

QUARTER PRESENTATION

Ghost of Joseph Priestley

Presented by Team **Ghaist**

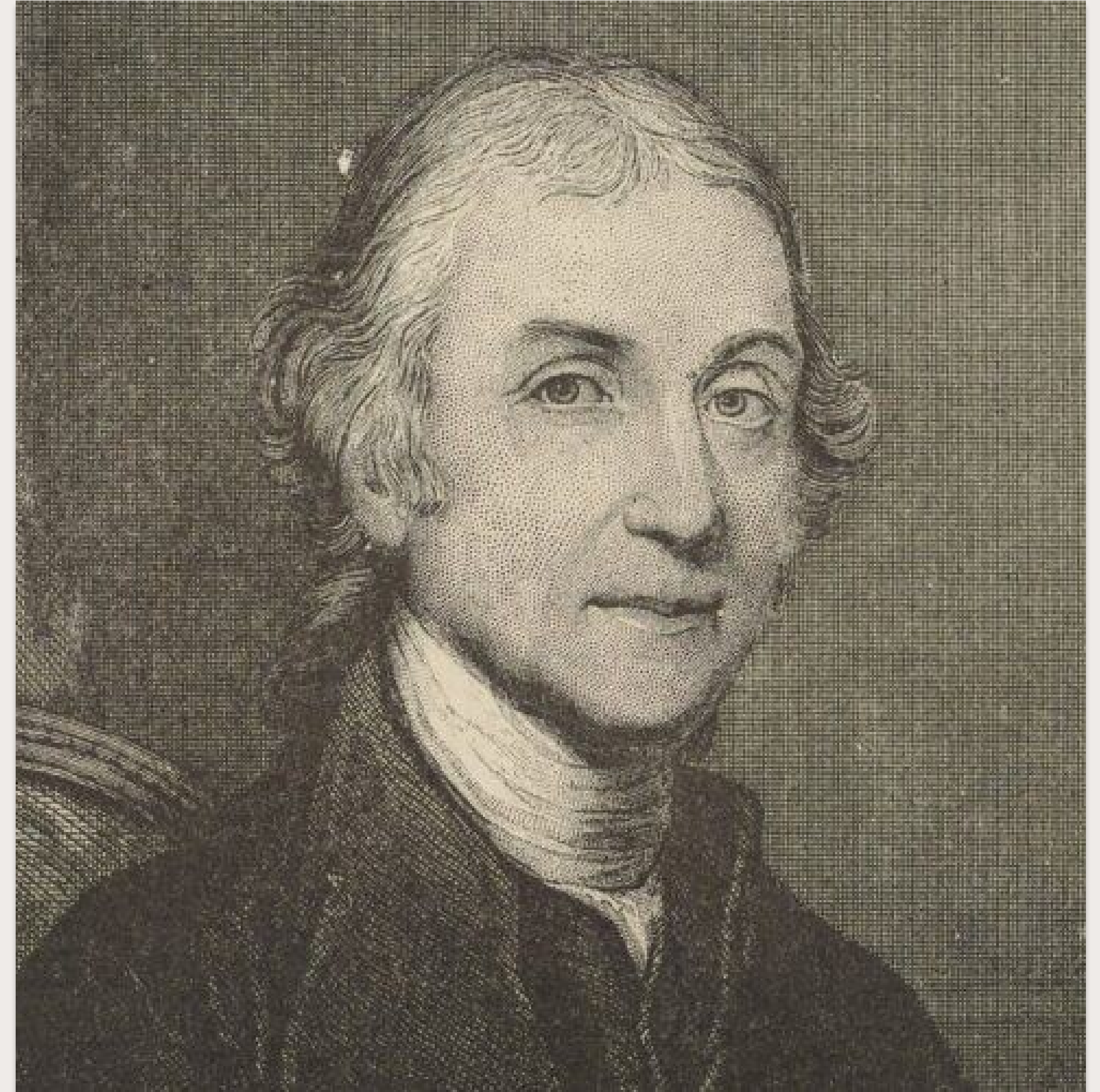
Na Chen

Shiwei Hong

Yuhuai Huang

Agnes Zhang

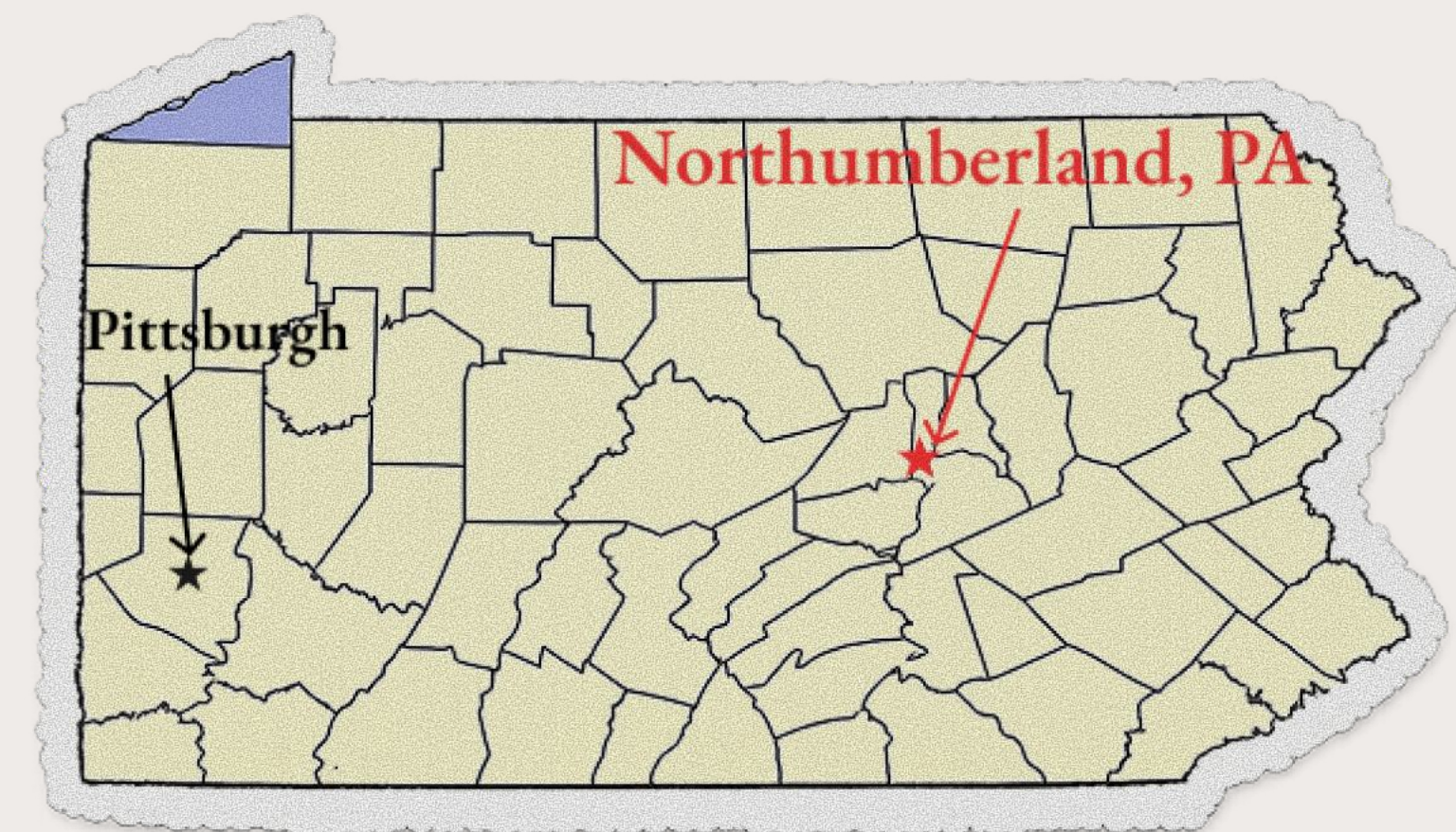
