

Gamification of School Education Using Mobile Apps

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Abstract

Gamification has become one of the most notable technological developments for human engagement. Gamification of education is expected to increase learners' engagement, which in turn increases learning achievement. Some institute use mobile app and computer games to help student understanding subject in easy and entertaining way. But the problem is many students still won't use the apps since it requires to pay big amount of money for every grade, and computer games is only help few when student in school. Author propose a school application that contain all information about student and assignment that make student experience the challenge and fun as they play mobile games.

Keywords: QR, QRIS, UTAUT

1. Introduction

Gamification, the design approach of utilizing game design in various contexts for inducing experiences familiar from games to support different activities and behaviors [1], has continued to be a popular topic within both industry and academia since its popularization in the early 2010's.

Many schools try to adapt gamification to motivate students [2]–[4]. Gamification is a method that challenges students to want to learn something addictive [5]. Schools start to adopt gamification such as giving reward and achievement to students.

Other educational institutions have begun developing mobile applications that function to help students better understand their lessons[6]. But the problem still occurs to students, especially students who are accustomed or addicted to playing games, and students who used to have low grade in schools. Some students feel that any apps and rewards that help them in study is not necessary.

Here authors suggest an application is integrated with school system where students can access various information at school and do their schoolwork assignments through games.

2. Literature Review

A. Gamification

Gamification can be defined as the use of game mechanics and game design techniques in nongame contexts to design behaviors, to develop skills or to engage people in innovation [5], or as a technique of influencing the motivation or engagement of people to solve complex problems, to perform certain actions or to just have fun [7].

B. Mobile Application

It is a type of application software designed to run on a mobile device, such as a smartphone or tablet computer [8].

C. Mobile Games

A mobile game is a game played on a mobile phone (feature phone or smartphone), tablet, smartwatch, PDA, portable media player or graphing calculator [9].

3. Current Status

Nowadays many educational institutions have adopted gamification by giving students rewards for doing assignment and task.

Recently in Indonesia, the growth of mobile learning applications that make it easier for students to learn by providing clear teaching and motivating users with various features such as cute avatar characters, achievements and awards.

This application includes subject matter from grade one through high school graduation, so students from all classes can learn by buying learning packages that are appropriate to their respective classes.



Fig.1 Mobile Learning Apps

The students are asked to buy a study package that suits a lower price compared to other learning institutions with a variety of different instructor choices. Each package has a different price range depending on the chosen package level. Each package contains 3 levels containing all subjects related to the student's level



Fig. 2. Dashboard for Learning

After purchasing the desired learning package, students can choose the desired subject and various types of questions will appear and different types of problem difficulties.

Where every question that is done will give students rewards in the form of exp and gold that can be used to work on the next problem and buy items for their avatar.



Fig. 3. Reward System

4. Proposed Concept

The author proposes an application that is connected to the school system where student absenteeism and track grades of students can be accessed through this application, also in doing assignments or viewing material that will be shared or explained by the teacher. The proposed system is in the form:

- This application includes all lessons from grade 1 to grade 12
- This application has a cute avatar that represents the character of each student
- different forms of appearance and challenges for each grade starting from elementary, middle and high school
- for elementary school the display is more colorful and questions are filled with lots of children's stories which make children more happy to read.
- for elementary school, pop ups will appear every day containing the avatar inviting reading.
- for junior high school, the appearance is made simpler than the appearance when students are in elementary school.
- Middle school has a more diverse variety of questions starting from essays, story problems to scientific questions.
- Middle school has a discussion room to be able to exchange ideas with school friends about problems at school
- Middle schools will have weekly assignments they must work on in order to raise their avatar levels.
- Weekly problems are questions created by the application, in order to challenge children to like to think and work on challenges.
- High school will have a simpler appearance while still having a game appearance.
- High school has an additional menu which is a challenge every week that is different from the previous weekly junior high school assignments.

The challenges posed by high school students contain exam questions that can help students to be ready and to know more about the challenges they will face in college entrance screening exams with this idea students are expected to be more interested in learning and doing their schoolwork.

5. Conclusions

Currently there are many applications and games that help students to learn and understand the subject matter, but many students are still not interested in the application and gamification because they do not need to follow it.

Gamification is one of the good methods and is widely used now one of them in education. But gamification is something that cannot be generalized because every age has the ability, requires a different perspective on everything. Gamification that is supported by working with schools to support students' children using

applications that are supported by the school system will enable schools to motivate children well and get all students to learn. High school. This application makes students of every interest and opiate to the challenges they need to learn in this game.

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