**Sprint 0**

**Estimates & Rationale**

**Learning the required technologies and architecture for the implementation of sprint 0**

* Estimated time 48 hours
* Actual time

Rationale: We estimated 8hrs each to research the technologies that we needed. These were complex technologies that we had not covered in specific detail. The research enabled us to specify which technologies could be implemented to allow us to efficiently complete the sprint. Technologies covered during this period were; JPA, JSON, MAVEN, SERVLETS, JDBC, JIRA, GIT-HUB, AJAX, JAX-RS.

**Installation and synchronization of technologies**

* Estimated time 48 hours
* Actual time

Rationale: We allowed 8hrs each to implement the chosen technologies on our respective workstations. This included familiarising ourselves with the layout of Jira and merging with Git-hub. Git-hub had to be synchronised among the group. Apache-Tomcat was set up on each workstation.

**Design of Database**

* Estimated time 16 hours
* Actual time

Rationale: The database was required to be normalized to improve optimization. Tables would be designed in accordance with the user stories. An example database was to be designed on MS Access as a guideline. Relationships had to be defined.

**Setting up Database**

* Estimated time 4 hours
* Actual time

Rationale: We estimated 4 hrs to create the database and the tables. However, JPA code implemented the tables in the database.

**User story 1:**

* Create html to upload excel files
  + Estimated time 8 hours
  + Actual time

Rationale: We allocated 8hrs to implement the required technology to upload excel files and to create the upload function on a HTML page.

* Code interaction between HTML page and the database
  + Estimated time 16 hours
  + Actual time

Rationale: We decided to implement a servlet to handle the code between the HTML and the database. This included JDBC technology to handle queries from the database.

**User story 3:**

* Create rules for compliant data
  + Estimated time 4 hours
  + Actual time

Rationale: We allocated 4 hrs to decide on what to do with the invalid data from the excel sheets. This included defining, what was invalid data and what was not. Code implementation for the validation checks was decided upon.

* Code to check each cell
  + Estimated time 16 hours
  + Actual time

Rationale:

Rationale: 16hrs was estimated to write the validation code for checking the data that is being received. This includes integrating the checks with the existing code and ensuring that it works.

* Code action for non-compliant data
  + Estimated time 16 hours
  + Actual time

Rationale: Create the code to deal with the data that fails the validation checks. We allowed time for debugging and dealing with any additional hurdles we might encounter while developing the code.

**User story 4:**

* Create html to take in IMSI:
  + Estimated time 4 hours
  + Actual time

Rationale: Create a function in a HTML page to take in an IMSI and communicate with the database and return the data.

* Code implementation to display data
  + Estimated time 8 hours
  + Actual time

Rationale: Write the code to connect the IMSI function with the servlet and the database. We allowed time for debugging and any additional hurdles we might encounter.

**Velocity table**

|  |  |
| --- | --- |
| ***Estimated (hrs)*** | ***Actual (hrs)*** |
| 48 | 48 |
| 48 | 13 |
| 16 | 16 |
| 4 | 7 |
| 8 | 8 |
| 16 | 14 |
| 4 | 3 |
| 16 | 15 |
| 16 | 8 |
| 4 | 6 |
| 8 | 8 |

**Predicted Sprint 1 Velocity:**