JAPANESE-ENGLISH ELECTRONIC DICTIONARY: UTILIZING JUMP-SEARCH ALGORITHM AND BRUTE FORCE STRING MATCHING

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**Introduction**

Nihongo (日本語) is a complex language used by the Japanese. It consists of three writing system, Hiragana (平仮名), Katakana (カタカナ), and Kanji (感じ). This electronic dictionary aims to give people the chance to learn the rich vocabulary of the language by giving them the information they needed.

## Real World Problems

People who wish to study the language always seek for a proper Japanese-English dictionary, usually in the Internet. This Japanese-English Electronic Dictionary wants to give people an access to thousands of Japanese vocabulary anytime they needed it. With the underlying algorithm behind the application, it can search for the right words almost instantly.

**Objectives**

## System Architecture

The Electronic Dictionary was built with Python. The developers chose Python because of its computing speed and simplicity. The algorithms used for fuzzy finding matching words in the dataset are Brute Force String Matching and Jump Search Algorithm. Brute Force String Matching was used for comparing to the query string, while Jump Search was used for efficiently finding matches without traversing the whole dataset.