Software Requirements Specification (SRS) Document

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Brief problem statement

From the public health perspective, the obstetric services in government-funded hospitals are overcrowded and it is very difficult to give focused care and hence it is more important to leverage technology to remotely monitor pregnant women.

Hence a mobile application mainly used in retrieving the data stored in Zoho servers and displaying it in the frontend and the necessary filtrations are done at the frontend based on user roles is to be created so as to track the patients' health history and give necessary suggestions time to time.

System requirements

- Software Stack:
    - ★ Backend: Firebase
    - ★ Frontend: Flutter
- Programming language: Dart

Users profile

Patient: Uses the app to book appointments and view their respective health records on their dashboard

Doctor: Uses the app to monitor patient records and send notifications(individual notifications and also bulk notifications).
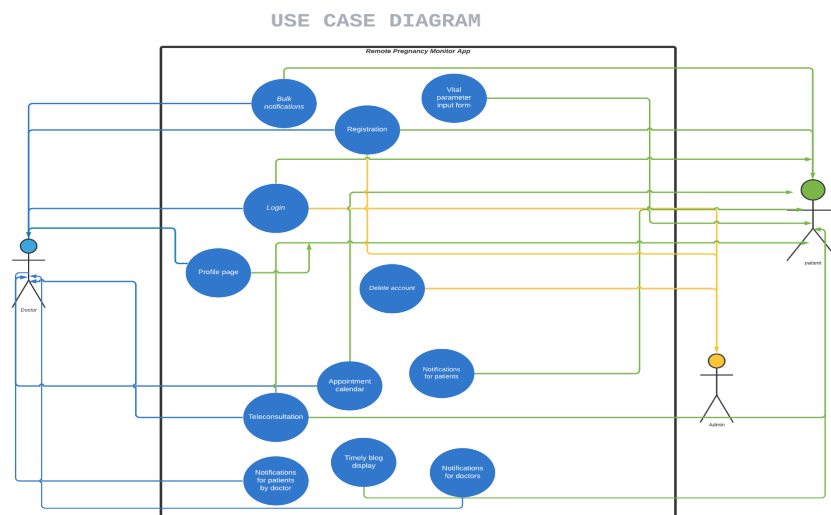**Admin:** Uses the app to monitor the access rights of both patients and doctors. As the doctor gets a new patient, the admin will add the corresponding patient to the doctor's contact and will give access to the patient's records. This access will not be given to other doctors since the patient is not assigned to them.

Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	Login and registration [Backend + Frontend]	Enable users to log in with an existing account or register if they are a new member. Email ID is used as a unique ID for all users(patients, doctors, admins)	R1
2.	Forgot password [Backend + Frontend]	If the user has forgotten his/her password, then he/she will be able to reset it. The corresponding task will be sent to their respective emails and they will be prompted to reset password	R1
3.	Profile page	Users will have a default profile page when they create their account in the app with the information entered while the registration. This info can be changed or updated by them later(except email ID which can be modified only by admin when requested by the user)	R1
4.	Delete account	Admin could delete the account after the patient's pregnancy course is done or delete a doctor's account if he/she is retiring or leaving	R1
5.	Vital parameters input form	Patients will be prompted to fill the input form which contains the blanks to fill in about their blood pressure, number of baby movements, etc… There will be three types of form: Weekly, monthly, daily	R1

6.	Appointment calendar	Display the appointment calendar on both patients' and doctors' calendar pages. Patients will use it to book an available slot and doctors will be able to view their schedule for the day and which patient would be visited.	R1
7.	Timely blog display	The blogs present on askmydoctor.in will be displayed on patients' dashboard based on their pregnancy week.	R1
8.	Notifications for patients	Automatic generated notifications for patients if they forget to fill their respective vital input forms.	R1
9.	Notifications for doctors	Automatic notifications(Alerts) for doctors notifying that a particular patient forgot to fill the vital input form more than twice.	R1
10.	Notifications for patients by doctor	Notifications sent to a particular patient by the doctor informing them or alerting them about something.	R1
11.	Bulk notifications	Notifications sent by a doctor to a group of patients(Only to the patients he/she is supervising)	R1
12.	Teleconsultation	Enables users to get online video and audio consultations	R2

