Persuasive Mobile Application: Enhancing Student E-Learning Experience

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ABSTRACT

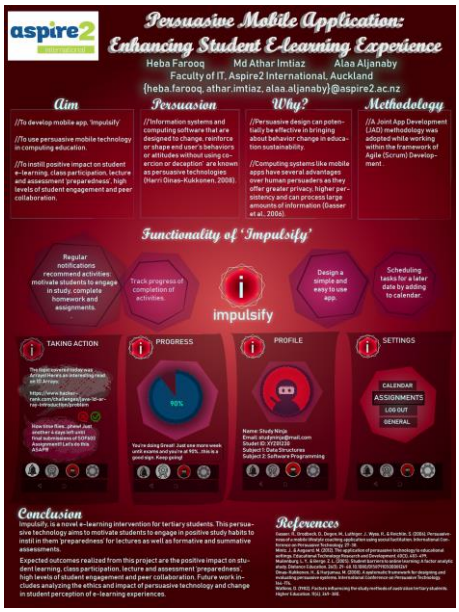
In this poster, we outline the development of a mobile app- *Impulsify*, as an e-learning intervention for tertiary students. A students' lack of time and motivation influences poor habits in their approach to study. This app is a novel strategy for e-learning that aims to motivate students to engage in a deeper learning approach. The app is an interactive technology that attempts to induce positive behavioral changes in study habits. An agile software development process was adopted for this project, which involved prioritizing end-user experience. Expected outcomes realized from this project are the positive impact on student learning and participation, high levels of student engagement and peer collaboration.

Keywords: Persuasive technology; e-learning; mobile app;

1. INTRODUCTION

According to (Muilenburg & Berge, 2005), time interruptions, poor learner motivation and study support are recognized as severe barriers to student perception of online learning as enjoyable. (Watkins, 1982), suggest that the lecturer's enthusiasm and teaching ability has a significant impact on student interest level. Students are active participants in the delivery of educational services (Mills and Morris, 2006).

Organizations can create a more effective educational experience by improving e-learning environments and social interactions (Muilenburg & Berge, 2005). 'Information systems and computing software that are designed to change, reinforce or shape end user's behaviors or attitudes without using coercion or deception' are known as persuasive technologies (Oinas-Kukkonen & Harjumaa, 2008).



Mintz and Aagard (2012) have recognized that in educational settings, persuasive technology and persuasive design can potentially be effective in bringing about behavior change in education sustainability and typical academic learning (i.e. knowledge acquisition).

Computing systems like mobile apps have several advantages over human persuaders as they offer greater privacy, higher persistency and can process large amounts of information (Gasser et al., 2006). The rapid growth in the use of robust platforms like smartphones and mobile apps, has opened opportunities to enhance behavioral changes. According to an analysis of sustainable education of PTEs in NZ, Banu. S., Tan. K., (2017) report that the IT school has come across as innovators for sustainable education, ready to take risks in leading an Active Learning focused curriculum.

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In this poster we describe the development of *Impulsify*, which is an attempt that uses persuasive mobile technology in computing education to instill positive impact on student learning, class participation, lecture and assessment 'preparedness', high levels of student engagement and peer collaboration.

2. OBJECTIVES OF THE APP

The app is intended to be an e-learning tool to motivate students to make positive study choices. The objectives can be outlined as follows,

- Deliver regular notifications or prompts to recommend activities that motivate students to engage in study, complete homework and assignments.
- Provide an interface for students to track progress of completion of activities.
- Include features involving scheduling tasks for a later date by adding to calendar.
- Design a simple and easy to use app.

3. SOFTWARE DEVELOPMENT PROCESS

For this project, a Joint App Development (JAD) methodology was adopted while working within the framework of Agile Development. JAD was chosen to reduce the requirements gathering phase. It involves participatory design process from end users i.e., students, developers and stakeholders thus accelerating design enhances to create quality software.

Software development evolved through several iterative steps between the clients and students. Scrum employed an incremental process with a focus on business values and product quality such that bugs and errors were periodically detected and eliminated early in the development process. 'Sprint' sessions, (lasting 1-3 weeks) were organized regularly with an approach to optimize and control risks. Each 'sprint' involved planning, scoping, design, development, transition and user acceptability testing. To maximize the product value, the scrum team implemented transparency, inspection and adaptation processes within the self-motivated and cross functional team.

The prompts or notifications were designed by the course instructor. The tutor designed recommended activities in relevance to the course material delivered and to the formative and summative assessment preparation.

4. CONCLUSION AND FUTURE WORK

This poster outlines the development of a mobile app - *Impulsify*, which is a novel e-learning intervention for tertiary students. This persuasive technology aims to motivate students to engage in positive study habits to instill in them 'preparedness' for lectures as well as formative and summative assessments.

This ongoing research aims to contribute to e-learning innovation in computing education via persuasive technology. Expected outcomes realized from this project are the positive impact on student learning, class participation, lecture and assessment 'preparedness', high levels of student engagement and peer collaboration. Future work includes analyzing the ethics and impact of persuasive technology and measuring change in student perception of e-learning experiences.

5. REFERENCES

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