

Mobility makes us agile and lean: A new paradigm for institutional projects

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The mLearn Project at Charles Sturt University (CSU) is an attempt to establish a new philosophy for large-scale institutional initiatives that borrows aspects from the technology companies based out of Silicon Valley. This paper will outline the concepts that have been adopted as well as the rationale for this change in tact. The project is running in 2012 and into 2013 over three teaching sessions and it is hoped will foster innovation through trials of technology, mobilising system access and developing mobile enhanced learning resources. Findings and reflections from the project will be published over the next 18 months.

Keywords: mobile, project management, mobile learning, mobile technology, university initiative

Introduction

How universities respond to technology is becoming a greater operational imperative, both financially and strategically. Traditionally universities have faced these challenges by developing large-scale projects that implement technology on an enterprise level. These projects are costly in time and resources and are often too big to react to a rapidly changing environment. Is this practice sustainable in an era where technology changes are rapid and evolving? How can universities act as future makers in a climate of rapid change?

Mobile is the latest technology to pose a significant challenge for higher education (New Media Consortium & EDUCAUSE Learning Initiative, 2012) and at CSU we have sort to meet this challenge through our mobile learning initiative, the mLearn Project. We have used it as an opportunity to invest in a smarter initiative that challenges the paradigm by focussing on achieving institutional goals through small-scale innovation and adapting processes and methodology commonplace in Silicon Valley. The mLearn project operates within a familiar project structure with a clear hierarchy of Sponsor, Steering Committee and Project Team and follows the normal reporting processes. The project philosophy however is shaped by the tech industry and this creates a number of key differences:

- The philosophy of the project aligns in many ways to the model outlined in the Lean Startup (Ries, 2011) and follows the core principle of **Build-Measure-Learn**. The project is Build oriented with a focus on outcomes and actions. It is planned that these outcomes will be used to Measure results, which in turn will allow the university to Learn.
- The project follows an **agile development process** (Beck, et al., 2001) with specific focus on user satisfaction, rapid delivery, tangible use, sustainable development, good design and simplicity. Regular adaptation to changing circumstances is also crucial to the success of the project.
- The project is **multi-threaded** with a number of concurrent areas of work. Rather than a number of small separate projects, these are all bought under the one banner that can make use of the cross over in knowledge and skills required.
- The focus is on encouraging **small-scale innovation** rather than large-scale outcomes. Innovation is seen as an incubator for ideas and a proving ground for new technology. By conducting real world pilots on a small scale it is hoped that they will be easier to support and that will provide lessons as to what works and what doesn't.
- Project involvement runs **across disciplines** and includes representations from most divisions and all the faculties. The aim is for innovation not to be siloed or restricted and allowed to compliment strategic goals throughout the university. Developers will work directly with users and stakeholders creating strong bonds between the needs of the users and the work being undertaken.
- A **new project requires new resources** and the project has setup a core development team with concentrated skills with 100 per cent allocation to the project. The group will work with a wide range of stakeholders in the traditional project team, which it hopes will reduce the drain on divisions. It also provides the capacity to recruit based on the skills required for the project and not those currently available.

Rationale

For many years Silicon Valley has shown that there is a viable alternative to traditional project management. For

decades the technology sector has been dealing with the environmental factors that most universities now find themselves in - rapidly changing and financially challenging. These companies, in particular the start-ups like Facebook and Instagram, have employed different methods that encourage change and embrace uncertainty which allowed them to be able to adapt quickly and operate sustainably.

Small-scale innovation informs sustainable future development

This often falls under the banner of Research and Development (R&D) and it is vital to the development and introduction of new technology and developing new business. Google is one of the biggest companies and leading innovators in the world. They have adopted small-scale innovation as a successful incubator for future developments (Wojcicki, 2011). In an educational context it is much easier to support small-scale innovation, as it requires less resources and quicker turnaround times. Traditional projects tend to run over years but small-scale innovations can be run over sessions and they have the ability to change and adapt quickly, even midstream. Their size also allows for small changes in circumstances or unintended problems to be negotiated quickly and because of a narrow scope they can reduce inherent risks.

Support innovators rather than force change

Most technology companies invest their money with in-house research and encourage their staff to be creative and innovative. They incubate innovation from their staff because they know the business; they understand the clients and the available platforms. In universities we need to recognise teachers as future leaders for the same reasons - they know the students, they know the content and they know how to teach the course. What they lack are the support mechanisms. They need technical support to help make decisions and build a solution and they need access to technology. Encouraging teachers as innovators encourages a culture of change leadership and can assist in implementing an integrated and orchestrated top-down, bottom-up and inside-out strategy for change (Uys, 2007).

Implementation

The structure of the project follows traditions and conforms to the existing standard of governance established at the university. The Steering Committee provides leadership and strategic alignment through representation from key business areas. The Project Team contains stakeholders that provide business expertise. The project follows the existing reporting regime that tracks budget, milestones, risk, issues and overall progress.

