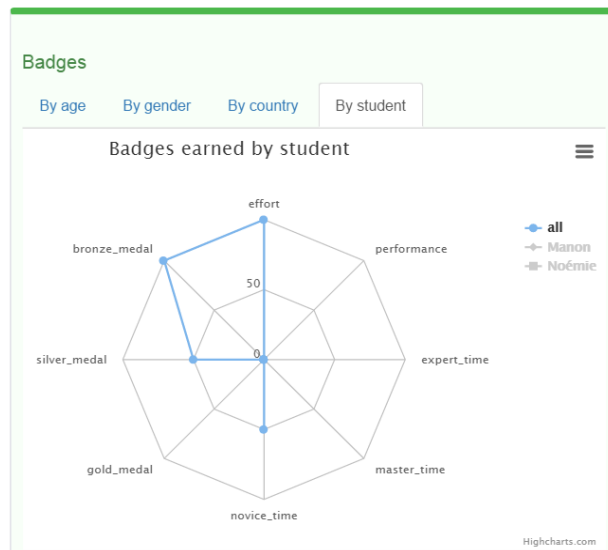
Note that if a player stops the game without finishing it, he/she will not trigger any winning or losing feedback, which can explain why the numbers do not always add up to 100%.



Your students lost their first gameplay but won their last and best; They seem to be learning.

3.2.5. Badges

The radar chart of the badges block shows which badges were earned by your students. Make sure you click on the “By student” tab.



A lot of badges haven't been earned yet. The ones related to time spent (novice, master and expert time) might be a bit too difficult as only the easiest has been earned.

3.2.6. Players reports

If you click on the ‘Players report’ tab of the page, you can create and download personal reports about your students’ gameplays. Edit the template on the right, visualise the report on the left and when you are ready, click the ‘save report’ button to save the player or class report to pdf.

Learning Analytics dashboard - EU Mouse
Version : 0 - Number of gameplays: 15 - Number of players: 3
Students who played: Yaelle Noémie Manon

Gameplay reports

Players' report
Here you can define a template... can see a preview of the reports on the... once you a... report' button .

Template

☒ Badges

All the badges available in the game, the ones earned by the player and the player's progress towards them.

Preview

Yaelle
Yaelle
Noémie
Manon
All

save report

EU Mouse - Gameplay r
Yaelle
Generated on 29 May 2015 at 18:41

1. Click here
2. Define your template here
3. Preview your report here
4. Select a student or 'All' and click here

4. Modify the game

Now, we will modify the game you played. Here are a few suggestions for changes based on the charts presented earlier, but feel free to make your own decisions, you can modify anything that is displayed blue in the editor by clicking on it.

- ✓ Make the game easier: give more lives
- ✓ Make the EU score starts at 28 instead of 0
- ✓ Add new EU countries (after 2007)
- ✓ Change the end of the game
- ✓ Change the conditions to earn the badges

In the website, go to '*Games>Manage games*' click the '*View all versions*' link associated to the game.

Manage your serious games

Here you can visualise all the games you have in our database, for each game, you can see the number of gameplays, the dates they were created, and you are able to delete them.

You can also [click here](#) to register a new serious game in our database.

Id	Created	Name	Description	Gameplays	Learning Analytics	Versions	Play
131	19 May 15:21	vocShoot	Revise your french vocabulary. Save the french planet by translating the words on the asteroids.		Analytics	View all versions	
126	14 May 17:28	EU Mouse	This is a mini serious game that teaches you to identify countries part of the European Union. Click the screen to make the mouse fly and collect ALL the EU countries.	14	Analytics	View all versions	

In the page, click the '*create*' button to create a new version from the initial version (i.e. version 0).

Original game

version: 0
Created on: 14 May 17:28
Developer: yaelle.borghini
Played: 14 times

Game name: EU Mouse
Game description: This is a mini serious game that teaches you to identify countries part of the European Union. Click the screen to make the mouse fly and collect ALL the EU countries.
AgeRange: 10 - 99
Language: EN
Country: UK

Last version

version: 0
Created on: 14 May 17:28
Version name: initial
Comments:
Played: 14 times

Game name: EU Mouse
Game description: This is a mini serious game that teaches you to identify countries part of the European Union. Click the screen to make the mouse fly and collect ALL the EU countries.
AgeRange: 10 - 99
Language: EN
Country: UK

All versions

• version 0: initial

Create new version from version 0 [Create](#)

4.1. Updating the game description and player characteristics

The first section of the editor describes the game. You can change its description if you want to, your students will then see your text when clicking on the info icon of the menu screen.

In the game, you were asked to provide some information (age, country...) and in the dashboard, you were able to group the data collected based on these characteristics. Update the '*Questions*' section if you want to add /remove characteristics.

4.2. Adding a new score and modifying existing ones

The second section of the editor lists the scores of the game.

It can be a bit frustrating not to know when the game will be won. The game tells the player how many unique EU countries he found, we will change it so that it displays how many countries he has yet to find.

