**2. Software Requirement Specification**

**2.1 Introduction**

**2.2 Functional Requirements**

Mobile Application:

* Logging into Android application
* D
* Generating of daily reports of patients in form of a Bar Graph.

Web Application:

* Registering of new users
* Viewing repots patient wise

**2.3 Non-functional requirements**

**2.3.1 Performance:**

**2.3.2 Report Generation time:** With high speed internet connection it takes less than 3s.

**2.3.3 Security:**

**3.Design**

**3. Initial Design**

**3.1.1 Use Case Diagram for Mobile Application**

Fig. 3.1: Use case diagram for Aphasia mobile app

**3.1.2 Use Case Diagram for Mobile Application**

Fig. 3.2: Use case diagram for Aphasia mobile app

**3.2 Detailed Design**

The detailed design for the project includes activity diagrams to explain the general workflow of both the mobile and web applications.

**3.2.1 Activity Diagram for Mobile Application**

Fig. 3.3: Activity diagram for mobile application work flow

The figure 3.3 displays the activity diagram for working of Aphasia Application from the user login stage to the choice of sections and finally generation of reports.

**3.2.2 Activity Diagram for Mobile Application**

Fig. 3.4: Activity diagram for web application work flow

The figure 3.4 displays the activity diagram for working of the web application part of Aphasia application with the admin login stage to creation of users and viewing of reports based on patient ID.

**3.3 Database design**

The database design of the application can be understood by the following schema. There are essentially (---) tables created for storing data accepted from the mobile app as well as the creation of user.

Fig. 3.5: Database schema for Aphasia

**4. Implementation and User interfaces**

**4.1 Software Development Lifecycle(SDLC)**

SDLC is crucial in Desktop or web application development. Mobile applications are being developed for development in smart phones. Looking at the rising need of the mobile applications and the associated development complexity, it is imperative to have a dedicated framework lifecycle for mobile applications – **Mobile Application Development Lifecycle (MADLC)** [1]

The lifecycle used in this project includes phases like: Identification, Design, Development, Prototyping, Testing and Maintenance.

Repeat until final prototype is ready

Fig. 4.1: Mobile Application Development Lifecycle(MADLC) [2]

**4.2 User Interface for Mobile Application**

**4.3 User Interface for Mobile Application**

**5. Testing**

**5.1 Unit Testing:** Unit testing is a level of software testing where individual units/ components of software are tested. The purpose is to validate that each unit of the software performs as desired.

**5.2 Integration Testing:** Integration testing is the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing. The purpose of integration testing is to verify functional, performance. and reliability requirements placed on major design items.

**5.3 System Testing:** This testing was conducted on a complete, integrated system. to evaluate the system's compliance with the specified requirements. This is done to check if the system meets its functional and non-functional requirements and is also intended to test beyond the bounds defined in the software / hardware requirement specifications. It will be required to ensure the smooth running of the system as a whole and should perform as expected and as required.

**5.4 User Acceptance Testing:** Acceptance testing is performed to verify that the product is acceptable to the customer and if it's fulfilling the specified requirements of that customer.

**5.5 Mobile App Test Cases**

Table 5.1: Test cases for mobile app

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case ID | Objective | Description | Expected Result | Actual Result |
| MA\_1 |  |  |  |  |
| MA\_2 |  |  |  |  |
| MA\_3 |  |  |  |  |
| MA\_4 |  |  |  |  |
| MA\_5 |  |  |  |  |

**5.6 Web app test cases**

Table 5.2: Test cases for Web app

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case ID | Objective | Description | Expected Result | Actual Result |
| WA\_1 |  |  |  |  |
| WA\_2 |  |  |  |  |
| WA\_3 |  |  |  |  |
| WA\_4 |  |  |  |  |
| WA\_5 |  |  |  |  |

**6. Conclusion**

**7. Future Enhancement**