Vultures
September 26th, 2021
Software Engineering

Project Initiation Document

Context & Background

Our client has a large database of known threats. However, the situation is to be able to identify specific threats that are of interest. The software allows viewing the data in different ways that can help with understanding the data more and can help with time efficiency rather than sifting through hundreds of data points manually. With saving time and reducing errors in the analysis of the data, the software can help the client progress faster in their work.

In Scope

The software will consider having the following characteristics:

- Viewable data in human readable format
- Search functionality for specific data points
- User-role based system and authentication for restricting access to the data
- Functionality for generating a detailed report of the data

Out of Scope

The software will consider having the following characteristics given there's enough extra resources:

- Ability to categorize based on threat types allowing different kinds of filters
- Ability to choose what kinds of data to involve in the generation of the report

Feasibility

The software uses a GUI which the user can interact with to perform different tasks. When viewing the table of threats, datasets in the form of JSON files will be read by the application and be stored as "objects." This will allow easy retrieval of the data when viewing, editing, or storing of that data. This data can be parsed line by line or be read by taking advantage of the general structure of JSON files. Generation of a PDF report from imported data is possible as we plan on using Apache's PDFBox library to provide the necessary tools to provide such function. The technical skill required is no more than basic to intermediate GUI development, usage of third party libraries, and knowledge of data structures.

Assumptions, Dependencies, Constraints, & Risks

Beyond depending on the standard Java/JavaFX codebase, one major feature of the application is to be able to produce a report in PDF format that details the information imported. That feature heavily relies on the adequateness and the tools provided by Apache's PDFBox. Another dependency with this project is making use of a MySQL server hosted on an Amazon AWS server. Some constraints to the project would be the SPIKES that consist of the login authentication feature following the industry standard, implementing a search and sort mechanic, and familiarizing ourselves with the PDFBox library.

Project Plan & Milestones

Sprint 0:

- Meeting with sponsor
- Developed product backlog
- UML design of codebase
- Created our Product Initiation Document

Sprint 1: Develop the core functionality and back-end

- Inclusion of the add, remove, edit functionality
- Provide a collections system for holding imported data
- Provide a usable GUI

Sprint 2: Generating a Report

- Provide generation of a PDF report by implementing Apache's PDFBox APIs
- Provide checkbox options which will allow the user to choose what gets printed in the report

Sprint 3: Search & Filter Functionality

- Provide a search function that can search for data by keywords
- Provide the ability for the application to recognize groups of data as a category which will allow the ability to filter

Sprint 4: User Authentication & Roles

- Inclusion of a role-based user system
- Create login functionality and provide a secure means of authentication
- Create a database for user credentials
- Implement AWS and MySQL

Sprint 5: Finalizing the Product

- Provide a User Manual
- Implement any additional functionality if possible
- Implement better methods to provide a more stable experience

Cost and ROI

The costs in this project will be maintaining the AWS server which will cost around $370 per year to maintain assuming the monthly cost is $30 to maintain. Development costs will be $225,000 for the lifetime and with a 1.5 profit margin, we'll total to a cost of $338,055.

Assuming a 15 hour weekly savings, the yearly savings for the client is $607,500. With this, our calculated ROI for the client is 79.7%.

Project Management Strategies

We are a team of 5 developers, 1 scrum master, and 1 product owner. The scrum master will ensure that everyone follows our methodology and the product owner is the communication bridge between us and the client making sure all information is transparent. The methodology that we're using is agile scrum. Our meetings will be on our Sprint Review days which are Thursdays 2 weeks apart from each other. Every review, we will present our progress and what we've accomplished during the Sprint. Questions, concerns, and suggestions are always welcome during these reviews and we will always try to provide what the client needs given the requests are appropriate. These reviews are to help us build the product as best as we can and will help us stay on course with the project and allow us to make any adjustments if need be. All code is available in our Github repository and our Trello workspace that we use to organize and manage the project is always available to view and up to date. Along with this document, we will have our requirements document, design document, three reviews of our code and the design of the product throughout the lifetime of the development, our validation plan and traceability matrix, the test plan, and an implementation plan. We also plan to provide a user manual for the finished product.