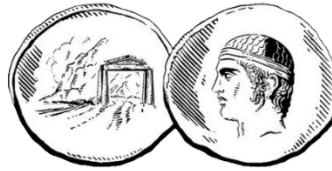


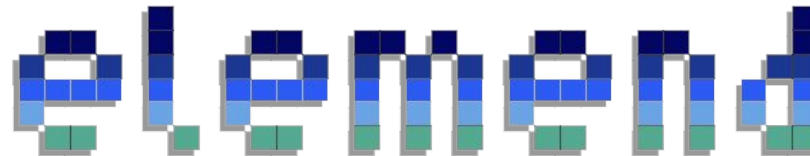


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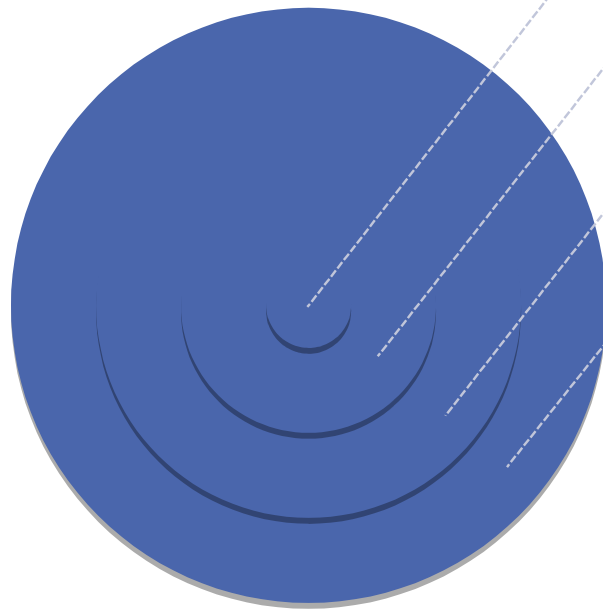
**A gamification methodology and how to incorporate game
mechanics in e-learning platforms**

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Introduction



Introduction to Gamification

Creating Interactive Learning through Gamification

Examples of Gamified Educational Applications

Achieving Interactive Learning Experiences using Gamification

APPROACH

Introduction to Gamification

3

Gamification comes from the field of digital media and is a promising educational methodology which can be combined with behavioural modification. It first appeared in 2008 [1], but became widely known in mid-2010. Gamification can be used to develop applications for a) formal education either in the traditional classroom environment as a complementary learning tool or in e-learning and distance learning platforms b) informal education.

1

Gamification builds on demographic and users' behavior data to engage with two strong emotions: being rewarded & having fun-play-challenge.

2

It applies game-design thinking to non-game applications used for:
i) education, ii) marketing, iii) persuasion and behavior modification

Creating Interactive Learning through Gamification

Game Mechanics

4

As a relatively new concept, it has been a controversial topic, especially concerning its application in the educational process, but has already been applied in many educational environments such as e-learning platforms, or as a teaching method, as well as in commercial applications in order to emotionally commit and engage users. However, due to the use of game mechanics and game design thinking gamification has proven to motivate and engage users to accomplish goals.



Points
Points



Levels
Levels



Missions
(individual & team)
(individual & team)



Badges
Badges



Leaderboards
(individual & team)
(individual & team)



Unlocks
Unlocks



Events Feed
Events Feed



Notifications
Notifications



Quiz
Quiz


















































Progress (visual)
Progress (visual)

Creating Interactive Learning through Gamification

Areas of Affection

5

Game Dynamics		Competition	Collaboration	Community	Collection	Achievement	Surprise	Progress (emotional)	Exploration
Game Mechanics	 Points								
	 Levels								
	 Missions (individual & team)								
	 Badges								
	 Leaderboards (individual & team)								
	 Unlocks								
	 Events Feed								
	 Notifications								
	 Quiz								
	 Progress (visual)								

[2]

Creating Interactive Learning through Gamification

Examples of Gamified Educational Applications

6

In view of the current applications of gamification and the different interpretations that have been given, the definitions vary and are directly related to the practices used and to the games created.



Figure 1 – Kahoot Logo



Figure 2 – Minecraft Education Edition Logo



CLASSCRAFT

Figure 3 – Classcraft Logo

Creating Interactive Learning through Gamification



4 Tips for Effectively Gamification Content

1

Keep it simple. The game is a challenge, but the goal and rules are easy

2

Give the opportunity to have early access within your gamification content

3

Always try to make use of the right System, Elements and Tools (SET).
Not every kind of SET is applicable to every target audience.

4

What should the motivation within your gamification content be?
You want your target audience socialize, explore or achieve.

Achieving Interactive Learning Experiences using Gamification



“Teaching in the Internet age means we must teach tomorrow’s skills today.”
Jennifer Fleming

We will implement gamification in two e-learning platforms which could make learning more engaging for students and that can be easily be used both from the educators and the students.



Figure 5 – moodle Logo

Achieving Interactive Learning Experiences using Gamification

9

The scenarios were created based on the "Network Security" course of the postgraduate program "Intelligent Management of Renewable Energy Systems".

Gamification Methodology

- | | | |
|------------------------------|--------------------|---|
| I. Identify the target group | III. Game Levels | V. Game Content |
| II. Game Goals & Narrative | IV. Game Mechanics | VI. Gamification Platform & Graphical Environment |



- I. Create a new Course
- II. Create the required number of topics
- III. Create activities in each topic
- IV. The available gamification options are:
 - Points**
 - Levels**
 - Badges**
 - Progress Bar**
 - Leaderboards**
 - Variety Gamification Plugins** (H5P, Game, Quizventure, **Stash**, **LevelUp**, **Mootivated**)

Summary

10

1

Gamification, loosely defined as a practice of using gaming technology and mechanics in nongaming applications, is an informal learning methodology. It may be applied in a) formal education or b) in informal education and for behavior modification.

2

The proposed methodology applies persuasive modeling to educate users and engage them in the process. The educational component should be developed according to the cognitive model while the game mechanics should be used to motivate and keep the user engaged in the learning process.

3

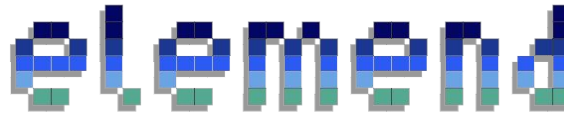
The best solution for e-learning is to make use of tools that could make learning more engaging for students and easy to use both for teachers and students always bearing in mind to apply effectively gamification content.

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