Project Ideas – M Derleta

# Project 1

# Develop a database with a user interface for updating product-related documentation files for multiple projects.

## Project statement:

Working with projects often means that a lot of documentation is being generated and stored for each of the products that the business I work for develops. Additionally, any updates to such documents need to be tracked and recorded as well. This applies to both development projects as well as to the devices that have been already released. This situation creates a vast library of documents that apply to multiple products and that are being continuously updated by multiple people so the business can keep up with the changing regulations. Currently, we use excel spreadsheets as a ‘bibliography’ of all documents for each of the products which is manually updated on a weekly basis.

## The problem:

Weekly updates using excel take a lot of time and I believe that there is a scope to introduce some automation for this process. Same documents need to be updated for multiple products which have become very cumbersome and require a lot of team effort to make this task somehow efficient.

## Proposed solution

I propose to develop a front-end web user interface and a database backend to store documents and help with updating them. Users will be able to search for the documents and then update them using the interface and the database will look after updating these for all related products. I believe that such a solution will significantly improve this process and save a lot of time which then can be allocated to more important tasks.

## The users are:

My project management team and anyone working for the business that needs access to the product documentation library.

## I have/will be able to find out more by talking to:

* my manager,
* other project leaders,
* my colleagues from across different teams

## The skills I have from my L3 study include these ones which are relevant to the problem:

* web development skills including using JavaScript, APIs, JSON, database creation
* Planning and designing software (requirements, user stories, use cases, modelling) based on TM354.
* User interface development (wireframes, usability) based on TM356

## The ways in which I will be moving beyond the L3 module(s) are:

* S/W project management using Agile methods.
* Project management and planning (scoping the project, setting milestones, risk management)
* I will need to research, create, and connect a database to the web app.
* Use a front-end development framework like Vue.js.
* Use GitHub for version control.
* Possibly build an API or research if there are any JavaScript libraries that can be used to connect to the database system that I am going to create.
* I will need to research the security aspects of my solution if it is to be used for work purposes.

## The product I will deliver will be:

A piece of software in form of a web application front end and a database backend for users to search for documents as well as add, remove, edit them.

# Project 2

# Evaluation of agile methodologies with recommendations for one that is easiest to adopt.

## Project statement:

I used to work for an organization that was starting to branch out its product portfolio and was looking to develop new software solutions that would enhance its current product lines. The company was making sensors and wanted to provide their customers with some insights on the performance of the devices based on the data that these would collect.

## The problem:

The issue was that there was no previous, in-house customer-facing software component that the company would offer and that there was very little experience in developing mobile applications in terms of front end and back end within the company. Currently, existing software teams were not accustomed to Agile software development practices and the company had to play catch up to be able to start its web development division in a way that was modern and cost-effective.

## Proposed solution:

I would like to conduct an evaluation of the agile methodologies with recommendations for one that is easiest to adopt for inexperienced teams. I believe that having access to such a resource would help any new software development team get their projects off the ground quicker and in a more organized manner.

## The users are:

Any software development team that is looking to implement agile to develop their products.

## I have/will be able to find out more by talking to:

Agile is being used in my current workplace so I have access to software developers that are experienced in using agile methods. I will be able to ask for guidance and maybe get some feedback on different aspects of my research.

## The skills I have from my L3 study include these ones which are relevant to the problem:

* Agile methods are used in TM354 although they are not being explained in depth throughout the module.
* Software development methodologies discussed in previous modules.

## The ways in which I will be moving beyond the L3 module(s) are:

Through this research, I will be able to do a ‘deep dive’ into agile software development and learn about old and new practices that are being used in the field. The literature review will be a big part of the paper but also exploring agile methods that were not described in the module will take me beyond this L3 module. What is more, I will need to learn how to conduct academic research and how to present my findings in a manner that will be suitable for this project.

### The product I will deliver will be:

A research paper that will provide an overview of agile methods, propose criteria to evaluate the methods from the ‘ease of implementation’ point of view, and give a recommendation as to which agile methodology will be easiest to adopt.

# Project 3

# Belfast Sliders mobile application development.

### Project statement:

I am a member of a softball team in Belfast. Our team is always looking for ways to improve and recruit new players. Currently, the only way to get any information about the team is through our website which is somewhat basic and some of its functionality can be hard to use especially on a mobile device. What is more, the website is not very well known, and therefore it is underutilized as a medium to connect with our community and provide an easy way of getting in touch with the team.

## The problem:

Providing more sources of information and giving players instant access to their statistics would help us to engage with more people and drive more competition within the team. Although it isn’t very hard to find information about softball as a sport, I hope that through developing this application, we will be able to give users direct means to connect with the team and invite them to join us. Leveraging the popularity of mobile applications would also differentiate us from other teams, as I am not aware of any of them having a mobile app.

## Proposed solution:

I propose to design and develop a mobile application to help with advertising our team and to provide a better way of accessing performance data to our players. The application should be available to any internet user through the Google play store. It should work on any mobile device with a touch screen.

## The users are:

* My softball team.
* Wider Softball Ulster community.
* Any mobile application user.

## I have/will be able to find out more by talking to:

My team members will be able to help me with the development process. I have constant access to them over the internet and I know that some of them would be keen to get involved and help.

I will be able to seek advice from the software developers I work with.

## The skills I have from my L3 study include these ones which are relevant to the problem:

* Mobile app development.
* Web development.
* Software development models and practices.

## The ways in which I will be moving beyond the L3 module(s) are:

* Research in-depth mobile app development frameworks.
* Provide a back end to the application through a database system and connect it to the app.
* App deployment through a mobile web store.

### The product I will deliver will be:

A completed mobile app with all the features currently provided by the website that will be downloadable to any mobile device.