Software Requirements Specification

for

Kurious_Healthcare App (KHA)

Version 1.0

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

This document presents a detailed description of the Kurious Healthcare (A Flutter based mobile Application) which is to be used by a patient, his/her representatives or affiliates, to reserve appointments for doctors, get emergency contacts and other medical supports and facilities of various hospitals.

1.1 Purpose

In this document we describe the software requirements for a yet unnamed mobile application, further referred to as the Kurious_Healthcare App (KHA).The purpose of the Software Requirements Specification (SRS) is to specify the functionality, performance and interface requirements of the software project of KHA. The requirements will be shown in the written description to explain various concepts and different types of functionaries with relevant information.

1.2 Document Conventions

1.2.1 Definitions, Acronyms, and Abbreviations

CPU: Central Processing Unit. It is a hardware device in a computer. All program execution is performed by the CPU. The CPU includes all derived components including the ALU (arithmetic logic unit), cache and registers.

DART: It is a client-optimized language for fast apps on any platform (iOS or Android).

Disk Storage: May be any storage medium mapped to the root file system.

Flutter: Google's UI toolkit for building beautiful, natively compiled applications for mobile, web, and desktop from a single codebase.

GUI: Graphical User Interface. An interface that receives and reacts to the user input with a graphical display.

IDE: Integrated Development Environment is a tool to aid programmers in writing code, usually used for graphical applications.

OS: Operating System.

SRS: Software Requirements Specification.

SQL: Structured Query Language.

API: Application User Interface.

1.3 Intended Audience and Reading Suggestions

The document is intended for developers, project managers, marketing staff, users, testers,customers, and documentation writers.
The rest of this SRS document contains all the requirements for KHA presented in several ways and organized in different sections.

Section 2 consists of general information that is not too in detail and is provided as a background for the following sections. It contains the description of the other components of the software that which it will interact with. It also lists some of the product functions, constraints, and assumptions about the software.
The Section 2 is important for the customers as it contains a lots of information regarding the functionaries of the software.

Section 3 contains more details about the requirements with many others which illustrate the functional requirements of the KHA App. In this a brief information about interfaces such as user, software, hardware and also the communication interfaces. This section is more useful for the developers and testers.

1.4 Product Scope

The software of KHA is responsible in making the people to take better health-care decisions and health related issues. This also helps the people in finding the better suggestions regarding health from the best doctors. Every day many people suffer with many of the health problems or for better health-care.

By this app, people start finding help from the best doctors which can be managed by single health care account for the entire family. It also secures all the sensitive information regarding the health-care data so as to make better health-care decisions.

This app is looking to simplify health-care access and help you to make health-care decisions. With search, we help you to find and decide on the right health-care providers across doctors, hospitals, diagnostics and other emergency contacts.

Every day billions of people struggle for better health-care. We are on the mission to help the mankind to live healthier and longer.

1.4.1 Feasibility Study

The overall scope of the feasibility study was to provide sufficient information to allow a decision to be made as to whether the KHA App should proceed and if so, its relative priority in the context of other existing online health-care systems.
The feasibility study phase of this project had undergone through various steps which as describe as under:

- *Identity the origin the information at different level.*
- *Identity the expectation of user from computerized system.*
- *Analyze the drawback of existing system (manual system)*

