TM470 - TMA 01

Michal Derleta

Personal Identifier: D8017373

08/03/2022

# Preparing and planning the project.

## Working tile of the project.

### Project title:

Development of multi – product documentation bibliography management tool.

## Project description and scope.

### Project background:

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. This creates a vast library of documents that are being continuously updated and re-released by multiple people so the business can keep up with the changing regulations.

To be able to keep up with tracking the most recent revisions of these documents we use an excel tool called the DHF file. Each product has its own DHF File which is divided into 15 sections to which we assign the documents. Each reference consists of a document number, title, and a previous and current revision number. DHF files need to be updated on a weekly basis.

### The problem:

Using excel to maintain multiple DHF files (1 for each of the products that are either already released or are under development) takes a lot of time and effort. As my team is responsible for this task, we have split the workload between ourselves and assigned 1 DHF file to 1 person to make it more manageable. While working with my DHF spreadsheet I have noticed that:

* same documents relate to different products and therefore same updates need to be recorded more than once
* same documents appear in multiple sections within 1 DHF file which should not be the case
* there is no consistency in how document revision is recorded
* it takes about an hour to update 1 DHF file

Updating DHF files isn’t a straightforward task, and it has become a necessity that no one enjoys doing. I believe that there is a scope to introduce some automation to help my team with solving this problem.

### Proposed solution and its benefits:

I propose to develop a software tool with a user interface and a database backend to store information about the documents and help with updating them. The benefits of providing such solution are:

* Moving away from excel will make maintaining multiple DHF files much easier.
* The application should enable one person to complete all necessary updates across all files in a timely manner.
* Users will be able to access all DHF files in one place.
* Application will increase data integrity.
* The application will simplify performing CRUD operations on the database.
* Significant decrease in resources required to complete updates.

As my users will be the member of my project management team as well as anyone who is working for the business that needs access to the DHF files, I decided to develop this application as a desktop/web application ***(need to write justification about why I choose either or)***. I think that this type of software will be the most suitable for my organisation allowing the easiest access for users and will help me with maintenance tasks like updating the application.

Project Scope:

By completing this project, I intend to deliver a desktop/web application that will be hosted on my company internal/web server. The application will consist of a user interface and a No SQL database backend. The application development will be based on (***a chosen project lifecycle model)***.

The scope of the project includes:

* Gathering software requirements from my users who will be my teammates and other colleagues from my work.
* Developing cases to further define requirements.
* Developing and maintaining a project plan.
* User interface design and implementation.
* Software design with the use of different modelling techniques.
* Implementing solution in code.
* Testing the code. ***(How?)***
* Deploying the application to company servers ***(How?)***
* User evaluation which will take form of user testing.

## Key project deliverables.

Key project deliverables are:

* To create a project plan.
* To create a software requirement document.
* To create user interface prototype in form of wireframes.
* To create a validation plan including tests descriptions.
* To conduct evaluation by completing usability testing.
* To deploy finished application to company servers.
* To produce project report.

## Description of chosen lifecycle model.

## Project Schedule.

Key project milestones are:

* + Project preparation phase
    - Complete gathering information that can be used in the project in terms of resources and methods.
    - Choose a project lifecycle.
    - Complete risk assessment and define mitigation plan.
    - Complete project setup.
  + Development Phase
    - Complete requirements gathering process.
    - Complete GUI prototype.
    - Complete the design of the code required to produce the application.
    - Implement GUI in code.
    - Setup database.
    - Implement application code.
    - Connect application to database.
    - Test the code.
    - Complete usability testing.
    - Deploy the application.

Complete project schedule is available in appendix a.

## Project risk management.

## An outline of the resources, skills and methods required to complete the project.

* + 1. Project resources.

I did not identify any specialist software that will be required to complete this project. Throughout the development I will be using free and open-source products that are listed below:

* + Visual Studio Community Edition as my IDE. ***(Why?)***
  + Couch DB as the No SQL database system for my application. ***(Why?)***

Databases that will be relevant to the project can be used to search for the information:

* + - ACM Digital Library
    - Science Direct
    - Safari eBooks Online
    - IEEE MIT Books
    - IEEE Explore database
    1. Information access.
    2. Users.
    3. Technology.
    4. Methods.

In terms of technologies required to complete the project I intend to use the below:

* User interface will be developed in C#, HTML5 and CSS using .Net framework. This will allow me to utilize me knowledge of developing responsive web pages which can facilitate front end of the application.
* As a backend solution, I choose to use a No SQL database (CouchDB) because these are especially suited to use for document databases.
* I will use Visual Studio Community edition as my IDE.
* I have setup a GitHub repository that I will use as a version control system and backup solution. Additionally, I will use One Drive and external hard drive as back-up as well.

In terms of other resources that will be available to me throughout the project I have asked my work colleagues for support which they agreed to and therefore I will be able to gain access to the intended users of the application at any time.

Additionally,

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.

# Project work completed to date.

## Review of the information sources identified as useful for the project.

## An outline of the work completed to date.

# Review and reflection on the project so far.