Software Requirements Specification

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1. Introduction

a. Background

-Objective

- Main Objective of this system is to increase the awareness of diseases and medicines to medical Students, medical practitioner as well as normal peoples who doesn't have any medical background.

-Scope

- This is an application that uses and provides the appropriate description of the diseases and medicines which are known to human and are scientifically proven and is accurate. The aim is to increase the awareness of diseases and medicines to normal peoples who doesn't have any medical background.

-Motivation

- Many times user wants to know more about specific disease or medicines or take a note for future use, but due to lots of sites showing different and inaccurate results, user stop exploring for that and may never learn about that.
- Knowing about basic medicines, usage, diseases and their overview, symptoms, treatment is like a basic knowledge every individual should have for personal safety, but due to this busy and hectic schedule everyone tend to ignore learning about this.
- So, if any point of time user come across any new disease or medicine, he/she can quickly search and get detailed information through an application without having to go through lots of websites having different results.

b. Overview

- This application should support the user by providing them the relevant information about any specific disease and medicine.

- So, instead of googling and getting more confused by reading from different sites, they can simply search from application and get relevant results.

c. Environmental Characteristics

For this application, the estimated functional requirements include the software requirements as below:

-Hardware Requirements

1. Memory : 1 GB Ram
2. Connectivity : Stable Internet Connection

-Software Requirements

1. Operating System: Android, iOS.
2. Front End : Flutter
3. Back End : Google Firebase

d. Interfaces

-Administrative Interface
- The data is fetched from the Firebase and notes which are created by user will also be stored on firebase. No external administrator is required.

-User Interface
- The user has to first register through email and then he/she can login into the application and access the app and use different features of the app.

e. Design Constraints
- Minimum 1 GB Ram should be available to install and run the application on mobile device.
- Stable Internet Connectivity should also be there to fetch and store the data.

f. Assumptions

- We had assumed that minimum space is available on device to install and run the application.
- Also, User has Internet connectivity available to fetch data from Firebase.

2. Functional Requirements

ID	Title & Description
FR1	Title: Login Description: The system provides security features through username-password matching where only authorized user can access the application.
FR2	Title: User Profile Registration Description: This allows healthy public to register as User. Input: - Email Id, Name and Password. Output: - Successfully Registered.

FR3	Title: Search Management Description: The user can view any diseases and medicines based on the search parameter and bookmark it for future reference and also delete it if not needed. Input: - Search Parameter. Output: - Result Obtained.
FR4	Title: Notes Management Description: The notes and the history of individual users are kept in secure Google Firebase database and separating each users data.
FR5	Title: User Management Description: The records of all users are kept in one centralized Google Firebase database and thus reducing duplicate data in the database.
FR 6	Title: Logout Description: The system provides security features through which user can logout from his current account safely.

3. Non-Functional Requirements

1. Security: The security can be achieved in this application by validating that only registered users are able to login in the application.

2. Logging: The authenticated user must be able to login and able to perform actions in the application.

3. Storage: The user information must be stored and maintained in database so that can be record can be easily retrieve whenever necessary. The database must be updated with each old and new record.

4. Configuration: The application must be arranged with all elements required and must contain various diagrams such as data flow, use case diagram, class diagrams etc.

5. Performance: The application must be optimized in the performance and also the application is flexible as per the user needs.

6. Cost: Reasonable amount of time is invested in this. But, the application is free of cost and also no additional costs is involved later.

7. Portability: The application is very portable as we can install the application on any device and able to login to user account by user credentials.

8. Reusability: User can use newer Version by updating the application for better experience and for new features.

9. Reliability: Application is very reliable as all the user data are securely stored on firebase and user can access only his own account.

4. Testing Criteria`

-Classes of Test

- *Black Box Testing:*
  - The login screen has two fields, username and password as an input and the output will be to enable access to the application.
  - It will test the valid username and password to login to the right account.
  - A user will receive an error message when enters username and incorrect password and try to register using already registered Email Id.

- **White Box Testing:**
  -User can search only valid diseases and medicines and each time he/she tries to search by giving invalid text, user gets no results and gets appropriate error message.
  - User can only access his/her account and is not able to access other user's data.

-Response to undesired events

- **Network Issue**: In case of network Issue, User will not be able to search because all the data are stored online. But he/she can access the notes which he had written.

- **Login Issue**: It may be possible that user is not able to login. It may be possible due to network issue or invalid input type or registering with already registered email ID again.

- **Database Issue**: It may be possible that user is not able to add, update or delete notes due to poor network. So, he/she can retry after switching stable network connection.

-Security testing

- All the user data are stored on google Firebase. And are completely secure because

a. Firebase Security Rules work by matching a pattern against database paths, and then applying custom conditions to allow access to data at those paths. All Rules across Firebase products have a path-matching component and a conditional statement allowing read or write access.

b. All Firebase services (aside from App Distribution and Crashlytics) have successfully completed the ISO 27001 and SOC 1, SOC 2, and SOC 3 evaluation process, and some have also completed the ISO 27017 and ISO 27018 certification process

c. Firebase Authentication uses the data to enable end-user authentication, and facilitate end-user account management. It also uses user-agent strings and IP addresses to provide added security and prevent abuse during sign-up and authentication.