A new addition to this structure is a small Development Team that consists of new staff who are allocated 100 per cent to the project. They provide the expert knowledge and skills required to carry out work on the project's objectives. Centralising staff allows these skills and knowledge to be shared across the different threads of the project. Technical and business knowledge is combined and provides a solid foundation for the project to work from.

To enhance the project it has also adopted some of the key Agile Development Techniques including:

- Individuals and interactions over processes and tools. The project is taking a user centred approach when delivering a solution. There is an acknowledgement of the importance of staff and students rather than the technology, and support and interaction is key.
- Working solutions over comprehensive documentation. The project definition document forms the central core of the project detailing aims, outcomes and delivery. Functional and business requirements are developed with the focus on getting it done not getting it right. Mistakes are part of the learning process and key to the **Build-Measure-Learn** philosophy.
- Responding to change over following a plan. The mobile space is a rapidly changing and evolving environment and there is a need to embrace these uncertainties and make them an asset to the project. In this manner we will work on delivering iterative solutions - *"You can launch something polished that is driven by assumptions, or you can test something rough that is powered by understanding."* (nickf, 2011).

Methodology

The mLearn Project will operate in the following areas:

- Conducting Device Trials
- Mobilising Key Learning & Teaching systems
- Enhancement of Learning Resources

Pilot Programs

Large-scale adoption of mobile technology is new and has no precedent so the aim of the project to gain knowledge, understanding and real world experience. This will be achieved by conducting real device trials with our students, our staff and our infrastructure. The pilot programs are small and will have a limited scope so multiple programs can be run at the same time. The small size makes it much easier to provide focussed support to staff and students and provides the ability to change and adapt to resolve issues on the fly with the aim of making it easier to manage risks. Shorter timelines dictate that less time is spent planning and more time doing, and with all the pilots there is a sense of exploring the possibilities rather than limiting them because of the risks involved. The project will be conducting pilots with a range of devices and will provide devices and support Bring Your Own Device (BYOD) initiatives.

Mobilising System Access

Mobile technology challenges all desktop-centric institutional systems. The mLearn Project is focusing on mobilising access to key student systems. It is not rewriting systems but ensuring that they are accessible and user friendly on a number of mobile platforms. With a focus on interface design and user experience the project aims to deliver improvements that are available to all students. The project will be working on an iterative model with direction from the Lean Startup project, undertaking a 'functions first, features second' approach. This includes the delivery of a minimum viable product (MVP) (Ries, 2011) to begin the process of learning as quickly as possible which will then be developed further through feedback and features added as required.

Develop Mobile Enhanced Learning Resources

Mobile technology opens up the possibility to change what learning resources are as well as challenge the traditional space they are used in. As a leader in distance education our university has experience in developing learning resources across a range of media. Mobile technology provides us with new opportunities and a viable alternative to print in terms of portability and accessibility. There is also the ability to create unique resources that leverage the capabilities of many mobile devices to play rich media and implement interactive elements. It also provides an opportunity to investigate digital publishing workflows and the concept of Create Once, Publish Everywhere (Jacobson, 2009). The project will develop a range of resources over its duration that explore these elements and provide real working examples.

Outcomes

From this work a number of outcomes are expected:

- The project aims to deliver specific actions to improve access to the learning management system, online evaluations, library services and deliver functional mobile enhanced learning resources. The device trials will hopefully provide an authentic experience of mobile learning practice in a variety of discipline areas with a range of different student cohorts including internal and distance education.
- The project will report on the impact and implications of mobile technology on students, academic staff, infrastructure, systems and support staff involved in the project. It is anticipated to report on some of the issues related to sustainability and access in the regions.
- The project will provide recommendations to senior management about the development and delivery of digital content for mobile devices, strategic direction for mobile technology related to learning and teaching and the general and large-scale deployment and support of mobile devices for learning and teaching.
- The project intends to develop resources and guidelines that can be disseminated to academics, students and the wider community in a number of areas including: good practice guidelines for the provision of learning and teaching using mobile devices in a range of different environments; the training and support materials for the devices and technology used in the project; as well as mobile pedagogies.

It is anticipated that these outcomes will provide clear benefits to the university in terms of improvements to student engagement and satisfaction, increased access to online learning systems, good practice in the use of mobile devices in learning and teaching practice, the development of rich mobile enhanced content and resources and sustainability in practices and production. The project will gather feedback through a number of surveys and focus groups and the experiences of the project team where successes and failures are expected. Analysis will be conducted to determine what worked well and what didn't to how this might be rectified in the future. This should feed through information for the development of clear strategic direction for mobile technology, device deployment models and digital resource development for learning and teaching.

Conclusion

Through the adoption of proven techniques from some of the most successful technology companies in the world, the mLearn project will explore an unconventional approach to the challenges and changes that new technology bring. Through the adoption of two key ideas, Build-Measure-Learn and the iterative approach from the agile development process, it is hoped that the project can respond to the many issues related to implementing technology in a milieu of continuous change. It is hoped that by taking this different approach we can demonstrate a platform for institutions to tackle some of the most important future challenges in a sustainable and timely manner - ensuring the role of Universities as a centre for future makers in a climate of rapid change.

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