Use case diagram: Link [here](#)

Use case description

Use Case Number:	UC-01
Use Case Name:	Log in and registration
Overview:	Enable users to login with an existing account or register if they are a new member. Email ID is used as a unique ID for all users(patients, doctors, admins)
Actors:	Patients, Doctors, and admins
Precondition:	Display of sign-in and signup page for the user
Flow:	Main (success) Flow: 1. Click on the Login button 2. Or click on the register button(if not registered previously) 3. Enter the login/registration details in the login/register pages displayed. (Details to be entered would be EmailID and password for Login and Email, password, and confirm password for registration) 4. After entering the details click on the login or register button.
Post Condition:	1. If correct credentials are entered while login then the user will be viewing his/her home screen, else an alert will be displayed saying "Please enter valid credentials" and they remain on the login page. 2. If an already registered EmailID is entered on the registration page then an alert will be displayed saying "Entered Email ID is already registered". 3. An alert will be generated if the password and confirmation password entered by the user doesn't match. 4. If all the credentials are correctly given by the user then an alert saying "Registration successful" will be displayed and they will be directed to their login page. 5. Now after login they will be able to view their home screen.

Use Case Number:	UC-02
Use Case Name:	Forgot Password
Overview:	If the user has forgotten his/her password, then he/she will be able to reset it. The corresponding task will be sent to their respective emails and they will be prompted to reset password
Actors:	Patients, Doctors
Precondition:	1. Display of sign-in and signup page for the user 2. User details stored in database
Flow:	Main (success) Flow: 1. Enter the email 2. Click on 'Forgot Password' 3. An alert will be displayed which says 'we've sent instructions to reset your password to your email' 4. On clicking 'change password' in the email inbox, users will be redirected to where they can enter their new password. 5. The user's password will be updated in the database
Post Condition:	1. Now the user will be able to log in using the new password 2. After login, they will be able to view their home screen.

Use Case Number:	UC-03
Use Case Name:	Profile Page
Overview:	Users will have a default profile page when they create their account in the app with the information entered while the registration. This info can be changed or updated by them later(except email ID which can be modified only by admin when requested by the user)
Actors:	Patients, Doctors
Pre condition:	1. Display of signin and signup page for the user 2. User details stored in database
Flow:	Main (success) Flow: 1. Click on the Login button 2. Enter registered emailID and password in respective fields. 3. Click on the Login button 4. Users will be able to see their dashboard and click on the appropriate button to see their profile.
Post Condition:	1. On clicking 'Edit', users will be able to change their details (like mobile number, address)

Use Case Number:	UC-04
Use Case Name:	Delete Account
Overview:	Admin could delete the account after the patient's pregnancy course is done or delete a doctor's account if he/she is retiring or leaving.
Actors:	Admin
Pre condition:	The database will have information about a particular patient's records or doctors' data. In the UI only the admin will have the delete user option.
Flow:	Main (success) Flow: 1. On clicking the "Delete account" option an alert will be displayed prompting the admin to enter his/her password. 2. On entering the correct password the account of the selected user will be deleted permanently and an alert will be displayed saying "Account deleted successfully" 3. On entering an incorrect password it will show an alert saying "Incorrect password" and the account will not be deleted
Post Condition:	The user data will be deleted from the database (Both Zoho and firebase)

Use Case Number:	UC-05
Use Case Name:	Vital parameters input form
Overview:	Patients will be prompted to fill the input form which contains the blanks to fill in about their blood pressure(BP), baby movements, weight e.t.c
Actors:	Patient
Pre condition:	An empty form to fill the details
Flow:	Main (success) Flow: 1. The patient fills out the form and clicks on the submit button. 2. An alert will be displayed saying "Thank you for filling the form. Data submitted successfully".
Post Condition:	The data collected from the form will be pushed to Zoho servers where it is used in trendlines and these trend lines are in turn displayed on the patient's dashboard in our application.

