Project Report

GitHub File Explorer

1. Introduction

GitHub File Explorer is a web-based project that allows users to search and explore public repositories on GitHub. The application provides a simple interface where users can browse repositories, open folders, and preview files directly from GitHub without logging in. It was created to demonstrate how public APIs can be used to fetch and display live data on a website.

2. Objectives

- To fetch real-time repository data using the GitHub REST API.
- To allow users to explore repository folders and files.
- To create a clean and responsive user interface.
- To demonstrate API integration using only frontend technologies.

3. Tools and Technologies Used

- HTML5 – for the structure of the web page.
- CSS3 (Tailwind CSS) – for styling and implementing glassmorphism design.
- JavaScript (ES6) – for functionality and API integration.
- GitHub REST API – for fetching repository and file data.

4. Methodology

1. The user enters a search keyword (for example, "react" or "tailwindcss").
2. The app sends a request to the GitHub REST API to fetch repositories related to that keyword.
3. The fetched repositories are displayed as cards showing their name, description, stars, and forks.
4. When the user clicks "Explore," the application retrieves the repository's file and folder structure and displays it dynamically.
5. Files can be opened to preview their contents inside the app.

5. Results

The project successfully fetches and displays data from GitHub's public API. Users can browse through real repositories and view actual folder and file structures. The design

uses glassmorphism styling, giving a clean and modern appearance.

6. Conclusion

The GitHub File Explorer demonstrates how public APIs can be used to create real-time, interactive web applications. It serves as a practical example of integrating API data into a frontend project without using a backend server. Future improvements can include GitHub authentication, private repository access, and enhanced file previews.