

Social E-Learning with game dynamics

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Abstract. We students of the course on academic working are asked to write a "short paper" which should address a topic of the areas of computer science. I chose the topic "online addiction" because it is a quite actual topic and many young people are concerned. To collect information I used the online service of the Vienna University Library where I could borrow a few books concerning my topic. The results were very satisfying and the books contain much more information than I needed. All books describe very well the different forms of online addiction and the symptoms and behaviour of Internet addicts.

Keywords: social web-platform, e-learning, game dynamics, grading, XP system, point system

1 Introduction

In this short paper I want to compare traditional grading systems and learning techniques to modern approaches which include game dynamics for rewards, and how they affect the students grades and motivation. Social networks have taken over the internet and I want to explain how social e-learning platforms can improve learning for students with motivational problems.

2 Social E-Learning

In many ways Computers have changed the way of life of our generation. But this is most of all true for the younger generation. Kids often learn to use the computer while still in kindergarten. Studies from the United States have shown that by the time Students turn 21 they have spent 10,000 hours playing video games. This is almost exactly the same amount of time they spend in school if they have perfect attendance. This shows that there is an entirely parallel track of education going on which is very different from the education system in schools [1]. According to [2], grading and reporting have been an integral part of education for the better part of the past century and while most aspects of education have seen radical change during that time, in many ways grading and reporting have remained much the same.

2.1 E-Learning versus traditional learning

When one compares e-learning to traditional learning methods they will find out that they are just different in the way that information is presented. The benefit of e-learning when compared to regular learning is that Information can be visualized in an interactive way that cannot be done with an analogue medium. In particular, it still has to be proven that elearning systems can provide the same (or nearly the same) teaching quality as contact classes with human teachers and adequate resources. In order to meet these high expectations professional design and development support for e-learning systems will be a crucial success factor. [3]

Availability If one is looking for particular information it might not be easy to find the book they are looking for because not every library has every book in the world. Information on the Internet is available to almost every internet-connected device at any time. This fact is very important for learning because one gets the Information very quickly and can access it where there is an Internet connection.

Presentation One of the most important conditions that have to be met to ensure that students will remember learned Information is how the data they get is presented. On e-learning websites videos and interactive graphics can be easily included into the text which will increase the attention and learning capacity. This is a great advantage in comparison to books or handouts because complex procedures can often be easily explained with animation rather than a text description or a still graphic.

Feedback If a student is stuck with a problem and doesn't find useful hints they will have to ask somebody who doesn't have this problem. In the analogue world the people who might know about a certain topic is very limited because the student has to know them directly or indirectly in order to ask him or her. With e-learning the students can post their questions on a platform and can get answers from friends or strangers from all over the world.

2.2 XP based grading

The idea of XP (Experience Points) based rewarding comes from the most popular games on the market. These games encourage players to keep playing the game with a simple, yet powerful system which can be adapted to the education system. The biggest problem with traditional grading systems is that it's sometimes hard for students to put the feedback they get into proportion and often have just a vague understanding of how they performed in class. XP based grading is an approach to this problem by giving students data which is easy to understand and put into relation.

XP rewarding in games Players start with 0 XP and get quests. When a quest is completed, players automatically get XP as reward. When players reach a specific amount of XP they level up which increases their level by one. Players can compare themselves to others by comparing their levels. This is a game dynamic and it is very powerful and potentially addictive. Many thousand players in the world fail to achieve their goals in real life so they play as much as they can. Games give them rewards in real time and they give them instant feedback.

XP rewarding in education While XP based rewarding systems are common in the most popular games and almost every student is familiar with them, they yet have to establish themselves in educational systems. In comparison to the XP rewarding in games, students will start in the beginning of each year with 0 XP which equals a 5 in the Austrian grading system (where 1 is the best and 5 the worst grade). In games they see their progress bar all the time and this encourages them to keep doing their quests because they can directly interpret the data and know exactly how many quests theyll have to do to reach the next level.

2.3 Implementations of XP based grading web platforms

One implementation of this XP based grading system that is available to students to view their grade in real time is from the company Haschek Solutions. It implements all requirements which are described in 2.2 and is easy to use.

The Procedure At first teachers create their courses and add their students or chooses to let the students join on their own. Then teachers can add subsections to every course. They also have to set the maximum amount of XP that each subsection will have. The grade of each student will automatically be calculated every time a student gets XP. When everything is set up teachers can add quests on the website and allocate them to a specific subsection or just tell the students what they have to do. When a student did something positive the teacher can reward him or her by giving them an appropriate amount of XP. Another approach would be an tutoring system that should prevent students from becoming overwhelmed with information and losing track of where they are going by automatically assigning them work [4].

2.4 Related Work

Schewe-Thalheim-Binemann-Kaschek-Kuss-Tschiedel: A Conceptual View of Web-Based E-Learning Systems The authors are describing technical attributes of Web-Based e-learning Systems and how they have to be designed to work with different learning types and how information can be disseminated with different learning styles [1]. The biggest addressed issue is that e-learning systems are designed to fulfill a purpose and not to be attractive to

students. I remarked, that this book is very useful for developers who want to build a new e-learning system and it doesn't focus deeply on positive results these platforms may or may not bring.

Guskey-Bailey: Developing Grading and Reporting Systems for Student Learning Guskey and Bailey's book focuses on learning standards and how these standards can be created. They sought many educators who worked with grading and reporting and asked them what system they had and how effective it is. They found that the general public underestimates the educators' teaching abilities and think that traditional marking systems are inadequate and obsolete [3]. The main focus of this book is on the psychology behind grading and reporting and how modern systems can improve the students' motivation.

Leung-Li-Lau: Advances in Web Based Learning The authors analyze existing E-Learning platforms and focus on the technical aspects like system design and modules. They have built a web-based motive supporting system on top of their own e-learning platform which gives students problems that match their current level of training. This book describes modern web-based learning platforms with many details and with many references to the authors' own platform.

3 Conclusion

When it comes to education, we rely on methods that were invented in the last 5 decades and the gap between the worlds the teachers and the students live in have never been greater. Many students fail because they can't motivate themselves and this is also caused by not always getting the direct feedback like they get in computer games. Instead of forcing our outdated school system on the younger generation we should approach them with methods they easily understand and give them data they can put into direct proportion. "It is envisioned that there is a huge market potential for learning technologies. Expectations, chances and quality requirements are high." [3]

References

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