



Universidade do Minho
Departamento de Informática

SENSORIZAÇÃO E AMBIENTE

MESTRADO EM ENGENHARIA INFORMÁTICA, 1º ANO - Perfil SI



Universidade do Minho
Departamento de Informática



Ludification and Gamification



Ludification and Gamification





Ludification and Gamification

ludus (Latin) game, sport, play, fun

game (English) a playful or competitive activity, diversion, entertainment

- **Ludification** is the process of **adding the fun aspect** to something that is initially not. The purpose of ludification is to **reduce the negative feelings** that a user may encounter in engaging in a not-so-fun process. For example, learning a new language.
- **Gamification** refers to the usage of **game mechanics** (levels, rewards, points, etc.) in non-game settings. The aim of doing so is to **influence the user's behavior in doing certain actions** you want them to do.

Ludification vs Gamification

- The objective of ludification is to provide the user with a **playful experience**, while the main focus of gamification is the **user experience** - ludification addresses the game itself.



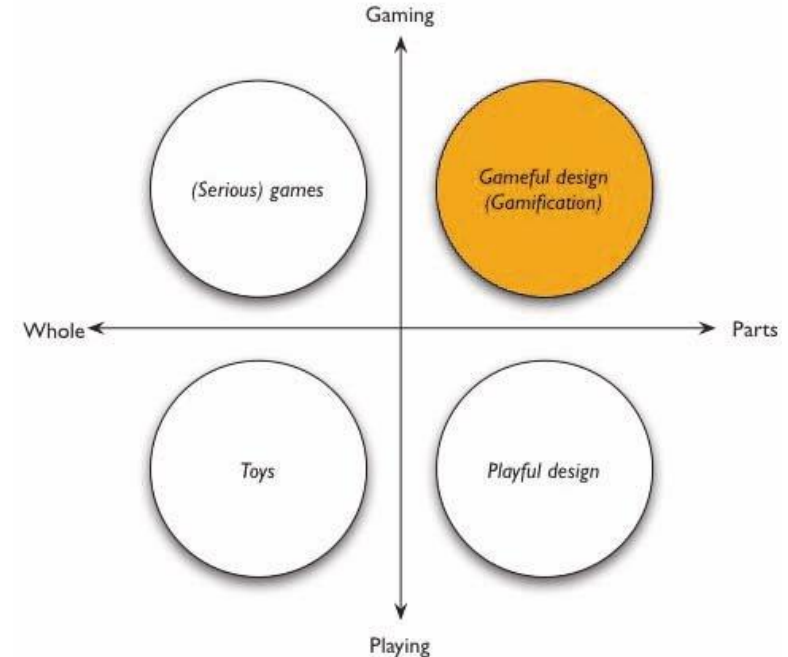
Ludification and Gamification

- Application of **game-design elements** and **game principles** in **non-gaming contexts** (it should not focus the entire game but, instead, the use of some gaming elements)
- Employing game-design elements to improve:
 - User engagement
 - Productivity
 - Usefulness of systems
 - Physical exercise
 - And many more
- What is so attractive about games?
 - Great games are able to **engage users** (players) for a long period of time
 - Great games make us **happy** and **cheerful**
 - The **greater the challenge** the **greater the satisfaction**
 - It is important to keep **several short challenge-satisfaction loops** with small challenges, bonuses and surprise events



