Track: Development Track
Team Members:
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1. Functions and Users

Analogies are a useful instructional tool to understand difficult concepts by connecting them to more familiar ones. Analego is a system that leverages Generative AI to enable learners and teachers to co-create analogies about a given concept with the ability to create personalized analogies about topics that are familiar and interesting to them. The generated analogies can be added to the ever-growing repository, thereby allowing future users to search and provide feedback on them. Analego currently only has the web version and users need to visit the website for analogy searching and generating. In order to simplify the process and improve user experience, our project will provide a Chrome extension that allows users to search for a specific word in the Analego system with a simple select action when they browse a website.

2. Significance

Based on our extension, users do not need to go to Analego's official website. While reading web articles, they can easily complete related analogies searches by tapping the mouse and selecting words on the webpage. The extension eliminates the hassle of users having to repeatedly travel back and forth to different web pages, greatly improving the user experience, allowing users to easily understand difficult vocabulary using the analogy system while reading articles.

3. Approach

The Analego api (search function etc.) would be provided by the Analego development team. So our project will focus on the extension itself, including the extension UI, and how to identify the selected words in the website. We would refer to some open-source translation extension tools in github (e.g. pot). The programming language may include Javascript, Rust, Python etc.

To refine search capabilities, we introduce a Context-Aware Search Enhancement feature. This feature captures not only the text directly selected by the user but also extracts a contextual snippet of surrounding text. This comprehensive context is then used to refine search queries to the Analego system, aiming to retrieve analogies that are more relevant by considering the broader context of the user's current reading material.

4. Evaluation

The main criteria for determining the success of our project are as follows:

1) Whether the extension could successfully and accurately recognize text on web pages
2) Whether the result obtained by the extension search is consistent with the result obtained by searching for the same words on the Analego official system

3) The effectiveness of the context-aware search in providing more relevant analogy results to users based on the text they select and its surrounding content.

5. Timeline

4.4 - 4.13: Familiar with the development process of Chrome extension and the Analego system, read relevant open-source project codes, and complete the preliminary UI design
4.14 - 4.27: Develop and test the extension
4.28 - 5.7: Optimize the extension based on feedback

6. Task Division

Yang Zhou: Coordinate the team and develop the extension (focusing on the interaction with the Analego system part)
Ao Shen: Focuses on developing the extension's UI and integrating the context-aware search functionality, ensuring the extension utilizes both the selected text and its surrounding context to enhance search accuracy and relevance.
Zepei Li: Code development; Organize ideas and compose report; Presentation
Jialuo He: Code development, proposal and presentation