

Low Level Design Document (LLD)

WEB BASED CHAT APPLICATION

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Abstract

The web based chat application is a website where users can find any Friends and they can view detailed information about the friends. This application uses the Backend as Firebase API to fetch the meta data of the friends.

1. Introduction

1.1 Why this Low-Level Design Document?

The purpose of this document is to provide a detailed description of The Web based chat application. We will explain the features and purpose of the application and explain each and every component used in our project.

1.2 Scope

The main objective of The Web based chat application is to provide a distraction free environment to the user to search for the friends they can chat and find meta data of the friends they want to chat.

1.3 Constraints

We can only find the friends which are present in the database of Backend as Firebase API. It is a huge catalogue but it can be a limitation.

2. Technical Specifications

2.1 JavaScript Libraries

The application we are building can be made into a single page application for the user so it is better to use JavaScript libraries ReactJS for better developer experience. Here is the list of libraries we are using along with ReactJS.

Library	Version
react	18.2
react-router-dom	6.5.0
react-icons	4.7.1
html-react-parser	3.0.4
SCSS	3.2.4
Firebase	8.4.20

2.2 Linters

To maintain good standards across the projects we have used JavaScript linters to weed out the potential bugs and errors in JavaScript code.

Library	Version
ES Lint	VS Code Built-in
prettier	2.7.1
SCSS	0.1.3

2.3 API

To fetch the meta data of the friends we have used backend as Firebase API provided by Google. It has a big catalogue of friends available in its database

Name	Source
Backend as Firebase API	https://firebase.google.com/

2.4 Deployment

To host our application, we have chosen Netlify as a hosting provider because it is free and fast for hosting small projects.



Figure 1. Netlify Hosting Provider

3. Technology Stack

The Web based chat app is a react application in this we used Backend as Firebase API service to fetch meta data of the friends. Detailed breakdown of frontend technologies used as follows.

3.1 Frontend

ReactJS	Render application
Tailwind CSS	Styling the application
Backend as Firebase API	To fetch meta data of friends

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4. Proposed Solution

For this Web based chat Application we have decided to use Backend as Firebase API to fetch meta data of friends and build a distraction free UI for the users to find the friends they want to search using our application.

5. Work flow as a user

As a user one should be able to input the search query of the friends, they want to find meta data and able to chat meta data of the friends in intuitive way with simple user interface.

Figure 2. Workflow as a user