Easi: A text simplification app
using Natural Language Processing

User Manual

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Disclaimer

The Easi app is a tool for text simplification that uses natural language processing to generate simplified text for students in Grades 4-6. The app is designed to make English learning materials easier to understand, but it may not always provide a perfect or accurate simplification. The accuracy of the simplification can vary depending on the complexity of the original text, and the app may not always capture the nuances or context of the original text.

The Easi app is not intended to replace the guidance and support of teachers or parents, and students should always use their own discretion when interpreting simplified text generated by the app. The app is provided on an "as is" basis, and the developers of the app do not make any representations or warranties about its accuracy, reliability, or suitability for any particular purpose.

Students using the Easi app should always double-check the simplified text generated by the app against the original text to ensure that the meaning has not been distorted or lost. The app should not be used as a substitute for classroom instruction or homework assistance, and students should always seek the guidance of their teachers or parents before making any decisions based on simplified text generated by the app.

The developers of the Easi app are not responsible for any errors, omissions, or inaccuracies in the simplified text generated by the app, or for any damages or losses that may arise from the use of the app. By using the Easi app, students agree to release the developers from any liability or claims that may arise from the use of the app.

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Introduction

Text can often be difficult to read and understand, especially for people with functional illiteracy, cognitive impairment, or poor language skills. Based on the Trends in International Mathematics and Science Study 2019 (TIMSS), Filipino students were significantly behind other countries in the international assessment for mathematics and science for grade 4.

To address this, the study aimed to develop Easi - a mobile application that translates complex text into clear and effective writing according to Plain language standards through text input or pictures.

This User Manual contains all essential information for the user to make full use of the application as well as instructions on how to run it on their own.

System Requirements

Android

Minimum requirements

OS: Android 5.0 (Lollipop) or later

Memory: 1GB of RAM or more

Processor: Qualcomm Snapdragon 410, Samsung Exynos 5 Octa 5420, MediaTek MT6582 or later

Recommended specs:

OS: Android 8.0 (Oreo) or later

Memory: 4GB RAM

Processor: Qualcomm Snapdragon 670 or higher

Installation

Make sure you are connected to the internet before starting up the application, otherwise, it won't work as intended.

Mobile Application

1. Download the .apk file from Play Store or if you have requested a link to download it elsewhere.
   If you did not download it from Play Store, enable installation from Unknown Sources by going into your phone's Settings and searching "Installation Sources" and ticking the checkbox of where you're trying to install from, for example, "My Files".
2. After installation open the application and create an account by clicking "Sign up here". Enter your full name, email address, and password before clicking on Register.
   - Please note, your password must be at least 6 characters for increased security.

If you plan on using the backend of our application, do so with the instructions below.

OpenAI

1. In order to use our backend, you must have an API Key from OpenAi. First, follow this link to create an account https://platform.openai.com/signup.
2. Click "Continue with Google" and register using your Gmail account. After which you verify your phone number.
3. Once registered click "Personal" on the top right corner of the screen then "View API keys".
4. Click "Create new secret key" and copy the key provided. Store this key somewhere safe or in a notes app because we will be needing it later.
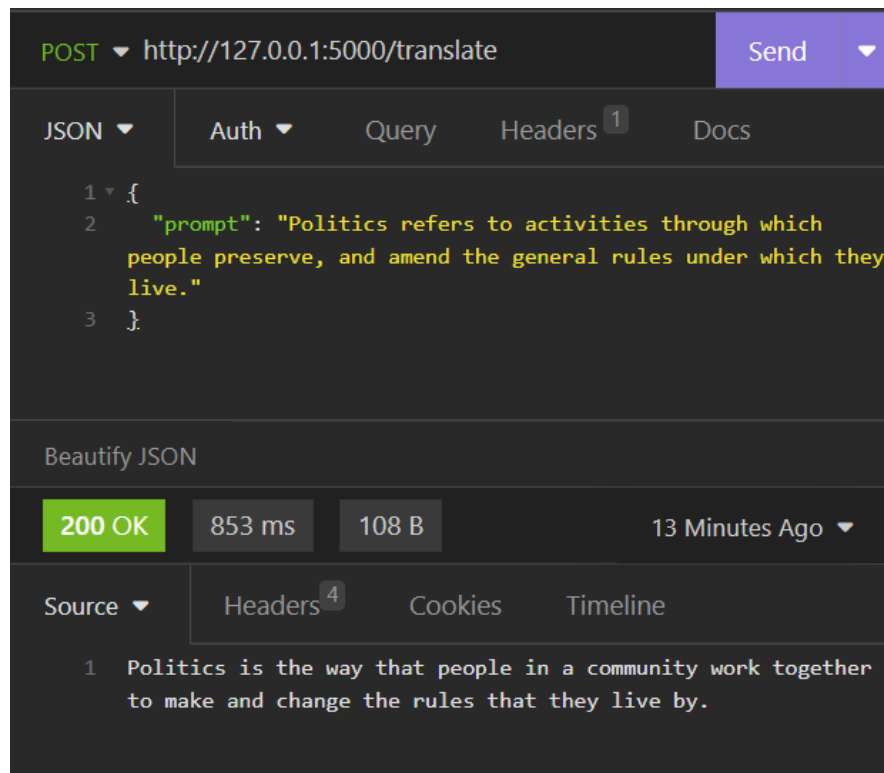
Backend

