Project Plan

Project Information

Project: My Phonebook

Initial Release Number: 1.1

Date Created: February 22, 2023

Time Frame: -

Summary of Project

My Phonebook is an online multi-user web application clone of a regular Contacts application found on mobile phones. It will let users securely manage their Contacts by allowing them to create a new Contact, edit or delete existing Contacts, view the information of an existing Contact, and view a list of existing Contacts. Moreover, it will let users search for existing Contact and export Contacts information into a CSV and PDF file.

My Phonebook will consist of a front-end website (client) and a secure REST API running on the backend. It will implement security best practices through a registration and login component. Users will be able to view and manage only the Contacts that they create.

The web application will consist of the following core components:

- Account Management Component
    - User Registration
    - User Login
    - Reset Password
    - Verify Email
    - Resend Email Verification Link
- User Profile Management Component
    - View Profile
    - Edit Profile
    - Update Password
- Contacts Management Component
    - View List of Contacts
    - Create New Contact

    - View Contact
    - Edit Contact
    - Delete Contact
- Contact Export Component

Summary of Methodology

General Development Approach

The team will follow the generic phases of software engineering on the five (5) major aspects of the software project. Analysis, design and implantation of:

- User Interface (UI) - UI design and layout for various pages, optimized website loading and and responsive design
- Functionality – Working functionality of the user registration and login component, contacts management, user profile management and contact export components
- Database – Firestore collections schema and design
- Security – Firestore Rules set-up and secure, authenticated access to the backend
- Testing

Development and Collaboration Tools

My Phonebook will use Firebase, a Google-backed Backend-as-a-Service (Baas) application development software to power the main stack components (Database, Login and Authentication, and File Storage). It will start using the Firebase Spark (free-tier) Plan and scale up as usage demands grow.

My Phonebook will use Vercel as a hosting service for the NodeJS backend. We plan to use the following tools extensively throughout this project:

1. Website Front End (client)
    - The website's page components will be built as static generated (HTML5, CSS and JavaScript) web pages using React/NextJS' Static-Site Generation (SSG) for improved SEO, and for simpler static website hosting deployment on GitHub Pages
    - The project's GitHub repository **Github Pages** will host the website.
2. Backend
    - The web app will use a NodeJS (Express) app running on a Vercel Hobby plan app.

- The backend will host several secure REST API endpoints that require User login authentication (Firebase Bearer Authorization Token)

3. Database
   - The web app will use Firebase's Cloud Firestore database, a NoSQL database

4. Login and Authentication
   - The web app will use Firebase Authentication (Firebase Auth) to manage and detect User login
   - User registration and confirmation will be done on the backend to make use of the Firebase admin user management API for enhanced security
5. File Storage
   - Pictures for User Profiles and Contacts will be stored and hosted on Firebase Storage
6. Github
   - We will use Github as a version control system for managing and tracking code progress and revisions and to trigger continuous integration and deployment (CI/CD) workflows to development and production environments (GitHub Pages for the front-end and Vercel for the backend)

Control of changes

New functionalities, updates, modifications, and enhancements written in the codes will be properly documented and committed to the designated my-phonebook GitHub repository. All documents will have revision numbers.

Project Plan manner of update

(The following work breakdown estimates are tentative and subject to change according to ***development risks***, described in more detail in the Risks section).

Work Breakdown Structure and Estimates

Step	Description	Estimate (hours)
1.	Preparation	
1.1.	Developer Training/Research	40h

2.	Inception	
2.1.	Requirements Gathering	4h
2.2.	Requirements Specification	6h
2.3.	Requirements Validation	16h
3.	Elaboration	
3.1.	High-level Design	8h
3.2	Low-level Design	
3.2.A.	Object Design	3h
3.2.B.	User Interface Design/Wireframes (Draft)	16h
3.2.C.	Database Design	8h
3.3.	Design Review and Evaluation	12h
4.	Project Environment Setup	
4.1.	GitHub Repository Set-up	
4.1.A.	Default client app set-up	3h
4.1.B.	Default backend app set-up	3h
4.2.	CI/CD to Development Environment	4h
4.3	CI/CD to Production Environment	4h
5.	System Implementation / Functionality	
5.1.	Database Implementation	10h
5.2.	User Interfaces (UI) on Client Website	
5.2.A.	User Registration UI	2h
5.2.B.	User Login UI	2h
5.2.C.	Forgot Password UI	2h
5.2.D.	Resend Email Verification Link UI	2h
5.2.E.	User Profile Management Pages	

5.2.E.1.	View User Profile Page	2h
5.2.E.2.	Edit User Profile Page	2h
5.2.E.3.	Update Password	2h
5.2.F.	Contacts Management UI	
5.2.F.1.	Contacts List Page	2h
5.2.F.2.	Create Contact Page	4h
5.2.F.3.	View Contact Page	2h
5.2.F.4.	Edit Contact Page	2h
5.2.F.5.	Delete Contact	1h
5.2.F.6.	Export Contact	1h
5.2.F.7.	Search Contacts	3h
5.3.	Backend Implementation	
5.3.A.	User Authentication	2h
5.3.B.	User Registration API endpoint	4h
5.3.C.	Verify User email API endpoint	6h
5.3.D.	User API endpoints (change password)	2h
5.3.E.	Contact API endpoints (export contacts)	4h
5.4.	Integrate Components	40h
6.	Technical Documentation	16h
7.	Testing	
7.1	Testing Planning	3h
7.2.	Test Execution	16h
8.	Implementation Review and Evaluation	8h
9	Transition	
9.1.	Release Packaging	3h

10.0	Reflection	
10.1.	Postmortem Report	5h
	Total	**~275/ hours**

*Please note that the time estimates are tentative, and may be subject to change as we further along during the development because of the items mentioned in the **Risks Management** section and other unforeseen circumstances.

Deliverables in this Release

Deliverable Name	**Description**	**Delivery Date**
Project Plan	For project evaluation and management	
Initial SRS	Software Requirements	
Initial Release	Core to ~50% System functionality: with the easier updates incorporated into the existing site	
Internal Testing Release	Full system functionality - all requested features included. The website is open for testing and recommendations.	
Final Release	Full system functionality ready for deployment	

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Risk Management

The main risks of this project are:

1. It may take some time to familiarize ourselves with new and old Firebase-based components, which may have undergone breaking changes since the last time using them for project development.

2. We may need more time to implement user interface (UI) updates as we see fit for UI/UX as we do the project.
3. The project will need funds when upgrading to (paid) Firebase and Vercel services if there is a need to scale up.
4. Unforeseen events may stall development time, such as if the developer (s) will need some time to rest if they encounter sickness.