Jerry Zheng



Clients



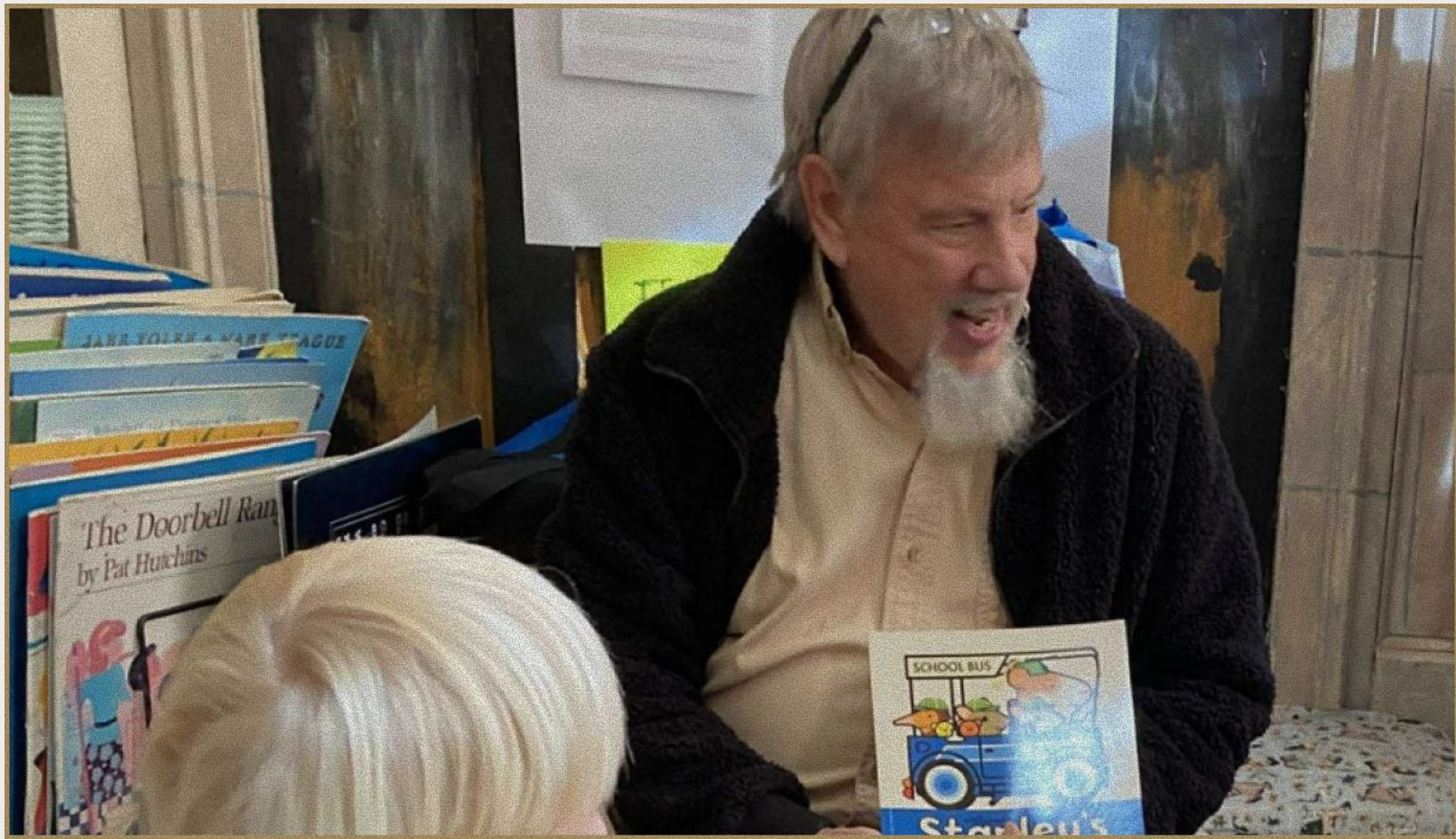
PRIESTLEY MEMORIAL LIBRARY



NORTHUMBERLAND, PA

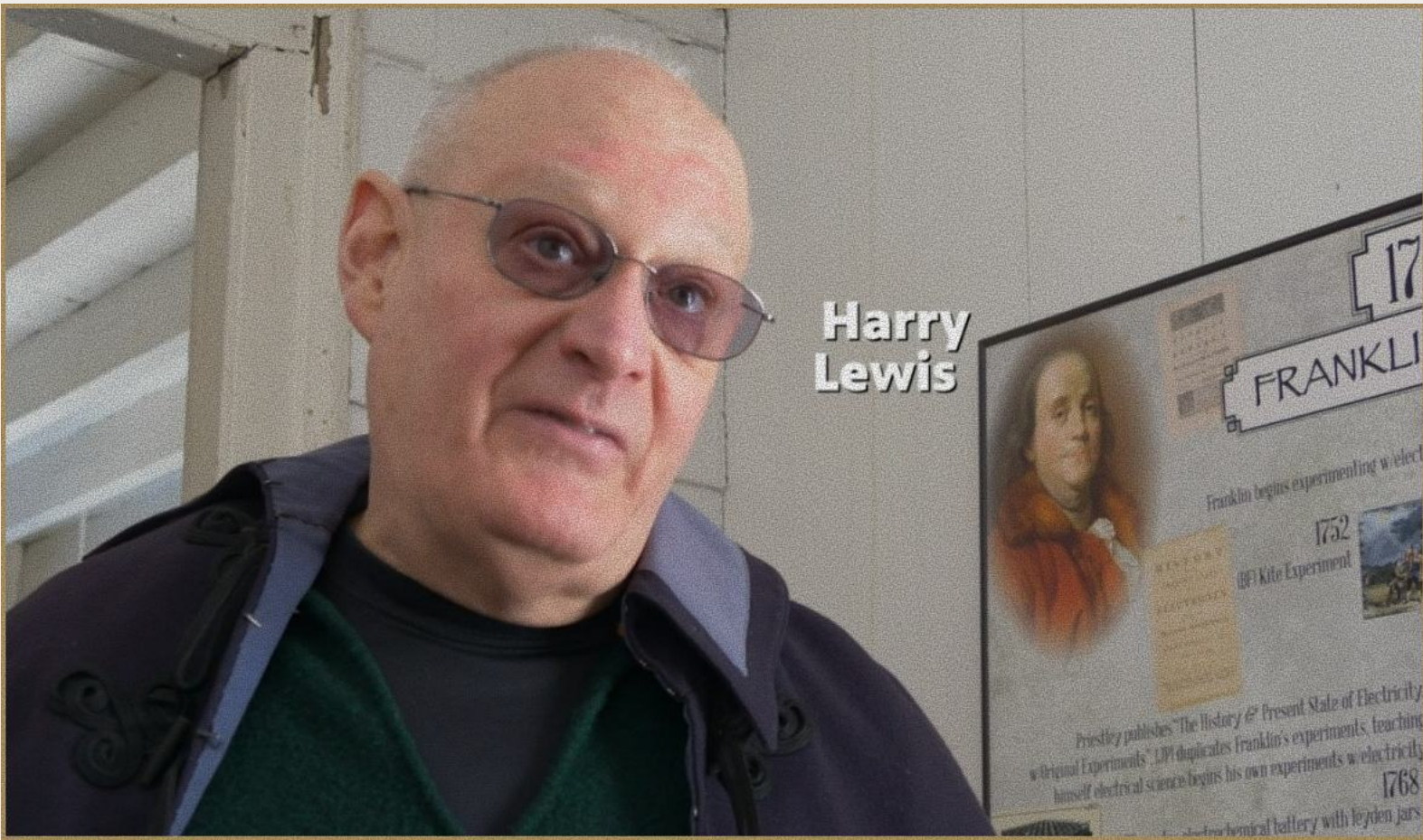
PROJECT CONTEXT

Clients



JEFF JOHNSTONBAUGH