Ludification and Gamification

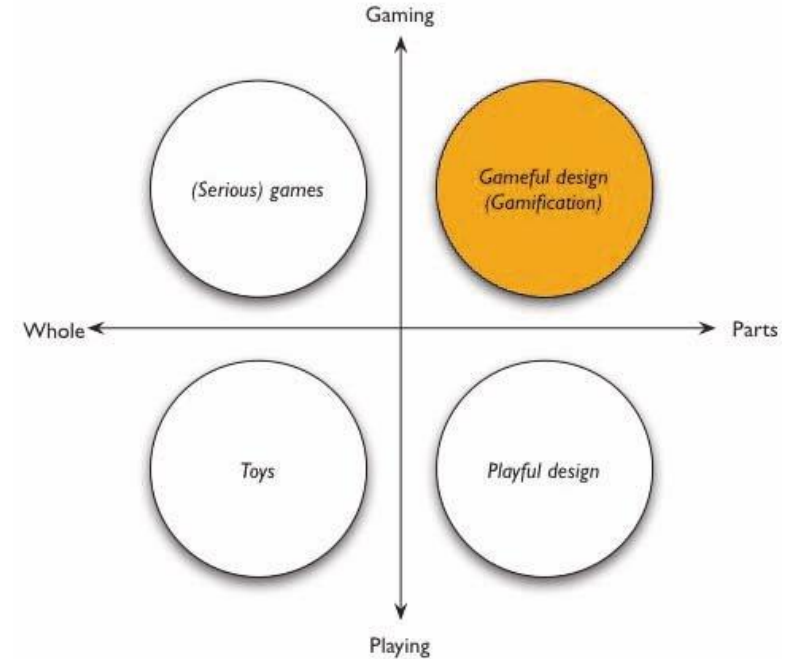
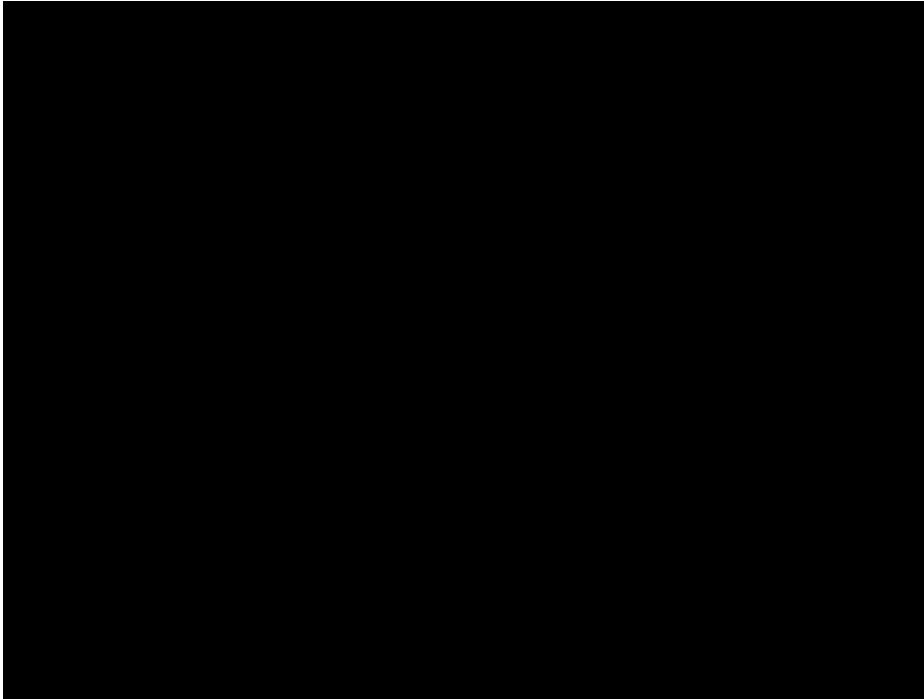
- **Gamification** differs from **Serious Games** as the latter:
 - Aims to adapt the acquired knowledge in out-of-the-game contexts
 - For example, flight simulators for aircraft pilots or medical simulators
- **Gamification** differs from **Toys** as the latter:
 - Offers a full experience instead of using just some gaming elements
 - There are no specific goals/rules that make a toy a game
 - For example, *Legos*





Ludification and Gamification

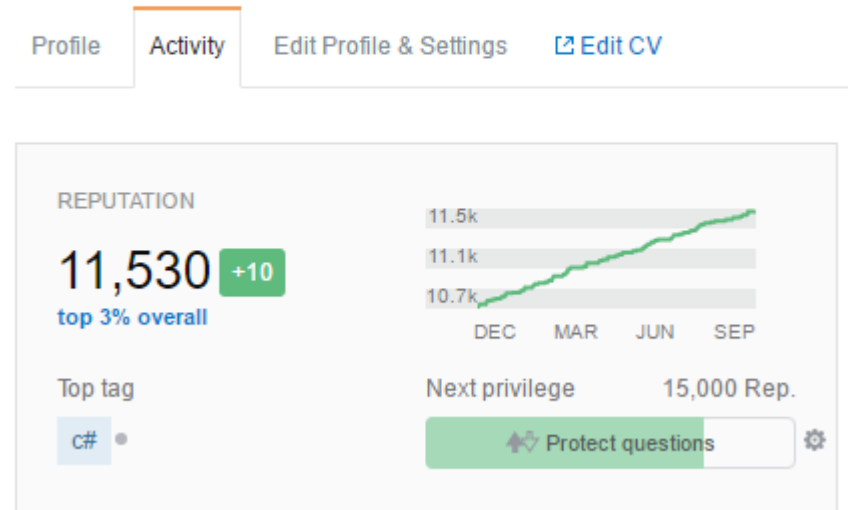
- **Gamification** differs from **Playful Design** as the latter:
 - There are no specific goals/rules that make it a game or a gamified system (gamification offers specific challenges)
 - Fun is the most important thing
 - For example, *Piano Stairs*





Ludification and Gamification

- StackOverflow example





Ludification and Gamification

■ Kaggle Progression System example



Novice

You've joined the community.

☒ Register!



Contributor

You've completed your profile, engaged with the community, and fully explored Kaggle's platform.

- ☒ Run 1 notebook or script
- ☒ Make 1 competition submission
- ☐ Make 1 comment
- ☐ Give 1 upvote



Expert

You've completed a significant body of work on Kaggle in one or more categories of expertise. Once you've reached the expert tier for a category, you will be entered into the site wide Kaggle Ranking for that category.

