

GitHub Project Explorer - Report

Introduction

The GitHub Project Explorer is a React-based application designed to explore and analyze repositories hosted on GitHub. The project focuses on enabling users to search, filter, bookmark, and visualize repository data.

Abstract

This project provides an interactive interface for GitHub repository exploration. Users can search repositories, apply filters (like language and sort), bookmark favorites, add notes, and view analytics using pie and bar charts. It utilizes GitHub's public API, offering a real-time experience in a clean and responsive layout. Tailwind CSS was initially used but later replaced with regular CSS due to build issues.

Tools Used

- React (Vite) for UI development
- React Router DOM for navigation
- Chart.js & react-chartjs-2 for data visualization
- GitHub REST API
- Fetch API for HTTP requests
- React Context API for managing bookmarks
- Custom CSS for styling

Steps Involved in Building the Project

1. Initialized the project using Vite with React.
2. Set up routes for Home, Bookmarks, and Repo Analytics pages.
3. Implemented repository search, language filter, and sorting logic.
4. Created reusable RepoCard component with bookmark and note features.
5. Built Bookmarks page with card layout using CSS Grid.
6. Designed Repo Analytics page with charts for languages and contributors.
7. Switched from Tailwind to custom CSS for consistent styling and layout.
8. Organized all styles in index.css and refactored components.

Conclusion

The GitHub Project Explorer is a feature-rich frontend application ideal for users interested in exploring open-source repositories. It combines search, bookmarking, note-taking, and analytics into a cohesive UI. With a focus on clarity, responsiveness, and extensibility, this project lays a strong foundation for further enhancements such as authentication, pagination, and starred repo tracking.