1. Open the command prompt or a terminal of your choice and navigate to where you placed the backend folder.
2. Type `pip install -r requirements.txt` and press enter.
3. Create a new file in the root directory named ".env"

4. Inside the file, type OPENAI_KEY and assign it the API Key you retrieved from OpenAI.

   Example: `OPENAI_KEY=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`

5. Create a virtual environment by entering `python -m venv env`. "env" being the name of your virtual environment.

6. Activate the virtual environment by running this command `.\env\Scripts\activate`

7. You can now run the backend by entering `flask run`.

8. You can now make a POST request using the `/translate` endpoint with a JSON body of

   ```
   {
       "prompt": "The prompt"
   }
   ```
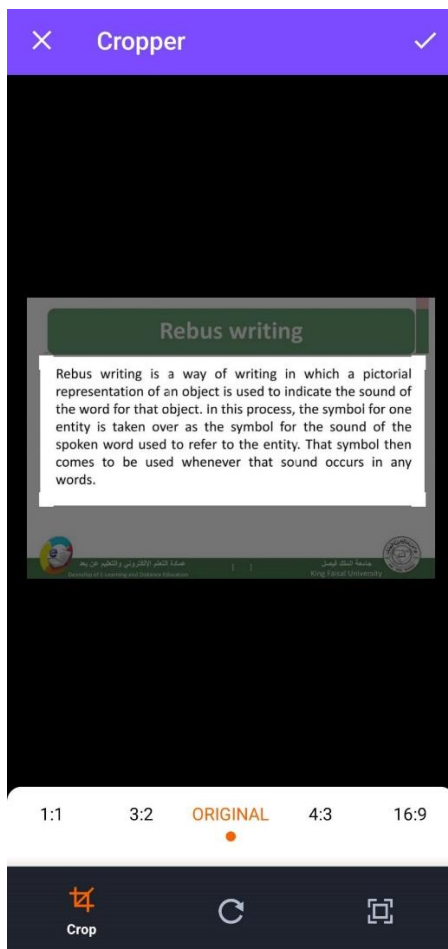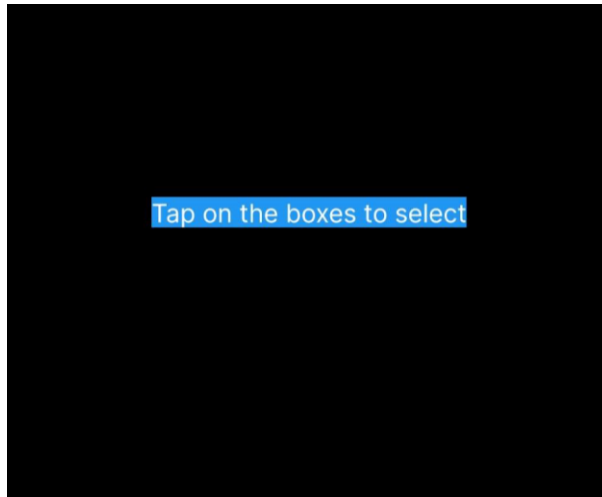
   Example using Insomnia:

Usage

1. Download the mobile apk and install it.
2. Open the application and click "Sign up here" if you don't have an account yet, otherwise login with the appropriate credentials.
3. For signup, enter your full name, email, and password before clicking register.
4. Once in the home page you can start simplifying text through two input methods; Typing or Picture.
5. For **Typing**, enter or paste text that you would want to simplify and then click the button that says 'Simplify'. Wait for it to finish and then you get the results.
6. For **Picture**, select whether you want to take a picture of text you want to simplify or if you have it already in your gallery.
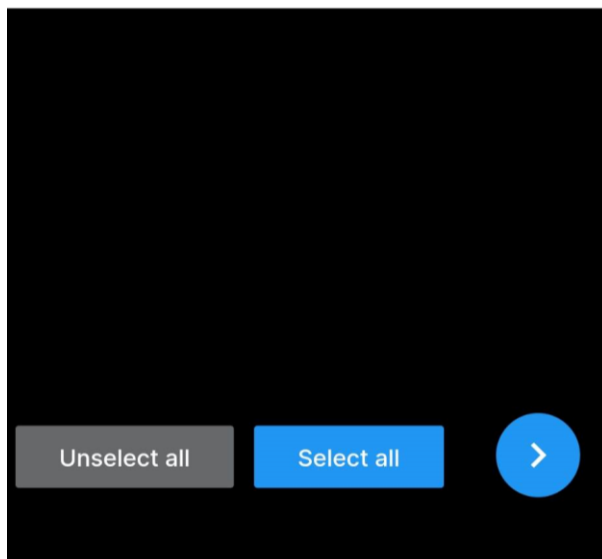   Once selected, you will be redirected to a Cropper where you can crop the section or part you want to simplify.
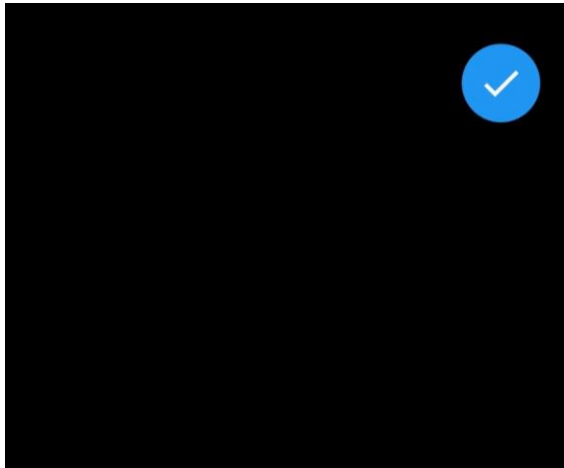
Click the check mark once you are done and you will be then redirected to a page where you can select the specific part you only want to select.
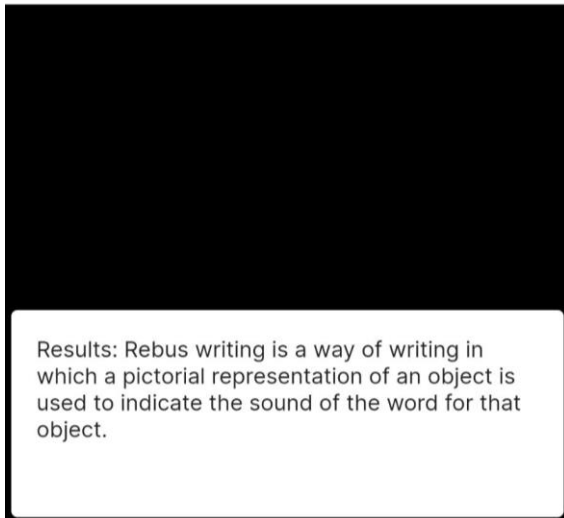

Tap on the boxes to select

Rebus writing is a way of writing in which a pictorial representation of an object is used to indicate the sound of the word for that object. In this process, the symbol for one entity is taken over as the symbol for the sound of the spoken word used to refer to the entity. That symbol then comes to be used whenever that sound occurs in any words.

Unselect all   Select all   >

Click the right arrow once done and wait for the AR generated results.

Rebus writing is a way of writing in which a pictorial representation of an object is used to indicate the sound of the word for that object.

Results: Rebus writing is a way of writing in which a pictorial representation of an object is used to indicate the sound of the word for that object.

Once you have the results press the check button and you're done, the results will be recorded in the History tab for your reference.

Troubleshooting

Loading takes a long time

- Check internet connection, slow internet connection will lead to slower loading times.
- If you have checked that your internet is fine but the problem still persists, please contact the developers as this could be a backend issue.

I'm not getting the results I want/The application returns me gibberish or unrelated text

- Make sure your prompt (the text you entered or captured) is according to the use case the application is for. As for images, make sure that the image is clear and in a well-lit environment.

AR Overlay when inputting through pictures overflows or goes out of the image

- Try to minimize the number of words you select as the application works better for shorter texts. Also, make sure that the picture has enough white space in the edges and is not too crammed for better results.

Frequently Asked Questions

Is this only for elementary students?

The application was created with elementary students of Grades 4 to 6 in mind; however, it can also be used for anyone meaning to simplify text that they find hard to understand.

Can the application replace parents/teachers in guiding students with understanding English better?

The application does not intend to replace parents/teachers but is only a tool to assist. We do not recommend the student to solely rely on our application with regards to their education.

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