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Technical University of Cluj-Napoca

User Interface Design

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# Project Specification

This project aims to stimulate the participation of students to the educational process and to propose solutions for an increased awareness on their part. The approach of this project is to include principles from the gamification theory in the recurring teaching activities and to propose simple and efficient management instruments by the teaching staff and the students as well.

Regardless of the game type, be it a shooter, sports, roleplaying, etc. some features always stand out: a challenging competitive environment and a compelling reward system. The online platform that we envision plans to use these features in order to stimulate various audiences, through the appeal of games, to use their energy into a more productive way, that is, a learning environment.

# Audience

* Q: Who is going to use the application?

A: Both students (at university level) and professors will be using the application for educational purposes.

* Q: What technologies do users need to be familiar with?

A: The regular Personal Computer user will be able to easily use the platform, with no additional requirements needed.

* Q: What would users be able to do with the application and why would they use it?

A: Users who use the application would be able to reinforce the things that they learn during classes as well as discover many other interesting facts that they did not know beforehand, everything in a more pleasant and interactive environment.

* Q: Where and how can users use the application?

A: Wherever a PC/laptop with internet connection is available.

* Q: I do not like this product! Do I have any alternatives?

A: No other platform would provide the exact services as this one, but for viable alternatives, Coursera and Moodle can be used.

* Q: Sounds complicated! Is any other tool needed in order to use the application?

A: No! The regular (updated) Google Chrome, Mozilla Firefox or Microsoft Edge is enough.

# Task analysis

**Task #1**: Creating quizzes;

**Type of users**: Mainly teachers, limited student ability;

**Activity**: Creating quizzes on various topics, creating combined quizzes, creating quizzes on tutorials;

**Goal**: The main purpose is to create a competitive environment from which students can learn as much as possible.

**Description**: Quizzes can be created by both teachers and students, with some specifications. Competitive quizzes (will contribute to the leaderboard, can be used in tournaments, etc.) can only be created by teachers. If a student wishes to create such a quiz, he will need the approval of a teacher (the teacher will still have to post it). On the other hand, students will be able to create quizzes on tutorials that they post, but these will only contribute to achievements (e.g. Solve 1/5/10 tutorial quizzes).

**Task #2**: Solving quizzes;

**Type of user**: Students;

**Activity**: Solving quizzes that can have multiple questions and various rewards;

**Goal**: The main goal is to learn from the quizzes and to collect points and achievements;

**Description**: The website will contain quizzes with interesting and tricky questions for the students to solve. After each answer, the student receives a feedback. At the end of the quiz, a score is computed and added to the user’s profile. Also, users receive achievements in case of completing different milestones in these quizzes (for example top score in Java quiz, 10/50/100 completed quizzes).

**Task #3**: Posting fun facts;

**Type of users**: Both students and teachers;

**Activity**: Creating and posting fun facts;

**Goal**: The main goal is to share interesting facts on the website with the other users;

**Description**: Both teachers and students can post fun facts. A fun fact can contain text, images, videos and links. On the website a page is dedicated for these types of posts, where both students and teachers can share and view fun facts and react to them with comments and smiley faces.

**Task #4**: Fun fact of the day;

**Type of users**: Students, teachers, guests;

**Activity**: The ability to view the fun fact of the day;

**Goal**: To randomly select a fun fact and display it on the main page;

**Description**: From the pool of created (and approved) fun facts, one will be chosen randomly, each day, and it will be displayed on the main page. The section will contain a video, image, some text or a combination of these, the ability to click it and be redirected to the fun fact archive where you will be able to access the extra information on the fun fact.

**Task #5**: Reviewing fun facts;

**Type of users**: Both students and teachers;

**Activity**: Creating a review on fun facts;

**Goal**: The main purpose of this activity is to offer reinforcement (whether positive or negative) and feedback to fun facts, that other users can see;

**Description**: All users can review fun facts. A review can consist of either or multiple of the following: reinforcement though a like/dislike, a comment or the ability to share it on different other media. Getting positive or negative reviews will influence the user’s standings on the leaderboards and will be reflected on his account.

**Task #6**: Posting tutorials;

**Type of users**: Both students and teachers;

**Activity**: Creating and posting various tutorials;

**Goal**: The main purpose of this activity is to share various how-to-s in order to have a centralized information hub;

**Description**: Both teachers and students can post tutorials. These tutorials can either be in written format or video format. These tutorials don’t have to be created by the person who posts them, but they can be. Tutorials will be posted in a special, separate section of the website.

**Task #7**: Viewing and reviewing tutorials;

**Type of users**: Students, teachers (view and review) + guests (view only);

**Activity**: Viewing, reviewing and answering available reinforcement quizzes;

**Goal**: This activity entails the ability to view tutorials, participating in various reinforcement-learning activities and offer feedback on them.

**Description**: Any user is able to view the available tutorials. This is mainly targeted at the students, but teachers can benefit from this ability as well. A review can consist of either or multiple of the following: reinforcement though a like/dislike, a comment or the ability to share it on different other media. Quizzes may also be related to tutorials, thus helping the users assimilate the information in an easier way.

**Task #8**: Accessing the global leaderboard/rankings;

**Type of users**: Students, teachers, guests;

**Activity**: Viewing the total score for any of the users as well as the rewards accumulated over time.

**Goal**: This activity allows users to see the overall ranking of themselves and other users, ranked by their total score and various rewards.

**Description**: Anyone is able to access the ranking. This is an important part of the application because it stimulates the users to complete as many quizzes and gather badges in order to be in the top of the leaderboard. It also offers an overview of all the students and professors so that one can find the most suitable person when in need of help.

**Task #9**: Accessing the user’s personal profile and viewing his rankings, strengths and other user-related data;

**Type of users**: Students, teachers, guests;

**Activity**: Viewing in more detail a user’s skills.

**Goal**: This activity allows users to see the overall ranking of the targeted profile as well as additional information such as personal preferences, interest, all the completed achievements and level of expertise in different technologies/fields.

**Description**: All the profiles are public, so that anyone can see them. A user can only fill in personal data about oneself. All the others (scores for different columns etc.) are computed automatically based on a users activity and results on the platform. This functionality is very helpful for choosing partners for team projects, finding the right professor for a license thesis or other personal projects.

**Task #10**: Contact-the-developer;

**Type of users**: Students, teachers;

**Activity**: Submitting feedback and/or requests to the development team.

**Goal**: Keep the development team in contact with the users in order to fix bugs and improve the overall experience.

**Description**: Both students and teachers can submit feedback about their experience with the platform, report bugs or make suggestions about features they would like to be added. Once submitted, the information is stored in a database and is only accessible to the dev team.

**Task #11**: Posting a question on QA page;

**Type of users**: Students, teachers;

**Activity**: When one has a question related to computer science and needs help finding the answer he or she may ask the community.

**Goal**: Help students with their project and overcome any hurdles that may arise in the learning process.

**Description**: A student in need of help can post a question and add several tags so that others can find it easier. If someone encounters a problem with a project from a laboratory, chances are somebody else will have or already solved it. In this manner it is easier to find the right answer for the exact question, or even better, have a TA or professor provide the correct solution.

**Task #12**: Answering a question on QA page;

**Type of users**: Students, teachers;

**Activity**: Help others solve errors/bugs or even find the right solution for a problem.

**Goal**: Increase the cooperation between users and at the same time share valuable knowledge.

**Description**: Any logged user can answer a question on the QA page. However, the comment may be deemed valuable or not by the rest of the community by using the “helpful” or “not helpful” buttons. This contributes to a user’s total score and depending on the tags increases or decreases the score for particular skills.