**Franklin La Rosa – **

Executive Summary: scottyab/rootbeer Project

Project Overview: The scottyab/rootbeer project has been actively maintained over an extended period, with contributions from a diverse group of developers. The repository consists of multiple source files that have undergone frequent modifications, reflecting ongoing development, feature enhancements, and bug fixes. This report provides a high-level analysis of development activity, highlighting key contributors, workload distribution, and potential risks.

Development Activity & Key Contributors:

- The project has experienced **consistent contributions**, with fluctuations indicating critical development phases.

- **Scott Alexander-Bown, Artsem Kurantsou, and Deepak PK** have emerged as the **most active contributors**, playing a pivotal role in shaping the project.

- Contribution trends indicate that **some developers have reduced or ceased activity**, potentially signaling a departure from the project.

- Several source files have been modified extensively, suggesting ongoing **feature development, refactoring, or bug fixes**.

Workload Distribution & Trends:

- The scatter plot analysis reveals **patterns of developer engagement**, showing periods of high activity corresponding to major updates.

- Certain developers consistently contribute to the same files, indicating specialization in specific functionalities.

- A decrease in contributions from key developers may **impact project continuity**, making it crucial to ensure adequate documentation and knowledge transfer.
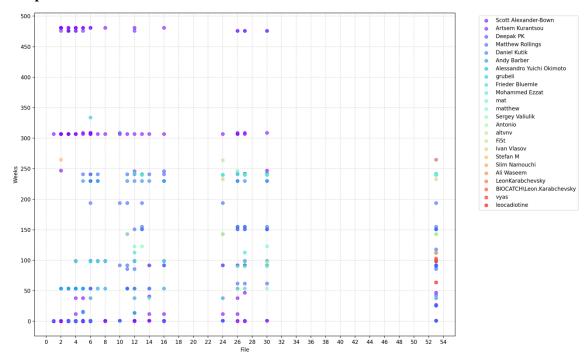
Potential Risks & Considerations:

- The **departure of previously active developers** could lead to knowledge gaps and slow down future development.

- Certain files with **high modification rates** might require stabilization efforts to prevent excessive revisions.

- If core contributors reduce their involvement, the project might face **challenges in sustaining momentum**.

Git Analysis & Reporting Methodology:

- Commit history and author activity were analyzed using:

- o git log --pretty=format:"%h %an %ad -- %s" --date=short for tracking commits.

- o git shortlog -sn to identify top contributors.

- o git blame <file> to examine recent changes in critical files.

- A **scatter plot visualization** was generated to illustrate workload distribution and engagement trends over time.

Graph:

Recommendations:

- **Monitor developer activity** to identify potential attrition early and implement retention strategies.

- **Enhance documentation** for frequently modified files to ensure seamless knowledge transfer.

- **Encourage new contributors** to distribute workload effectively and sustain project progress.

This report provides a structured overview of the scottyab/rootbeer project's development trends. The attached scatter plot visually supports these findings, offering additional insights into contribution dynamics.