Make the 'eu_countries' score start at 28 instead of 0. Click on the score to display more details. Click on the 'initial value' number and change it from '0' to '28'. Update the description for instance: 'EU countries left to find'. This score triggers an adaptation feedback that speeds the game. Update the feedback conditions for this score as follow:

eu_countries: EU countries left to find				
name	eu_countries			
description	EU countries left to find			
initial value	28			
feedback	<div>lower than <input checked="" type="checkbox"/> <input type="checkbox"/> 10 You're too good, let's make things more challenging triggered immediately</div> <div>lower than <input checked="" type="checkbox"/> <input type="checkbox"/> 10 You're too good, let's make things more challenging triggered immediately</div> <div>greater than <input type="checkbox"/> <input type="checkbox"/> 10 You're too good, let's make things more challenging triggered immediately</div>			

If you think that the game is too difficult, you can make it easier by giving more lives to the players. To do so, change the initial value of lives.

lives: number of lives the player has	
name	lives
description	number of lives the player has
initial value	5 <input checked="" type="checkbox"/> <input type="checkbox"/>

4.3. Changing the rules of the game

The third section of the editor contains the logic of the assessment: what the player can do in the game and how it affects his scores.

The game was created with a list of EU countries before 2007, it is missing Bulgaria, Romania and Croatia.

The game has two actions: selecting a country for the first time, and selecting it any time after that. Add the 3 countries to **both actions**. To do so, click on the action to open its details, start typing a country name in the relevant field, once you found it on the drop down, click on it or hit 'enter' to select it.

Remember to do it for both 'When a player selects a country for the first time' and 'When a player selects a country again'.

Rules of the game

When a player selects a country again

1. If the user selects one of the following country

* austria	* belgium	* cyprus	* czech_republic	* denmark	* estonia	* finland	* france	* germany	
* greece	* hungary	* ireland	* italy	* latvia	* lithuania	* luxembourg	* malta	* netherlands	* poland
* portugal	* slovakia	* slovenia	* spain	* sweden	* united_kingdom	* bulgaria	* romania	croj	

croatia

Because we changed the 'eu_countries' score, we should also change how it is updated. Instead of +1, -1 should be applied to it. You only need to do this in the action that deals with countries selected for the first time as we want unique EU countries.

When a player selects a country for the first time

1. If the user selects one of the following country

* austria	* belgium	* cyprus	* czech_republic	* denmark	* estonia	* finland	* france	* germany	
* greece	* hungary	* ireland	* italy	* latvia	* lithuania	* luxembourg	* malta	* netherlands	* poland
* portugal	* slovakia	* slovenia	* spain	* sweden	* united_kingdom	* croatia	* bulgaria	* romania	

scores to be updated:

EU countries left to find	-1	✓	✗	remove
EU countries found by the player	1			remove

4.4. End of the game

The next section of the editor allows you to specify when the game ends.

At the moment, the game is won when the 'eu_countries' score reaches 25 and it is lost when the player has no more lives.

Because we changed the 'eu_countries' score, we also need to change how it triggers the end of the game. Now, it counts the countries left to find so the game is won when there is no more country to find, when it reaches '0'. The editor does not allow testing for equalities, add a 'lower than 1' instead.

The game is won when/if:

EU countries left to find lower than 1 ✓ ✗

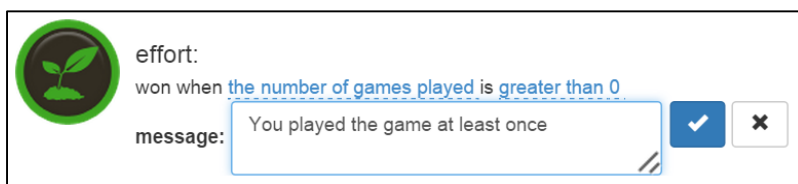
The game is lost when/if:

Lives left lower than 1

4.5. Badges

As seen in LA, some badges might be too hard or too easy to earn. You can modify the conditions for earning a badge in the last section of the editor.

It can be motivating to earn a badge after playing for the first time, even if the game was lost. It will motivate your students to earn the rest of the badges. Update the 'effort' badge to give it to anyone that played once.



4.6. Naming and describing your new version

That's it, your new version is ready for submission, name it something meaningful and explain in a few sentences the changes you made. For example:

- Name: version tutorial
- Description: version created after following EngAGE tutorial

Click on 'save'. Go to 'Games > Manage student access' and update the version of the game to be played by you. Don't forget to click 'Save changes'.

5. Play the new game and visualise gameplay data

5.1. Make sure you have access to your new version

Go to the game access page (step 1.4) and check that your name is associated to the new version

5.2. Play the game

Play the new version of the game (step 2) and notice the changes. Note that you will need to log in again to the game.

5.3. Visualise the new analytics

Go to the learning analytics dashboard (step 3.2, make sure you select the correct version) to visualise the new game's data. This time you are the only one to have played so you will only see your own actions and performance.

6. The end

That's it congratulations! You reached the end of the tutorial. You are free to keep using the editor, the analytics dashboard and the games for as long as you want.

If playing the mini-games made you think of ideas of games that you would like to have, please send me an email and, if possible, I will try to create them. If I do, you will have access to them through EngAGE's interface.

On last thing, if you could take another 10 minutes to give me some feedback on the tool and the tutorial, I would really appreciate it.

Here is the link to the post questionnaire: <http://goo.gl/forms/11fUshGIIJ>