Tourney — How to Gamify Learning with Design and Technology

Tourney offers a well-designed, flexible and multifaceted tool kit of exemplary self-learning sequences that lecturers and also students can enrich with their own structured content in order to create learning paths by choosing and arranging modular elements.

Tiles and Machines

The game stage is formed by tiles, which represent different functions. The most basic tiles are the floor tiles that are used to build the paths on which the players can move. Machines represent the challenges that the players are confronted with. The main task is to pass the machines by answering questions, in order to continue to unlock the path.

The machines are depicted in the gameplay as bridges, sliding floors, and elevators. There are different sizes of machines, representing the different levels of difficulty of the questions and tasks. This difficulty is predefined by the lecturer.

The player figure

The player in the game is represented by a figure, a platonic solid. The figures represent the progress of each player. When the player answers more questions and by that collects more experience points, eventually these points reach a predefined amount and the shape upgrades to the next complex shape.

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Game Bar

Health points (HP) are used for keeping track of the learning progress. If a player answers wrong, then he or she loses HP. With further incorrect answers the health damage increases.

Experience points (XP) are gained by answering questions. The difficulty of the questions and the number of trials define the amount of experience points to be rewarded. As a contrast to generic game concepts, in Tourney wrong answers are also rewarded, nonetheless with a reduced amount of XP, since there is still a crucial learning outcome by knowing which answer is incorrect.

Item Store

Diamonds are the in-game currency. A diamond is given as a reward for each correct answer to a hard question. Also, a diamond is randomly given as a surprise for a correct answer in easy and medium questions. It is possible to buy items with the collected diamonds, which then can be used in the game. Currently, there are four items implemented in the prototype: to restore health points, to eliminate a wrong answer, to skip a question, to gain extra experience points.

Content Indepedent Game Framework

The content independent game framework represents the philosophy of a game that is set up without any specific content, so the lecturers can create a game stage with their own structured content. By combining single predefined modules and enriching these modules with content, a game stage can be formed.

In the current prototype, the predefined modules have the following functions: multiple choice questions, single choice questions, questions that require uploading a file, content tiles which can contain relevant course material to watch or to download.

The Portal

Each stage ends with a special tile. When the player reaches to the end of the game, the portal tile transports the player to the next stage.

The Project

In the digital age the use of e-learning is on the rise and also schools and universities need to adapt to this development. More and more educational institutions make use of e-learning and content management platforms such as Moodle and SharePoint. In order to motivate students during their learning progress, a current trend called gamification is gaining awareness and is already widely applied in the business world.

Gamification describes the use of game elements in a non-game environment with the goal of increased motivation. Gamification is a motivational trigger to engage users in online learning environments and can foster collaboration and interaction.

"Tourney" is the title of the digital learning game that is currently being developed within an internal research project at FHNW – University of Applied Sciences and Arts Northwestern Switzerland in order to increase the learning outcome on various levels of the study programs.

The project is a strategic research initiative with researchers from five different disciplines coming together to think about new ways of including games into the university education.

The Outlook

The project team is currently evaluating several scenarios for the future development of Tourney. A tool for data tracking and visualization of learning progress is to be developed and implemented. With this tool, a deeper research on the data and evaluation methods will be established for a better understanding of skills and performance.

A scenario for the commercialization of Tourney in the context of employee education and a new sourced project is supposed to further develop the game-based learning concept in a guided course environment. In a scenario like this, it is possible to see the future of the game development in an “open and student sourced project”.

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www.tourney.ch