The Director of the Priestley-Forsyth Memorial Library



HARRY LEWIS

Subject Matter Expert on Priestley’s History

Why They Came to Us

Spark visitors interest in Joseph Priestley, a scientist most people have never heard of.

PROJECT CONTEXT

Joseph Priestley

1733 - 1804

Invented carbonation

friend of Ben Franklin



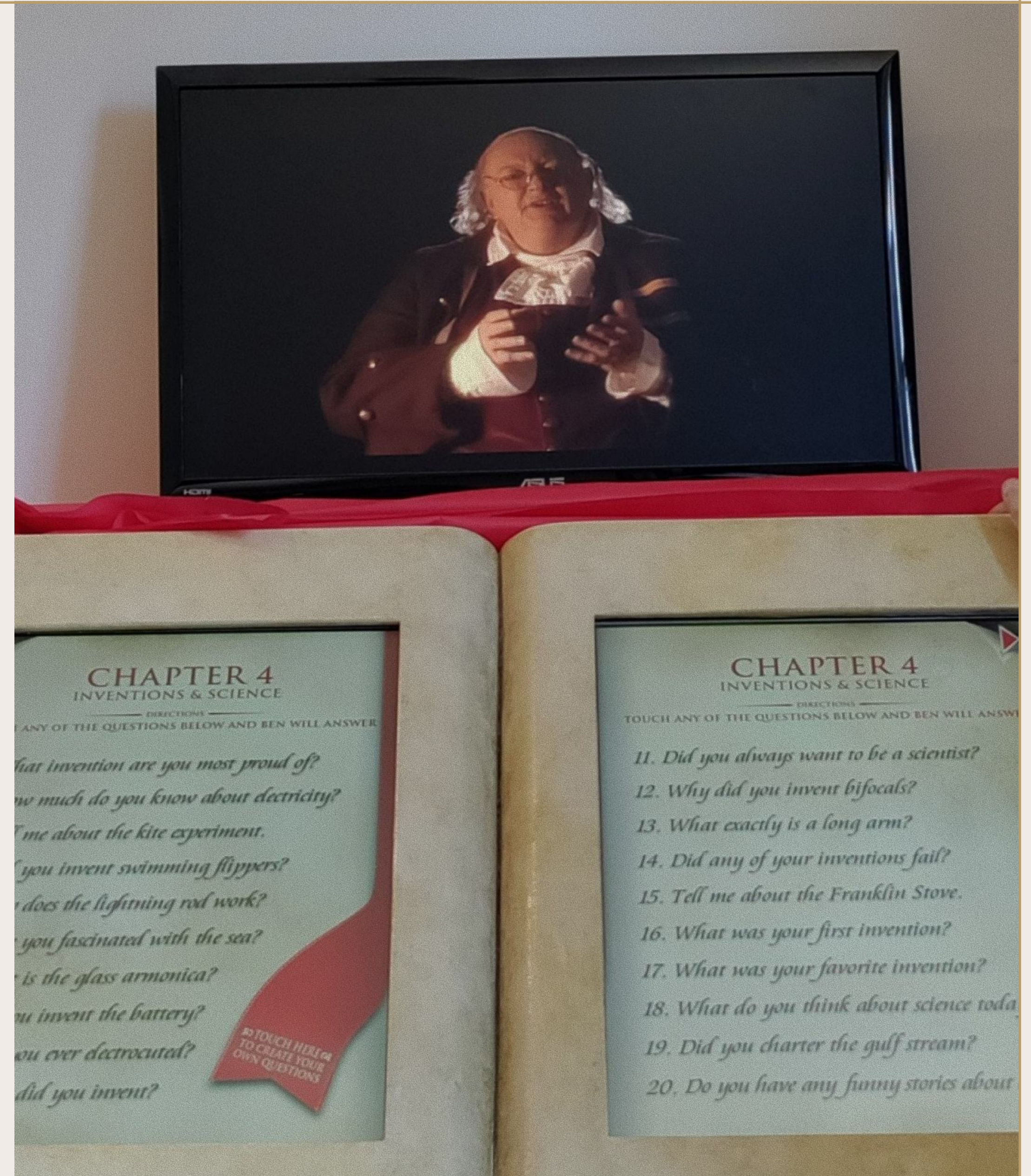
*150+ works on science,
religion, and education*



