

# SimpliText: making learning easier

Experience innovation and creativity with Azure AI technologies with a dedicated, automated, and AI-enabled environment and SimpliText web app.



### **Overview**

Dyslexia is a common learning difficulty that affects how people read, write, and spell words. It is not a sign of low intelligence, but rather a difference in how the brain processes language. Dyslexia can make learning challenging, as it can affect reading comprehension, spelling accuracy, writing fluency, and phonological awareness. However, with the right support and strategies, people with dyslexia can overcome these difficulties and achieve their goals.

We used innovative tools such as Azure OpenAI models for simplification to text, to offer a unique solution to address these difficulties. The additional features includes text to speech (read aloud), pointer for easy reading, control speed of reading and others. SimpliText is a standalone Version 1 offering.

#### Benefits



Caters to wide range of audiences





Increases

productivity and

employability





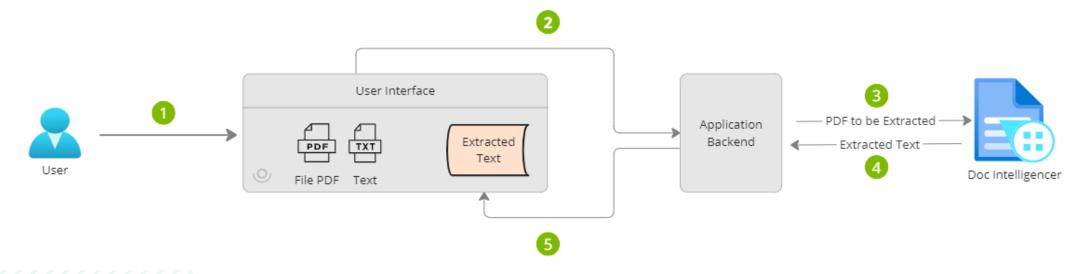
Covers everyday social situations



Multiple language support



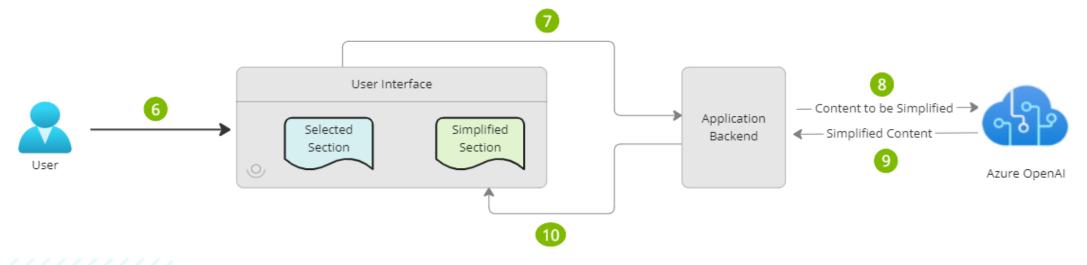
## **Architecture Diagram (1/2)**



- 1. A user uploads a PDF file or text to the User Interface.
- 2. The uploaded content is sent to the Application Backend.
- 3. The Application Backend sends the PDF to be extracted to Doc Intelligencer
- 4. Doc Intelligencer processes the PDF, extracts the text and sends it to the Application Backend
- 5. The extracted text is then displayed on the User Interface, retaining the original format.



# **Architecture Diagram (2/2)**



- 6. A user selects a section of text on the User Interface.
- 7. The selected section is processed through the Application Backend.
- 8. The Application Backend sends the content to be simplified to Azure OpenAI.
- 9. Azure OpenAI processes the content and simplifies it. The simplified content is then sent back to the Application Backend.
- 10. The simplified content is displayed back on the User Interface in the Simplified Section for the user to see.



## **Highlights and Benefits**

- Our app: Designed with an intuitive interface, our app is user-friendly and caters to a diverse, global audience, breaking down geographical barriers.
- Efficiency and Employability: The app aims to streamline reading and learning, enhancing efficiency, and it works as a tool to boost users' employability. Also, advocates for equity and inclusion in the workplace.
- Social Scenarios: Beyond work and education, the app extends its reach to everyday social scenarios, fostering better interactions and communication among users.
- Support: We support for two document formats for now, ensuring accessibility and convenience for our users.