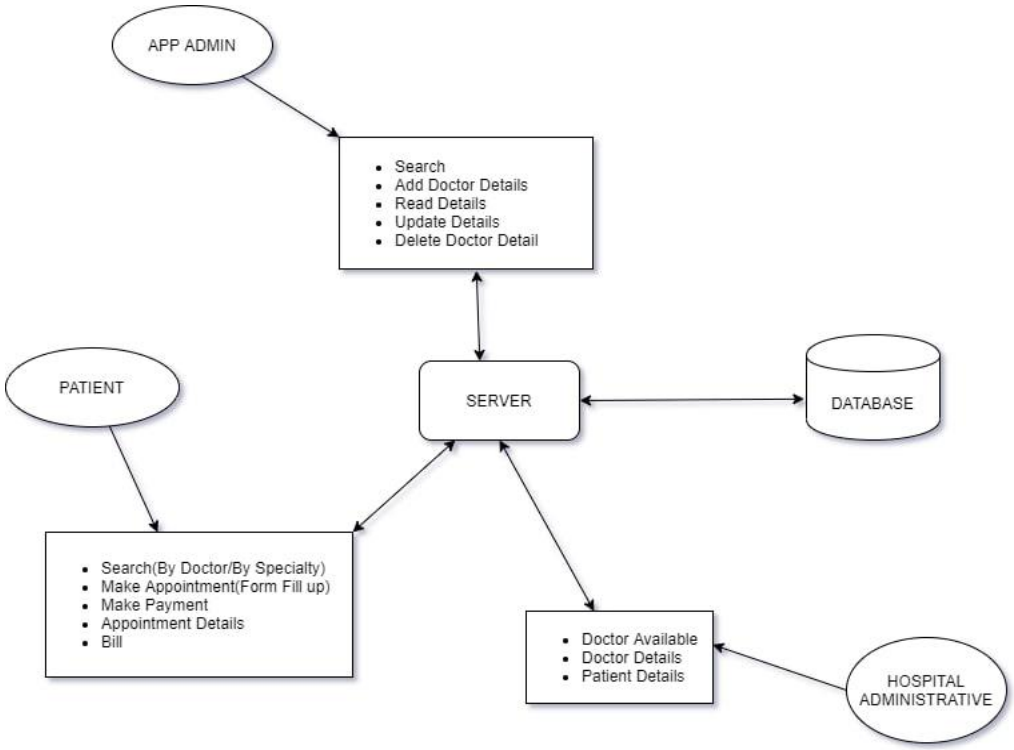
1.5 References

- *Flutter:* https://flutter.dev/docs
- *DART:* https://dart.dev/
- *Google FireBase:* https://firebase.google.com/
- *Blog:* https://www.lark.com/blog/how-healthcare-mobile-apps-can-improve-patient-care/

2. Overall Description

This section describes the functions, aims and objectives of the projects. It also includes the constraints and requirements of the project.

2.1 Product Perspective



Block Diagram to show various Components of the System

The KHA App is a Flutter based application which runs independent of OS. This project will be useful for patients, his/her representatives or affiliates.

At present, the appointments for doctors' consultation are generally made through phone call to nearby clinics and hospitals or by physically visiting to the same, which is very expensive in terms of time and cost of travel, etc.

To resolve this issue an application is developed and this application is mainly targeted towards the patients (in medical terms). In this project the patient is registered by the admin. The patient then, can check out clinics and hospitals nearby location and can book appointments for their respective doctors in slots.

2.2 Product Functions

The application functions are as follows:

- *On clicking the Kurious Health-care (KHA) app, a sign-in screen is displayed. The user/customer/patient will sign in using OTP authentication.*
- *Now, user has signed in and a home screen is displayed with the several tabs on the sidebar navigation Menu: User Profile,Nearby hospitals/clinics, Book Appointments, History, Emergency Contacts, Payment, Doctors' View & Logout .*
- *User-Profile button will show all the user details: Name & Mobile number.*
- *Nearby Hospitals button shall display list of hospitals along with the ratings.*
- *Book Appointments button will allow the user to go for appointments with their respective doctors.*
- *History shall show the previous appointments made (if any).*
- *Emergency contacts shall display a list of emergency ambulance contact numbers.*
- *Payment button will allow the user to pay remaining dues (if any).*
- *Doctors' View will enable any doctor to check patients lined-up.*
- *Logout will allow the user to sign out of the App.*

2.3 User Classes and Characteristics

We have 3 levels of user.

- *User module:*
  - *The user will sign in using mobile No. & OTP authentication.*
  - *In the user module, users will check the availability of doctors, book their appointment, search for hospitals, and any emergency contacts.*
  - *Book appointments of doctors.*
- *Doctors' module:*
  - *The Doctor will also sign in as an user.*
  - *Daily schedule of the doctors.*
  - *Checking the appointments of particular patients.*
- *Admin's module:*
  - *Add, update, delete hospitals/clinics, doctors, give App permissions, etc.*

2.4 Design and Implementation Constraints

- *The phones having the application should either be connected over LAN or internet.*
- *The user has always to Sign-In using the OTP authentication.*
- *The users cannot get the access of the doctors account.*
- *Sign-in and OTP are used for the identification of user.*
- *Admin needs to update the database after every session.*

2.5 Assumptions and Dependencies

All the data entered will be correct and up to date. This software package is developed using DART and GUI/Flutter as a front end. Microsoft SQL is used as the back end which is supported by Windows 7 or higher versions.