Discovered oxyge

Previously on Ben Franklin Synthetic Interview

PROJECT CONTEXT



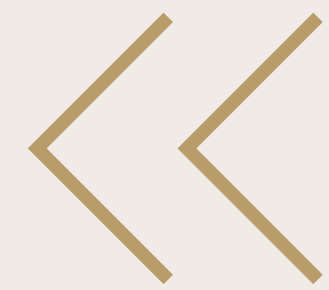
An Enlightenment Figure



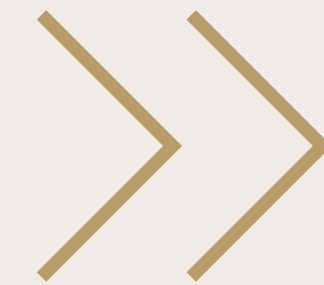
PROJECT CONTEXT

The TikTok Generation





Create an experience that entertains teenagers (ages 12-16) and sparks their curiosity about Joseph Priestley as a person.



PROJECT GOAL



PROJECT CONTEXT

5'x5' Space in the library



PROJECT CONTEXT

Joseph Priestley's House



Reliability

Consistent library installation

Audience

Must entertain teenagers

Space

5x5 foot area and prefer to be portable

Timeline

9-weeks development cycle

PROJECT CONTEXT

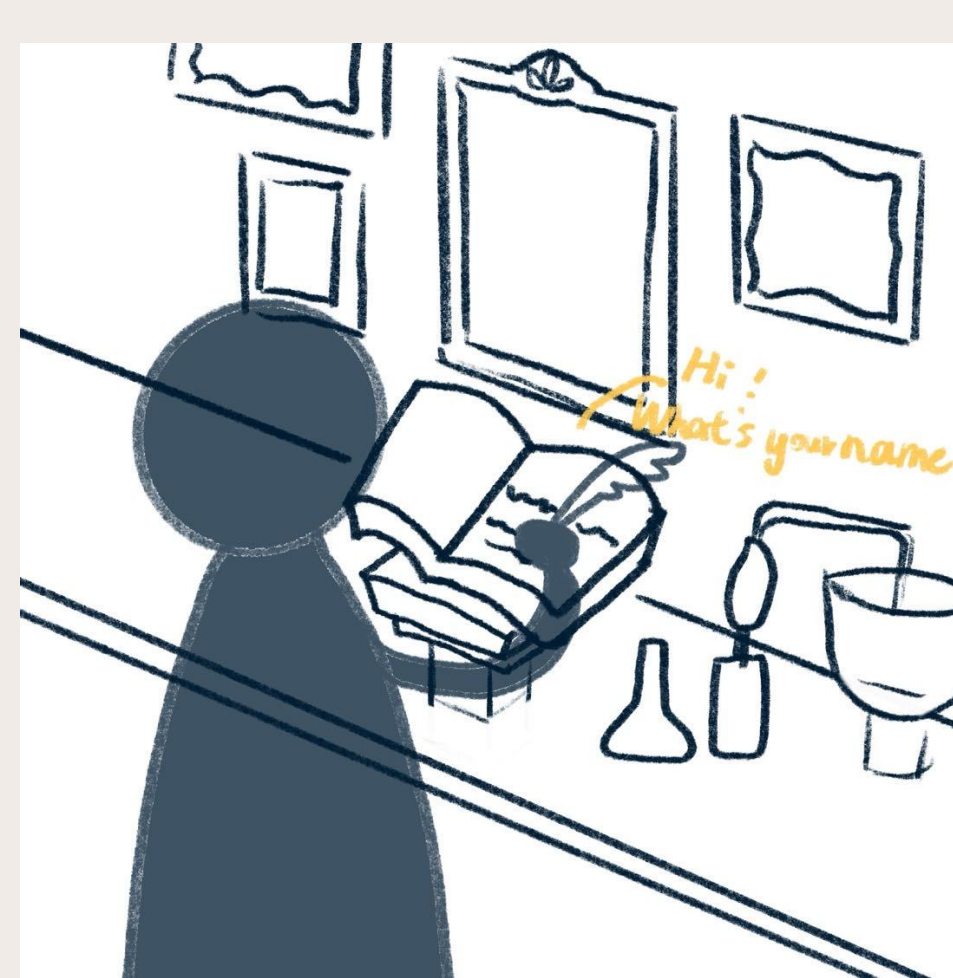


Our Design Inspiration

Tom Riddle's diary in Harry Potter

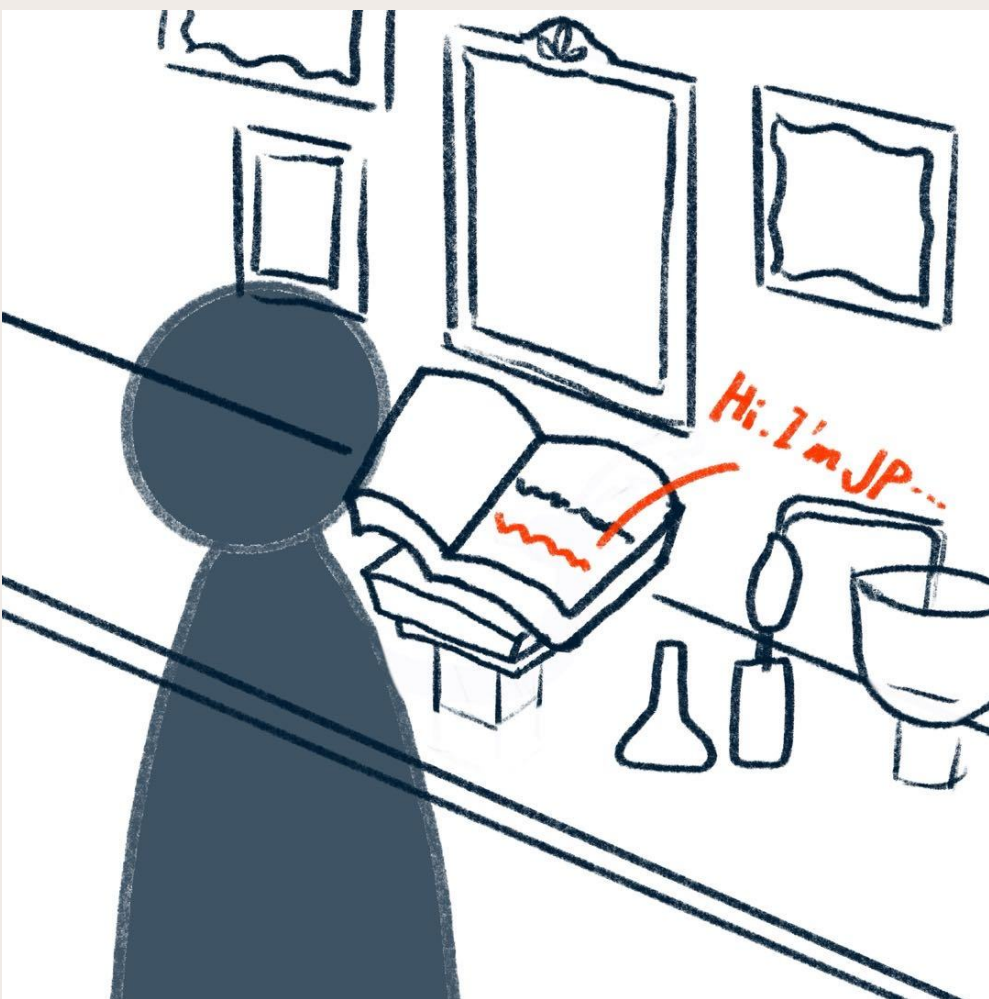
DESIGN IDEA

Joseph Priestley's Diary



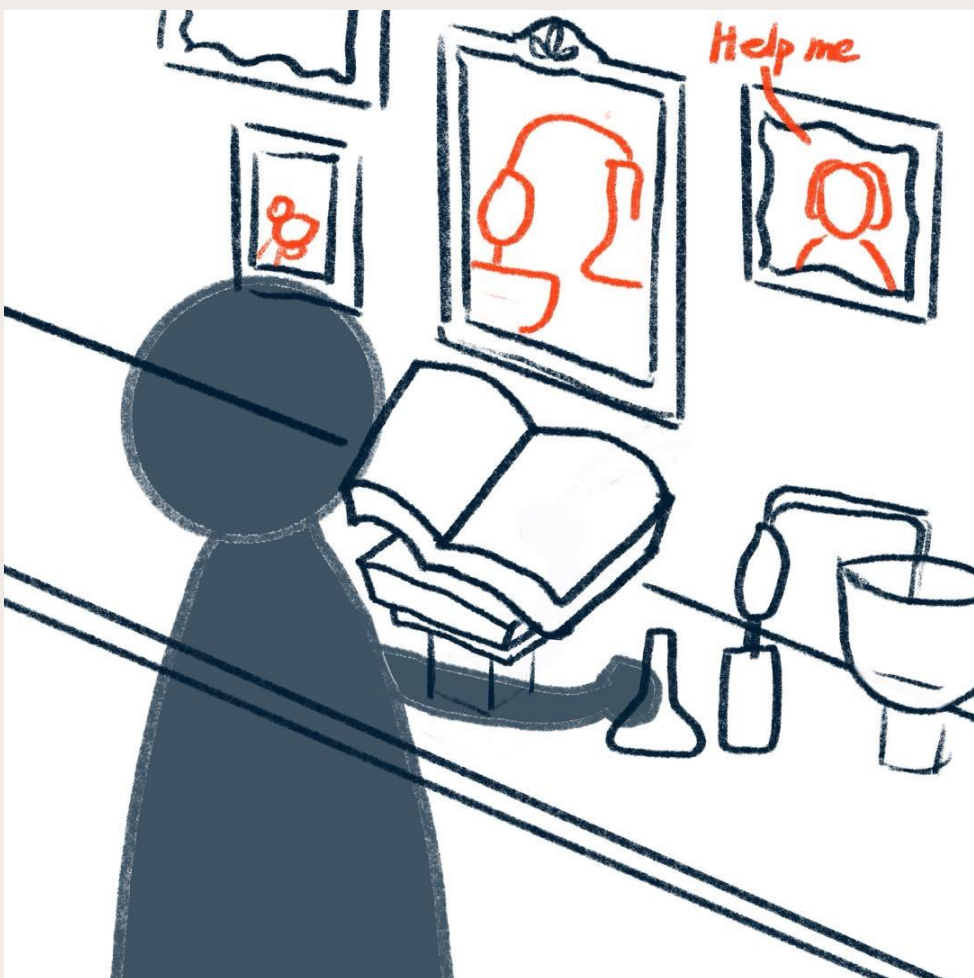
Conversation

