

Digitally Enhancing the Learning Experience

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1 Outline of proposed project

The purpose of the project is to showcase our successful research-led teaching and ensure its widest possible dissemination. Currently the programme reaches approximately 400 students per year. This material has the potential to reach additional markets created by the dissemination of the facilitation resource required.

1.1 Background

Through the UK LAI (UK Lean Aerospace Initiative) programme, a highly successful business lean-simulation game has been developed. It is currently a desk-based game supported by electronic presentation material and a set of notes (the current output of research). The game has been designed to evolve over a day; it currently consists of a lecture, lasting about 1.5 hours, and three sub-games, that last for 40 minutes each. After each game has been played time is taken to reflect on what went well and where improvements can be made. The subsequent games use this learning to improve performance; simulating a 'continuous improvement' business culture. Since its initial inception, the game has evolved into a robust, scalable, multinational learning tool.

1.2 Aims

This project is aimed at developing two significant areas of research-led teaching.

- Conceptual – Develop, record and disseminate the process of turning research outputs into effective education material.
- Practical – Develop, record and disseminate the process followed to make effective use of digital technologies to support the dissemination of research via education delivery.

The main achievement of the project is to develop freely available, learning material in order to support and underpin existing teaching material. The potential physical outputs are Apple iTunesU and 'App' style learning (and possible generic equivalent).

The development of the conceptual process of turning research outputs into teaching material is seen as a novel approach to this project; a process that can often be overlooked at the end of research projects.

The project will continue to reach full-time and part-time WMG MSc students. It is anticipated that with the development of the available tools that the business simulation can reach global course trainers. This supports the development of a global, accredited trainer scheme.

The following report consists of a further two sections detailing 'Progress to Date' and 'Next Steps'. Both sections discuss Technology Development, Evaluation, Dissemination, Accreditation of Trainer and Project Management.

2 Progress to Date

Three interns have been recruited to carry out the work and have gelled well to create a team that is rich in IT, project management, communication and innovative attitude. They have staggered start dates from October 17th 2011 and have supported the delivery of the existing game.

2.1 Technology Development

2.1.1 Digital opportunities

Initially, we have met with Mike Roberts and Robert O'Toole from central IT support and have listed a number of potential opportunities and have categorised them as follows:

- Video Demonstrations
 - We have filmed three presentations of the game: a cohort from China consisting of 20 Chinese speaking aerospace engineers; and two presentations to our full-time programme, which, this year, has 52 nationalities represented. This material will provide material to create video demonstrations such as those found in iTunesU and youtube.
- Collaboration tools
- Website Opportunities
- Social Media
- Online Presence Opportunities

- Visual Tools

2.2 Evaluation

Questionnaires have been distributed to the Full-time student cohorts and to an executive running in Singapore to determine the effectiveness of conveying the lessons learnt to participants. This is the first time questionnaires have been implemented as a part of the game and the purpose of which is to identify the actual learning provided by the game. Previously evaluation has been possible via the post module assignment, which evaluates the broader learning outcomes of the full, 100 hour equivalent, Masters module the simulation game is incorporated into. This, more focussed evaluation, will also expose which learning points have been missed or been absorbed and potentially highlight areas of learning not previously recognised.

2.3 Dissemination

Three conferences have been identified that would be appropriate to present our development and findings at; EdNet, INTED and EurOMA. Two abstract have already been submitted to INTED (see Appendix A).

2.4 Accreditation of trainer

It is proposed that an accreditation process be formalised to build the community of practitioners and help maintain currency and integrity of the educational material.

2.5 Project Management

A top-level plan of our intended activities has been created (see Appendix B). We have established regular meetings with IT Support Services and Dr. Celine Martin, originator of the game. Examples of the weekly reporting system developed (employed to ensure all team members are kept up to speed) are shown in Appendix C.

The project required 144 days of internship time to deliver. As of 28th November 44 days have been used, leaving a remaining 100 days to complete.

3 Next Steps

3.1 Technology Development

3.1.1 Digital opportunities

The following tools have been selected to enable both dissemination and enhancement of the game. These tools belong to five main categories:

1. Video Demonstrations

Video editing has started and the interns are identifying specific parts that will help in demonstrating the game environment, enabling understanding and providing an overview of the game. Based on initial observations, participants show actual learning by applying knowledge they acquired from previous stages of the game.

The Warwick iTunesU and the Warwick YouTube channel have been selected as the main avenues of distributing the video.

2. Collaboration tools

Document Sharing tools such as SharePoint and Google Docs, and Video Conferencing tools such as Skype and WebEx, are discussed as potential options of enhancing the knowledge transfer and communication between the teams, suppliers and customers.

3. Website Opportunities

Feedback Forums, Wikis, Online Ordering & Glossaries are being considered as viable ways of sharing information and communicating within the game and disseminating the game.

4. Social Media

Facebook, Twitter & LinkedIn have been selected for testing as means of distributing the game and providing an alternative medium for feedback.

5. Online Presence Opportunities

Prezi and Warwick Knowledge Centre are being considered as possible platforms for creating an online presence.

6. Visual Tools

Mind maps and cartoon illustrations have been chosen to enable a more structured project management process and communicate the student-learning journey respectively.

3.2 Evaluation

The first set of questionnaires completed by students, before and after participating in this game, indicates a marked transformation in their perception of the critical factors that are involved in a successful new product introduction (NPI) process.

As a next stage, the questionnaires will be evaluated with the use of SPSS . Such analysis will provide a better understanding of the available data and any correlation between them.

3.3 Dissemination

Two abstracts have been prepared for EurOMA and EdNet conferences and will be submitted in due course.

3.4 Accreditation of trainer

The accreditation process will be formalised and documented and ways of maintaining the community will be identified and formalised to aid governance of dissemination of the educational material.

3.5 Project Management

The reporting system, as evidenced in Appendix C, will continue to be in use to maintain and control the project to successful completion.