Competitions

☐ 2 bronze medals

Datasets

☐ 3 bronze medals

Notebooks

☐ 5 bronze medals

Discussion

☐ 50 bronze medals



Master

You've demonstrated excellence in one or more categories of expertise on Kaggle to reach this prestigious tier. Masters in the Competitions category are eligible for exclusive Master-Only competitions.

Competitions

☐ 1 gold medal
☐ 2 silver medals

Datasets

☐ 1 gold medal
☐ 4 silver medals

Notebooks

☐ 10 silver medals

Discussion

☐ 50 silver medals
☐ 200 medals in total



Grandmaster

You've consistently demonstrated outstanding performance in one or more categories of expertise on Kaggle to reach this pinnacle tier. You're the best of the best.

Competitions

☐ 5 gold medals
☐ Solo gold medal

Datasets

☐ 5 gold medals
☐ 5 silver medals

Notebooks

☐ 15 gold medals

Discussion

☐ 50 gold medals
☐ 500 medals in total



Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.

- We can define a 6-step process:
 1. Define the business goals
 2. Outline the target's behavior
 3. Describe the target audience
 4. Develop commitment methods
 5. Fun
 6. Implement the appropriate methods



Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.

- We can define a 6-step process:
 - 1. Define the business goals**
 - How can gamification help the business?
For example:
 - by increasing the number of sales through the website,
 - by increasing customer loyalty,
 - by increasing the product's quality,
 - others



Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.
- We can define a 6-step process:

2. Outline the target's behavior

- Most business goals match the target's behavior
- The gamified system must have this behavior into account (very important to describe this behavior and how to measure it)

For example, customer's commitment, purchase frequencies and customer's references, among others! KPIs:

- customers/day or customers/month (commitment)
- average number of purchased articles per order (purchase frequencies)
- average of References made by costumers (promotion)
- number of likes/shares/comments in social media (promotion)
- others



Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.
- We can define a 6-step process:
 1. Define the business goals
 2. Define the target audience
 - 3. Describe the target audience**
 - Many factors may affect the game-elements that should be implemented (demographic, social or economical ones)
 - Do the players focus more on the game or other players? Do the players focus more on action or interaction with others?
 4. Choose the game elements
 5. Implement the game elements
 6. Evaluate the results



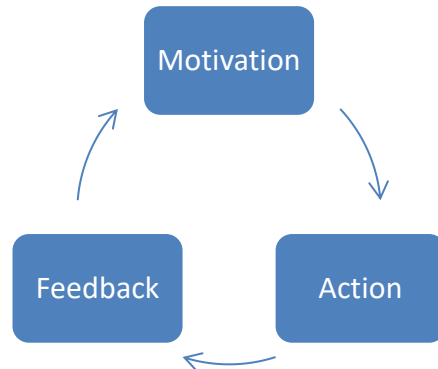


Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.
- We can define a 6-step process:

4. Develop commitment methods

- Commitment is very difficult to obtain! Commitment methods should consider:
 - The **commitment loop**: with a reward system, make users repeat specific behaviors (Motivation - spontaneous or induced, Action, Feedback)
 - **Learning and progression loop**: (1) perform small tasks to learn how the system works and (2) with progress increase tasks' difficulty to maintain the challenge and incentive





Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.
- We can define a 6-step process:
 - 5. Fun**
 - Make the user emotionally engaged



Ludification and Gamification

- It is important to keep in mind the **business goals** and the **target audience** to decide which gaming elements to implement.

- We can define a 6-step process:
 - 6. Implement the appropriate methods**
 - Points
 - Levels
 - Badges
 - Leaderboards and rankings
 - Communities
 - ...



Ludification and Gamification

Example of **learning a new language** – *Drops* app

- Drops makes use of both ludification and gamification
- **Ludification:** learning new words by matching words to their equivalent picture
intrinsic to the app → ludification
- **Gamification:** it includes challenges like having to complete lessons for a consecutive number of days
challenge → mission to accomplish for which you'll be rewarded → gamification
- To achieve this, the app shows you your streak – the consecutive number of days you have logged in to the app and completed your 5-minute lesson. By doing so, the application gets you coming back by stimulating your intrinsic and extrinsic motivation.





Ludification and Gamification

- Some references:
 - Prakash, E. C., & Rao, M. (2015). Introduction to Gamification. In Transforming Learning and IT Management through Gamification (pp. 35-46). Springer International Publishing.
 - Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining gamification. In Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments (pp. 9-15). ACM.
 - Hamari, J., & Tuunanen, J. (2014). Player types: A meta-synthesis. Transactions of the Digital Games Research Association, 1(2).
 - Pimenta, C. (2013). Gamification in social environments to promote behaviours regarding energetic sustainability (Doctoral dissertation).