Business Requirements A-C

**The new Web Application must be able to meet the following Functional and Non-Functional Business requirements.**

BUSINESS REQUIREMENT (CATEGORY A):

**BR (A.1): Development Stack [Coverage: Week 1]**

The new Web Application must be developed using VueJS 3 framework.

**BR (A.2): Responsiveness**

The new Web Application must have responsiveness capability to be compatible with various devices.

**Hint: Responsiveness can be achieved using** [**Bootstrap**](https://getbootstrap.com/)**,** [**Materialize CSS**](https://materializecss.com/) **or any other Framework**

BUSINESS REQUIREMENT (CATEGORY B):

**BR (B.1): Validations**

The new Web Application must implement user input validations with a minimum of two different types of validations.

**BR (B.2): Dynamic Data**

The new Web Application must be able to dynamically fetch and displays values from the underlying JavaScript data structures (e.g. fetched from JSON, State variables or vue binding).

HINT: Use Local Storage to persist data beyond the current session. [*Example*](https://www.geeksforgeeks.org/how-to-make-localstorage-reactive-in-vue-js/).

BUSINESS REQUIREMENT (CATEGORY C):

**BR (C.1): Authentication**

The new Web Application must have a basic authentication mechanism (login/register functionality and user accounts) to provide confidentiality.

**BR (C.2): Role-based authentication**

The new Web Application must have a role-based authentication mechanism (supporting different types of users) with a minimum of two roles to support different authorisation levels on pages.

**BR (C.3): Rating**

The new Web Application must implement an aggregated rating score feature. Users can rate and see the average rating from all users for a particular aspect (Such as Reviews).

**BR (C.4): Security**

The new Web Application must implement basic security to protect from online attacks such as XSS. Also needs to follow basic security practices (e.g. implementing client-side data validation).

Business Requirements D-E

BUSINESS REQUIREMENT (CATEGORY D)

**BR (D.1): External Authentication**

The new Web Application must have an external authentication mechanism (such as Firebase Auth).

**BR (D.2): Email**

The new Web Application must be able to send emails with an attachment. Use SendGrid API or other email API services to achieve this.

**BR (D.3): Interactive Table Data**

The new Web Application must display interactive table data with a minimum of two tables. The table needs to support: sort, search and limit to 10 rows per page. User must be able to search by individual column.

**Hint: DataTables supports pagination features. Mock data can be generated using** [**Mockaroo**](https://www.mockaroo.com/)

**BR (D.4): Deployment to the cloud**

Fully working public online version hosted (e.g. on Cloudflare Pages, on Google Cloud Hosting etc).

BUSINESS REQUIREMENT (CATEGORY E)

**BR (E.1): Cloud Functions**

The new Web Application must use serverless such as Firebase Cloud functions to execute server-side functionality.

**BR (E.2): Geo Location**

The new Web Application must display a map with minimum two features. These two features need to be non-trivial features. For example: searching places of interest, navigate between places, and trip information etc.

*“Background will be blue” is not a feature and wont be accepted.*

Hints: Displaying features on a Map such as search, routing and geocoding etc. can be done using [MapBox](https://docs.mapbox.com/api/overview/), [Mapify](https://api.mapify.ai/docs/) or similar API

**BR (E.3): Accessibility**

The application must meet WCAG 2.1 accessibility standards at the AA level to ensure usability by people with a range of disabilities. Provide accessibility features such as keyboard navigability in forms and provide text alternatives for non-text content.

Hint: See this website for standard accessibility checks that are done on websites: <https://www.accessibilitychecker.org/>

**BR (E.4): Export**

The new Web Application must be able to export data (for example: as CSV or PDF file).

Business Requirement F (Innovation)

BUSINESS REQUIREMENT (CATEGORY F):

**BR (F.1): Innovation**

The new Web Application must implement **four** extended innovative features aimed at improving User Experience (UX). A research report with details on which features have been implemented and recommendations for future upgrades **must be prepared** and submitted. Note that implemented innovations may represent enhancements to existing features. Examples of extended innovative features:

* Appointment Booking (using Calendar): The new Web Application must implement booking constraints such as booking conflict management using Calendar. **Hint:** Displaying features on a Calendar such as event constraint can be done using [FullCalendar.io](http://fullcalendar.io/) API
* Bulk Email: The new Web Application must be able to send bulk email to selected users.
* Provide API access to others i.e. exposing at least 2 routes on your platform to allow third parties to fetch data using REST protocol.
* Interactive Charts - The new Web Application must display an interactive chart or graph using data from Firestore.
* Incorporate GenAI such as Gemini API or OpenAI API (note: Gemini API can be used for testing free of cost, so it is recommended to use that)
* Admin Dashboard - Create a dashboard view for the system admin of this health charity (you may want to create a seprate role for ‘admin’), where they can see an overview of the website including number of users and types of users.
* App with at least two offline features like: Checking if user is online/offline, extended use of Local Storage etc.