3. External Interface Requirements

3.1 User Interfaces

The software provides good graphical interface for the user. Any authorized user can access the functionalities of the software such as searching for the availability of KHA services, doctors profile, appointments and also health-care clinics and find other emergency contacts.

3.1.1 Functional Requirements

- Admin-functionalities
  - ***Module-I : Admin Login.***
    INPUT: Mobile No. And allocated OTP
    OUTPUT: Displays a message if username and password does not match otherwise enter into the home page.
    PROCESS: Match username and password from the database.
  - ***Module-II: Update Database.***
    INPUT: Read,Add,Delete,Update details of Doctors/Clinics/Hospitals.
    OUTPUT: Changes made Successfully!
    PROCESS: Updation of Database.
- User-Functionalities
  - ***Module-I : User Login.***
    INPUT: Mobile No. And OTP sent for authentication
    OUTPUT: Displays a message if username and password does not match otherwise enter into the home page.
    PROCESS: Match username and password & check for valid user.

- ***Module-II: Search.***
  INPUT: Name of Doctor/Hospital/Clinic.
  OUTPUT: List of items that match the specific search of the user.
  PROCESS: Ordering/Viewing of items according to the User.

- ***Module-III : Make Appointment & Payment.***
  INPUT: Appointment slot for booking for consultation and advance payment
  OUTPUT: Appointment Booked/ Confirmed!
  PROCESS: Appointment Booking for the user.

- Hospital/Doctor-Functionalities

  - ***Module-I : Login.***
    INPUT: Mobile No. And OTP same as Unique_Id associated with Hospital
    OUTPUT: Displays a message if username and password does not match otherwise enter into the home page.
    PROCESS: Match username and password & check for valid user.

  - ***Module-II: View Details.***
    INPUT: Name of Doctor/Hospital/Clinic.
    OUTPUT: Doctors' names and patients lined-up for respective Doctors.
    PROCESS: Viewing daily lined-up details of a particular Hospital.

3.2 Hardware Interfaces

- *The App will run on any Android/iOS mobile/phone or tablet.*
- *The following are the requests are supported by the API:*
  - *Doctor Details Provides access to profiles of doctors*
  - *Practice Details Provides access to profile of practices of doctors*
  - *Search Allows you to query practices and doctors within a city with a wide*
  - *range of filters.*

3.3 Software Interfaces

- *OS – Windows 7 or above*
- *Tools – Visual Studio Code 1.44, Google Fire-base*
- *Platform: Flutter SDK framework Version 1.0.0+1*
- *IDE: Visual Studio IDE*
- *Emulator: SDK Version >=2.1.0<3.0.0*
- *Technologies Used: Dart, OTP generating tech using firebase.*
- *Database: MySQL*

3.4 Communications Interfaces

As there is communication between the user and system the operating system acts as the communication interface for this software KHA.

4. Other Nonfunctional Requirements

4.1 Performance Requirements

The capability of the computer depends on the performance of the software. The software can take any number of inputs provided the database size is larger enough. This would depend on the available memory space

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4.2 Security Requirements

Security requirements placed restrictions on the modification of any part of the application by the Hospital authorities and the control access to the data, provide different kinds of requirements to different people, require the use of passwords. It would require proper programming techniques.

4.3 Software Quality Attributes

- *Reliability: The capability to maintain the specified level of performance is what meant by reliability. This application will run on any Android/iOS phone.*
- *Availability: The application will run 24 X 7 if internet connection is available.*
- *Maintainability: Maintenance is one form of change that typically is done after the software development has been completed. As the time change, so do the needs. It revolves around the understanding of the existing s/w and the effects of the change. This application needs a timely updation of information table of the database by the admin. Any other feature as per the requirement can be added any time by the admin.*
- *Portability: The capability adapted for different specified environments without applying actions or means other than those provided for this purpose in the product. Since, phones are portable, so do the application.*

Appendix A: List of References

- *IEEE Recommended Practice for Software Requirements Specifications," IEEE Std 830-1998.*
- *Practo SRS Documentation : https://www.studocu.com/en-gb/document/lovely-professional-university/software-engineering /other/practo-software-requirement-specification-srs/3071334/view*
- *Implementation of Block Diagram: https://app.diagrams.net/*
- *Know about User requirements and specialties: https://www.lark.com/blog/how-healthcare-mobile-apps-can-improve-patient-care/*