SOMA APP
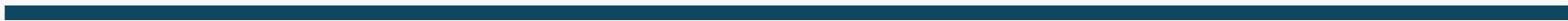
Team Members

Christopher Khajira

Alwana Julliet

Introduction

Welcome to Soma, an innovative application designed to help students, researchers, and learners navigate complex texts with ease by simplifying lengthy and complex content into concise and understandable summaries, Soma ensures that you save time while gaining clarity.

Roles and Responsibilities

Christopher

- Backend development with Python and Flask

- LLM model development using OpenAI and

  langchain

Julliet

- Frontend development with React and Firebase

- Styling using Tailwind CSS

Project Time Goals

Completed within the time frame.

- Planning and Research Phase

- Design Phase

- Development Phase

Not Completed within the time frame

- Testing and Feedback Phase

- Deployment Phase

Key Improvements Since the Midterm

- Backend Implementation: Developed a robust backend using Python to ensure reliable performance and efficient data processing.

- Frontend Development: Built a dynamic and user-friendly interface using React.

- Fully Functional Application: Achieved a complete integration of the backend and frontend, resulting in a fully operational application ready for use.

Installation and deployment

- Clone the application from github

- Ensure that Node and Python are installed on your computer.

- Go to the backend folder open the .env file and add your openai API key.

- Run python app.py

- In another terminal, go to the frontend folder and run npm install to install the required libraries.

- Go to the firebase.js file that is in the path src folder and add your firebase API keys.

- Run npm start

Application Walkthrough

- Sign-Up and Login Page: Allows users to create an account and securely log in.

- Homepage: Acts as a central hub for navigation to other sections of the application.

- Prompt Page: Enables users to input complex text for simplification.

- Quiz Page: Generates quizzes based on the summary to test the user's understanding.

- Progress Page: Displays a history of quiz results, helping users track their progress over time.

Homepage

Sign Up and Login

SIGN UP
Create an account to get started

Full Name

Alwana Julliet

Email Address

alwanai@mail.gvsu.edu

Password

••••••

Sign Up

Already have an account? **Log In**

Back to Homepage

LOGIN
Log in to continue

Email Address

alwanai@mail.gvsu.edu

Password

••••••

Log In

Don't have an account? **Sign Up**

Back to Homepage

The Prompt Page

●●●●●●

SOMA

Simplify Complex Content

Paste or upload your complex text, and let us simplify it for you.

Paste your complex text here...

Upload File

Simplify Text

Simplified Text:

Your simplified text will appear here...

Generate Quiz

The Prompt Page simplifying complex text

Simplify Complex Content

Paste or upload your complex text, and let us simplify it for you.

Recent research in photovoltaic technology has focused on enhancing the efficiency of solar panels by integrating perovskite materials. Perovskites, known for their excellent light-absorbing properties, have demonstrated the potential to surpass traditional silicon-based solar cells. Studies reveal that tandem cells combining silicon and perovskite layers can achieve efficiencies over 30%, compared to the standard 20-25% in conventional systems. This progress not only reduces the cost of solar energy but also accelerates the transition to sustainable energy solutions. Researchers are now addressing challenges like material stability and large-scale manufacturing to bring these advancements to market.

Upload File

Simplify Text

Simplified Text:

Research is improving solar panel efficiency by integrating perovskite materials, which have shown potential to surpass traditional silicon-based cells. Tandem cells combining silicon and perovskite layers can achieve efficiencies over 30%, reducing costs and accelerating the transition to sustainable energy. Challenges like material stability and large-scale manufacturing are being addressed to bring these advancements to market.

Generate Quiz

The Quiz Page

●●●●●

Question 1/3

What has research improved in solar panel efficiency?

Battery storage capacity

Material durability

Integration of perovskite materials

Panel size

Back   Next

The Progress Page

Quiz Progress

Back to Home

Your Quiz Results

Overall Performance:

19%

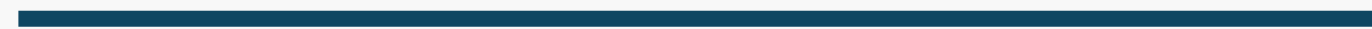|	
11/15/2024, 11:45:42 AM	1 / 3
11/15/2024, 11:45:44 AM	0 / 3
11/15/2024, 11:45:45 AM	0 / 3
11/15/2024, 11:46:15 AM	0 / 3
11/16/2024, 11:39:52 AM	1 / 3
11/16/2024, 11:39:53 AM	1 / 3
11/16/2024, 11:39:56 AM	0 / 3

Conclusion

In conclusion, the Soma application aims to empower students, researchers, and learners by simplifying long and complex texts into more digestible formats, ensuring improved understanding and saving valuable time.

Thank you