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1. Abstraction

The Dictionary Application is a C/C++ project designed to efficiently manage and access various word definitions and translations, including common English words, slang, and bilingual dictionaries. It allows users to search by keyword or definition, switch between datasets, manage a list of favorites, and review search history. Users can also add, edit, or remove words, with updates handled efficiently to maintain performance. The application includes interactive features like random word quizzes and is developed using principles from the CS163 course, emphasizing performance optimization. The project is managed using Trello and Git, with a comprehensive technical report detailing design choices, algorithms, and performance analysis.

1. Group Information

Group ID: 2

Group Members and their roles:

1. Pham Đức Duy – Student ID:

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- Commits:

- Percentage: 20%

2. Hồ Nhật Nguyễn – Student ID:

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- Commits:

- Percentage: 20%

3. Trương Gia Bảo – Student ID:

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- Commits:

- Percentage: 20%

4. Nguyễn Văn Hoàng Nhật – Student ID:

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- Commits:

- Percentage: 20%

5. Huỳnh Hoàng Phúc – Student ID:

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- Commits:

- Percentage: 20%

1. Data storage

In the course of developing the project, we carefully considered the selection of appropriate data storage methods to ensure both efficiency and data security. We opted to use a combination of Ternary Search Tree (TST) and Suffix Array, alongside CSV and Binary file formats, to meet the specific technical requirements of the project.

**4.1 Concept**