Requirements Specifications

Group 11

2XB3 - Software Engineering Practice and Experience: Binding Theory to Practice

Software Engineering Mcmaster University

March 12th, 2017

Diya Mathews, Kshitij Mehta, Mevin Mathew, Scott Williams, and Shalmi Patel

## 

## The Domain

General Description:

Find My Bag is a web application that gives travellers who have lost their baggage assistance in locating their lost articles. The software will ideally take a claim number as input since each baggage has a unique claim number. If the claim number is inputted, the software will be able to search the database to determine whether or not the baggage has been found by the TSA. If found, the result will be displayed on the screen and if not, the user will receive a message saying that there is no baggage in the system that matches the criteria. If the user does not have a claim number, other input that can be used for search criteria includes airline, destination airport, and date of claim.

Stakeholders/Shareholders:

Stakeholders Include:

* Airlines flying in the United States
* Passengers flying within the United States
* Airports under the TSA
* Global airline industry

Shareholders include:

* Reza Samavi - Professor
* Abraham - Teaching Assistant
* Development Team:
  + Kshitij Mehta - Designer ,Programmer
  + Mevin Mathew - Designer ,Programmer
  + Diya Mathews - Log admin ,Programmer
  + Shalmi Patel - Project Leader ,Programmer
  + Scott Williams - Tester, Programmer

## Functional Requirements

|  |  |
| --- | --- |
| **Functions** | **Description** |
| Search by Given Criteria (i.e. Claim Number, location, etc.) | Input Data Flow: The input would be the general information that is provided by the user, as well as the list of information that is available through the dataset.  The data set information provided would be the lists for destination, airline, claim numbers, and more. This data would be stored and provided initially to the program.  The user input itself would consist of general information relating to the lost luggage, including the claim number, as well as other information that could pertain to the stored dataset. Certain components can be chosen not to be inputted by the user.  Functional Purpose:  The actual searching would be able to take all of these inputs into consideration in order to find the most well-suited result. It would search through the given data, in order to generate an appropriate response to the end user.  Output:  One possible output would be to display a statement that the luggage was found at a specific destination with the desired claim number.  The other output would be determined by a false searching where it does not match criteria inside of the dataset. From here, the output would be to display other possible claim numbers that might be of interest to the user in order to track down their luggage. |
| Deliver a result saying whether the luggage was found. If not found, provide suggestions to narrow search. | Possible outputs:  Luggage found:   * Location at which it is found * Type of luggage * Airport name * Contact information   Luggage Not found:   * List of similar baggage claims * List of potential locations and airports * Contact information |

## Non-Functional Requirements

|  |  |
| --- | --- |
| **Requirements** | **Description** |
| Reliability | From a statistical standpoint, the reliability of the overall Claim My Bag project is determined by whether or not the program operates over a long period of time.  It is important for Claim My Bag to do this, as it should set an example not just in terms of software engineering, but for engineering products as a whole. The project cannot be released in a partial state, where incorrect outputs are displayed and visual glitches are present. While software may be considered less reliable than other engineering strands, it is important to ensure that the product is not considered similar to a beta testing situation. |
| Accuracy of results | There would be cases where the baggage would not be found using just the claim number. This is why the goal of Claim My Bag is to take into consideration all the other inputs like destination, airline name, etc., and displaying the most accurate claims possible.  Having accurate results is not extremely critical as a requirement, however they should give the user an idea as to where to start on their efforts to reclaim their baggage. |
| Performance | The performance of this system is very important as a non-functional requirement. It can ultimately decrease the usability of the program if it does not perform at the speed expected from the client.  As a standard, performance is the direct result of efficient processes inside of the program. Since the program needs to process over one hundred thousand different cells of data, it will be important to take into consideration the running times of different types of sorting, graphing, and searching algorithms in order to deliver the fastest results. For example, it is obvious that a linearithmic algorithm is much more ideal than a quadratic algorithm.  Measurements can also be used to determine the performance of the system using different sets of inputs. |
| Human-computer interface issues | Having a simple, easy to use interface is critical for achieving the objective of this project. The interface must be created in a way that appeals to the general audience, meaning that any user should be able to find the information they are looking for without much or any difficulty.  The way in which the interface is created is key to minimizing human-computer interface issues. |
| Operating constraints | For the application to operate at its best, it is necessary that the device in which the application is being used has the required memory usage, processor power, hard disk space and network speed. |
| Portability issues | The portability of this application is important in order to target a larger audience base. As this is a web application, users will be using different web browsers and will have different operating systems thus creating a big constraint for the developers. Due to the scope of this project, Claim My Bag will specifically be targeting Windows users using Google Chrome.  However, to minimize this constraint, the software can be modularized so that the dependencies on the environment are isolated in only a few modules. This way, to run the application on another environment, only those modules would require changes. |

## Requirements on the development/maintenance process

Testing

- Every Module will be unit tested individually by the team

- The testing will begin when the framework begins to fully take shape.

- Once the project is fully complete, it will also be tested as whole

Maintenance

- Code Sharing will be done through git

- Weekly logs will be kept to stay on track

Priorities

- Searching modules

- Sorting Modules

- Visual Interface