Visitor writes to the diary, starting a conversation with Priestley's ghost.



Trigger Event

Through conversation, a key moment from Priestley's life is triggered, and a memory event begins.



Experience the Event

Visitor is able to experience the event firsthand, such as helping Priestley discover carbonated water.

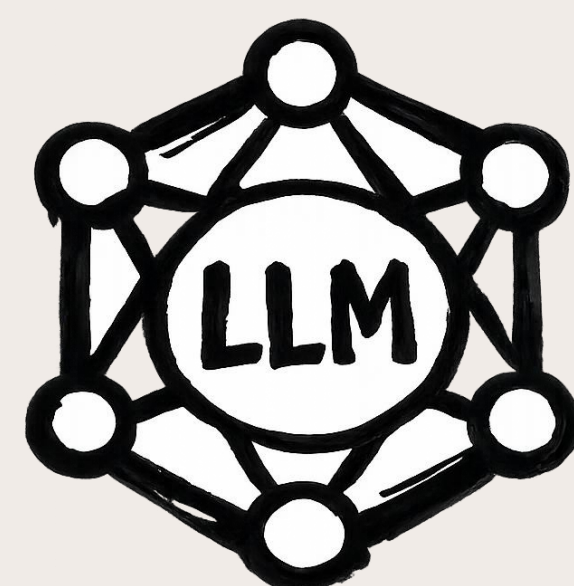
DESIGN IDEA

Technical Approach



Input

Visitors write to the diary, and their handwriting is converted to text.