Use Case Number:	UC-06
Use Case Name:	Appointment Calendar
Overview:	Display the appointment calendar on both the patient's and doctor's calendar pages. Patients are able to see the available slots and book them accordingly. The schedule of the doctor gets updated when a patient books a slot.
Actors:	Doctor, Patient
Pre condition:	User details stored in the database.
Flow:	Main (success) Flow: 1. 'Book an appointment will be visible on patient's landing screen 2. Then it asks whether it's an online or offline appointment 3. Accordingly, it displays the calendar of doctor 4. The patient will be able to book an appointment in the free slots displayed in the calendar.
Post Condition:	1. The patient now has an appointment scheduled with the specific doctor

Use Case Number:	UC-07
Use Case Name:	Timely blog display
Overview:	The blogs present on askmydoctor.in will be displayed on patients' dashboards based on their pregnancy week.
Actors:	Patient
Pre condition:	A separate page will be dedicated for the purpose of displaying data and initially (when the patient has registered newly) no data will be present
Flow:	Main (success) Flow: 1. Patients need not do anything here. 2. The blogs will be displayed based on the patient's current pregnancy week.
Post Condition:	Previous and current blogs will be available on this page till the end of pregnancy

Use Case Number:	UC-08
Use Case Name:	Notifications for patients
Overview:	Generate automatic notifications for patients if they forgot to fill their respective vital input forms.
Actors:	Patient
Precondition:	Patients will be able to fill forms
Flow:	Main (success) Flow: 1. When a patient forgets to fill their form, our application will notify the patient that they've forgotten to fill the form. 2. By looking at the notification, the patient gets reminded and fills the form
Post Condition:	1. Patients will get notifications when they skip filling form

Use Case Number:	UC-09
Use Case Name:	Notifications for doctors
Overview:	Alerts for doctors notifying that a particular patient forgot to fill the input form.
Actors:	Doctor
Pre condition:	No new notifications in the notifications page of doctor
Flow:	Main (success) Flow: 1. If the patient forgets to fill the input form twice then an automatically generated notification will be sent to doctor saying "<Name of patient> has not filled the input form on <date1> and <date2>"
Post Condition:	A new notification will be added to the notification page. Doctors can delete the notifications later after viewing them.

Use Case Number:	UC-10
Use Case Name:	Notifications for patients by doctor
Overview:	A doctor sends a notification to a particular patient.
Actors:	Doctor
Pre condition:	A [plus] icon will be present on the doctor's navbar
Flow:	Main (success) Flow: 1. On clicking on the plus icon the doctor will be asked to select the contact or contacts he/she wants to send the notification to. 2. On selecting a single contact the notification will be sent to an individual patient.
Post Condition:	An alert will be displayed saying "Notification sent successfully". The patient will have the new notification in their notification page

Use Case Number:	UC-11
Use Case Name:	Bulk notifications
Overview:	Notifications sent by the doctor to a group of patients or all patients under his supervision.
Actors:	Doctor
Pre condition:	A [plus] icon will be present on the doctor's navbar
Flow:	Main (success) Flow: 1. On clicking on the plus icon the doctor will be asked to select the contact or contacts he/she wants to send the notification to. 2. On selecting a single contact the notification will be sent to an individual patient. 3. On selecting multiple contacts the notification will be sent to a group of patients at a time 4. Patients will not have this feature in their UI
Post Condition:	An alert will be displayed saying "Notification sent successfully". The patients will have the new notification in their notification page

Use Case Number:	UC-12
Use Case Name:	Teleconsultation
Overview:	Enables users to get online video and audio consultations.
Actors:	Doctor, Patient
Pre condition:	A phone and video icon on both patient and doctor's navbar
Flow:	Main (success) Flow: 1. If the user wants to have a teleconsultation then he/she can click on the desired icon. This will connect them to the user on the other end. 2. Patients will have the access to call only their doctor. 3. Doctor can select from the contacts list as to which patient he/she wants to monitor
Post Condition:	Nothing changes in the UI of both the doctor and patient.