## **Additional Features**

- Read functionality
- Pointer for easy reading
- Control speed of reading
- Customising the prompt options
- Listen to simplified content

Gemini: A Family of Highly Capable Multimodal Mode

knowledge and deliberate reasoning, Gemini Ultra achieves a new state-of-the-art score of 62.4%, outperforming the previous best model by more than 5 percentage points. It provides a uniform performance lift for video question answering and audio understanding benchmarks.

Qualitative evaluation showcases impressive crossnodal reasoning capabilities, enabling the mode to understand and reason across an injur sequence of audio, images, and text samelyel (see Figure 1 and Table 13). Consider the educational setting depicted in Figure 1 as an example. A teacher ha drawn a physics problem of a size ging down a slope, and a sudent has worked through a solution to it. Using Germin's multimodal reasoning capabilities, the model is able to understand the mess handwriting, correctly understand the problem formulation, convert both the problem and solution to mathematical typescriting, identify the specific sets of reasoning where the student wear wrong it solving the problem, and then give a worked through correct solution to the problem. This opens us exciting educational possibilities, and we believe the new multimodal and reasoning capabilities of Germini models have dramatic applications across many fedids.

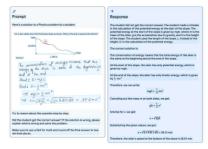


Figure 1 [Verifying a student's solution to a physics problem. The model is able to correctly recognize all of the handwritten content and verify the reasoning. On top of understanding the text in the image, it needs to understand the problem setup and correctly follow instructions to generate Pijk.7.

The reasoning capabilities of large language models show promise roward building generalist agents that can tackle more complex multi-step problems. The AlphaCode team build AlphaCode (21.048) and et al. 2022.) a new Genini-powered agent, that combines Geninis' reasoning capabilities with search and tool-use to excel at solving competitive programming problems. AlphaCode 2 ranks within the not 15% of centrans on the Codeforces competitive programming platform, a large

#### Original

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#### Simplified

#### ne test shows that the model can think really well using sound

pictures and words together (look at Picture 5 and Chart 13). Let's think about a classroom like in Picture 1. A teacher draws a skiing problem on the board, and a student tries to solve it. The model, called Gemini, can read the messy writing, understand the problem, change it into math symbols, find where the student made a mistake, and show the right way to solve it. This can help a lot in learning, and we think Gemini can be used in many different areas. Note: - Gemini is the name of the model being discussed.

1 of 1

















#### Gemini: A Family of Highly Capable Multimodal Model

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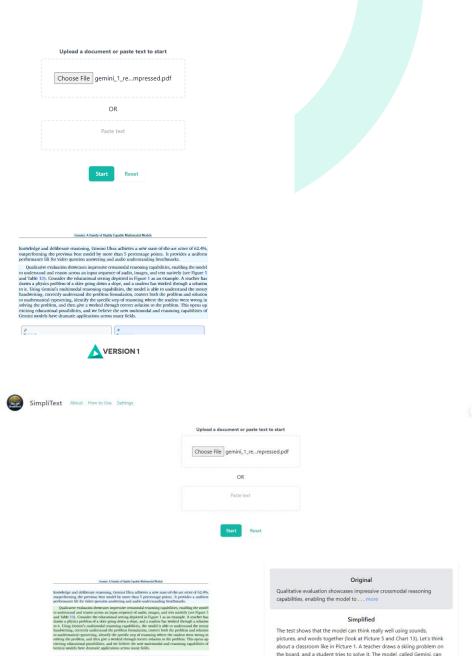






## How to use the app?

- User can paste the text in the text area or upload a document.
- Supported format type is .pdf or .docx.
- User can simplify the text by double clicking on the content highlighted in the box.
- A side panel will appear with the simplified content.
- User can listen to the simplified content by clicking on the play button.
- User can read the content word by word by clicking on the 'read' button.



read the messy writing understand the problem change it into math