**GitHub Explorer - Project Report**

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**Internship:** Elevate Labs
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**Project Overview**

The GitHub Explorer project is an interactive web application designed to explore and analyze trending GitHub repositories. It serves as a dashboard allowing users to search, filter, bookmark, and visualize repository data sourced via the GitHub REST API.

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**Objectives**

- Develop a responsive React application to search GitHub repositories by keywords and filters.
- Display repository information including stars, forks, and language using a user-friendly card interface.
- Implement sorting functionality by stars and update date to allow users to explore trending repositories.
- Integrate Chart.js to show analytics such as star distribution visually.
- Enable bookmarking of repositories with persistent local storage.
- Prepare the application for production deployment using GitHub Pages.

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**Technologies Used**

- React
- Tailwind CSS
- GitHub REST API
- Chart.js and react-chartjs-2
- GitHub Pages for deployment
- Axios, Git, npm

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**Implementation Details**

- Search bar and filters for repo keywords, language, and sorting.
- Repository cards with metadata and bookmark buttons.
- StarsChart component with Chart.js to visualize star counts.
- Dynamic fetching on search and filter changes with React hooks.
- Deployment configured via gh-pages npm package.
- Git workflow included branch rebasing and merge conflict handling.

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**Challenges Faced**

- GitHub API rate limits during development.
- Merge conflicts and rebase complexities.
- Tailwind CSS and CRA compatibility setup.
- Managing deployment and build pipeline errors.

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**Outcomes**

- A functional GitHub Explorer app live at https://komallbaid.github.io/GitHub-Explorer/.
- Practical experience with React, APIs, charting, and Git workflows.
- A base for future enhancements like pagination, note-taking, and advanced analytics.

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**Future Work**

- Add note-taking for bookmarked repos.
- Implement pagination or infinite scrolling.
- Enhance filtering options.
- Add dark mode and accessibility features.
- Conduct UI/UX usability testing.

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**Conclusion**

The project met all internship goals, delivering a polished and scalable explorer interface with key analytics features, providing excellent hands-on experience with modern frontend development and deployment.