6COSC023W – Final Project

Project Proposal (PP)

Inventory and Stock Management System

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**1. Problem statement, project aims and objectives**

The problem statement introduces the background to the problem the project intends to solve justifying the need for the proposed software/application or research.

*150-200* words

In the area of business operations, the challenges associated with inventory management and stock tracking are often challenging, placing a substantial burden on those tasked with these crucial responsibilities. Is my proposal for a solution, a web-based platform that will be easy to use and will simplify the process of tracking and integrating new inventory.

This system will encompass many quality-of-life features. These include a quick and easy to understand borrowing and lending system, predictive stock levels and automatic ordering of low stock and a tagging system that will allow the borrowers to tag the inventory on the system as in need of repair. As this is a web-based platform it will have a great advantage of accessibility from any location that will help inventory managers locate items and be able to tag new inventory from anywhere.

The main objective of this proposal is to raise the standards and ease of use of inventory management systems within a business. We do this by streamlining the system and allowing anyone with basic knowledge and training to quickly add new inventory, find existing inventory or manage stock levels. In business efficiency is important to improve costs and how smooth the business runs.

The aim(s) describe, in a few sentences, the purpose of the proposed software/application/research, i.e. what you wish to achieve by addressing a gap in the market / discipline, extending a system, etc. The objectives describe with some detail the individual steps you will take to achieve your project aim(s).

*150-200 words*

The aim of my project is to make inventory management in a business easier and more efficient. I will aim to achieve this by making a clean and simple website that will allow anyone with the correct permissions to quickly add or manage the inventory from any device and any location via the internet. The website should also allow the tracking and availability of borrowing devices.

To achieve these goals, I will review what is currently on the market to ensure that I am not missing any key features in my website that would be typically expected. Along with this I will set myself targets and goals that I would desire to meet within a timeframe.

I will also have various people who are familiar and unfamiliar with inventory systems try to use my website to add inventory and take feedback to warrant any changes I may need to make so that the website is accessible and easy to use for anyone. To further ensure that the website is accessible from anywhere on any device I will test the website on various devices across different operating systems and resolutions to verify that the formatting is consistent.

**2. Background review: similar software/applications, or similar research**

A description and comparison of similar applications/software, i.e. their the functions, properties, design, interface, etc. Mention how these can influence you deciding on the functions / requirements of your application.

For a research project, include some literature background, i.e. relevant research and its outcomes.

Include figures/screenshots.

*300-400 words*

**3. Tools and skills**

Provide an account of:

* The tools you will need to develop your project and their purpose i.e. necessary equipment, hardware and software. Also give alternative solutions, if there are problems accessing them (mitigate risks).
* The technical and other skills that you need to develop the project and their purpose: e.g. programming languages, knowledge on databases, platforms, methodologies, mathematical/statistical methods, etc.

*200-250* *words*

My project only requires two pieces of hardware, any computer and a server that runs phpMyAdmin for the database, if I run into problems with the phpMyAdmin university server I will keep a backup of my SQL code and can host my own phpMyAdmin server on my computer. As for software I can use and IDE, assuming it will let me code in HTML, PHP, SQL and Python. My IDE of choice will be Microsoft’s Visual Studio. To upload my webpages to the university server for web connectivity I will be using WinSCP which allows me to host my pages on a server that I can access from any device.

For this project I will need to learn and vastly improve my skills and knowledge of every language I will need to use for the development of the website. I will especially have to improve my PHP, SQL and python skills to integrate the features I want on my website. Along with the programming languages I will also have to improve my skills for simple and accessible design for the website while ensuring that the website remains clean and tidy. I anticipate that I will need to do a lot of learning and research for the coding for my website that will be vital in improving my problem solving, understanding and skills.

**4. Initial list of requirements**

Outline a list of requirements for the proposed application/software and try grouping them into different categories (e.g. functional non-functional, essential/advanced/luxury), when possible.

Suggest a methodology to be followed in order to gather your project requirements and provide a short justification of its suitability for the purpose.

*200-300* *words*

Functional – essential

The most essential functional part of the website is the log in system which will allow the users and admins to use an email and password to access the website. Along with the login the input and management of the different assets and inventory is essential to the website.

Functional – Advanced

A functional but advanced feature of the website will be the asset code generator, along with the asset code generator I would like to implement different types of barcodes such as the standard barcode and qr code. These codes should be printable to be put on the asset and should be scannable to add or get to the asset on the system.

Another advanced feature would be a grouping system which would allow a business to group inventory by building, floor and rooms this would help locate assets if needed. A further feature would be the automatic ordering of stock if the stock levels get low. The final advanced feature would be a different view depending on access such as low level members of staff that are only allowed to view the inventory or only allowed to access the borrowing system.

Functional – Luxury

A floor and room map which would allow the users to easily view where each asset would physically be in a room would be a potential luxury feature that I would like to add.

Non-Functional – Essential

A non-functional but essential part of the website would be the clean and easy to use design of the website. An easy to understand and use website is paramount.

Non-Functional – Advanced

Accessibility features for users with potential bad sight or other sight issues that may need them to use a high contrast view or a website reader would be an advanced feature.

Non-Functional – Luxury

A final luxury feature would be smooth animations that add to the feel and look of the website but don’t cause the website to be slower, harder to use or harder to understand.

**5. Challenges**

Produce a list of the challenges you will be facing working on this project (some examples are listed below):

* extending existing technical skills
* developing news technical skills
* requirements gathering
* software evaluation
* mathematical /statistical skills

*100-150* *words*

For this project I will need to extend and develop my skills in PHP and html to make a fully functional website. While creating my website I will need to do a lot of research and learning on how to ensure that my website is fast and easy to use while keeping the layout tidy and clean. Along with this I will need to develop new skills, specifically the potential use of Python on my website.

For my requirements gathering I will use my research of other software on the market and during my testing stages I will take feedback from the users on what they like and would like me to change about the website, while also observing them using the website to check that it is as easily usable as possible.

**6. Project timeline**

Provide a Gantt chart (or other time schedule) with a timeframe outlining major activities and milestones in the project. Consult the final year project timeline structure, consider formative and summative assessments and other recommended milestones.

**7. References / bibliography**

Provide an initial list of references and a bibliography. Include a list of cited items in the Project Proposal text and/or general reading items (books, papers, websites, etc.). Use Harvard style for the purpose, or any other standard referencing style.