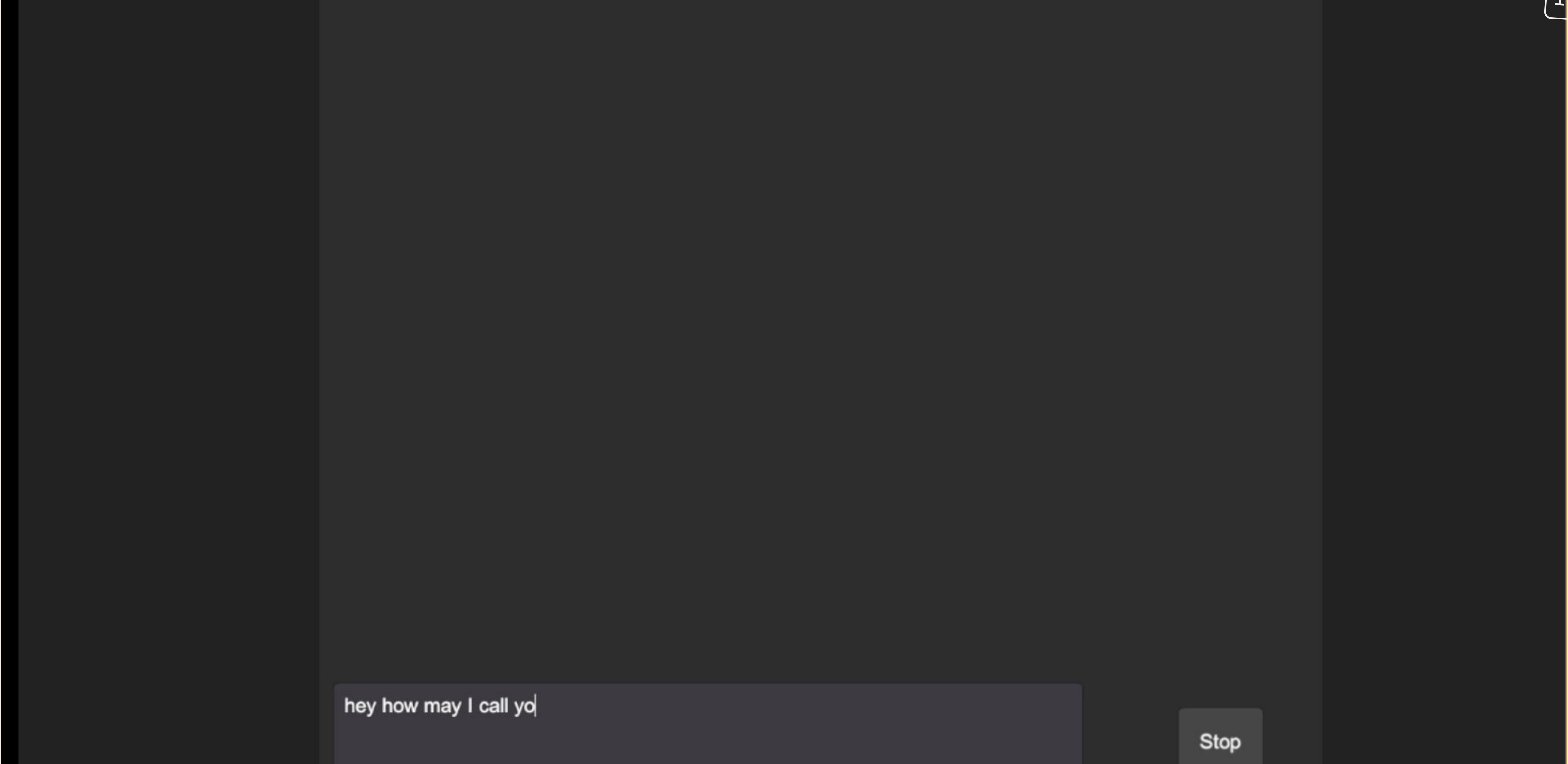
LLM Processing

A locally deployed Llama 8B generates Priestley's response, ensuring low latency and offline reliability.



TTS Audio Output

The response is spoken aloud through a local text-to-speech model.



TECHNICAL APPROACH

Why Local Deployment?



Reliability

No internet dependency



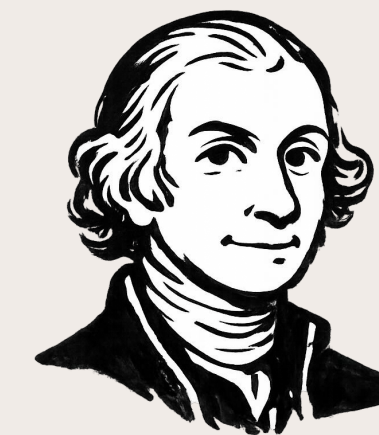
Consistency

Short and stable



Cost

Predictable cost



Customization

Control over content and data

TECHNICAL APPROACH

Display Exploration

How do we support the diary
concept visually?

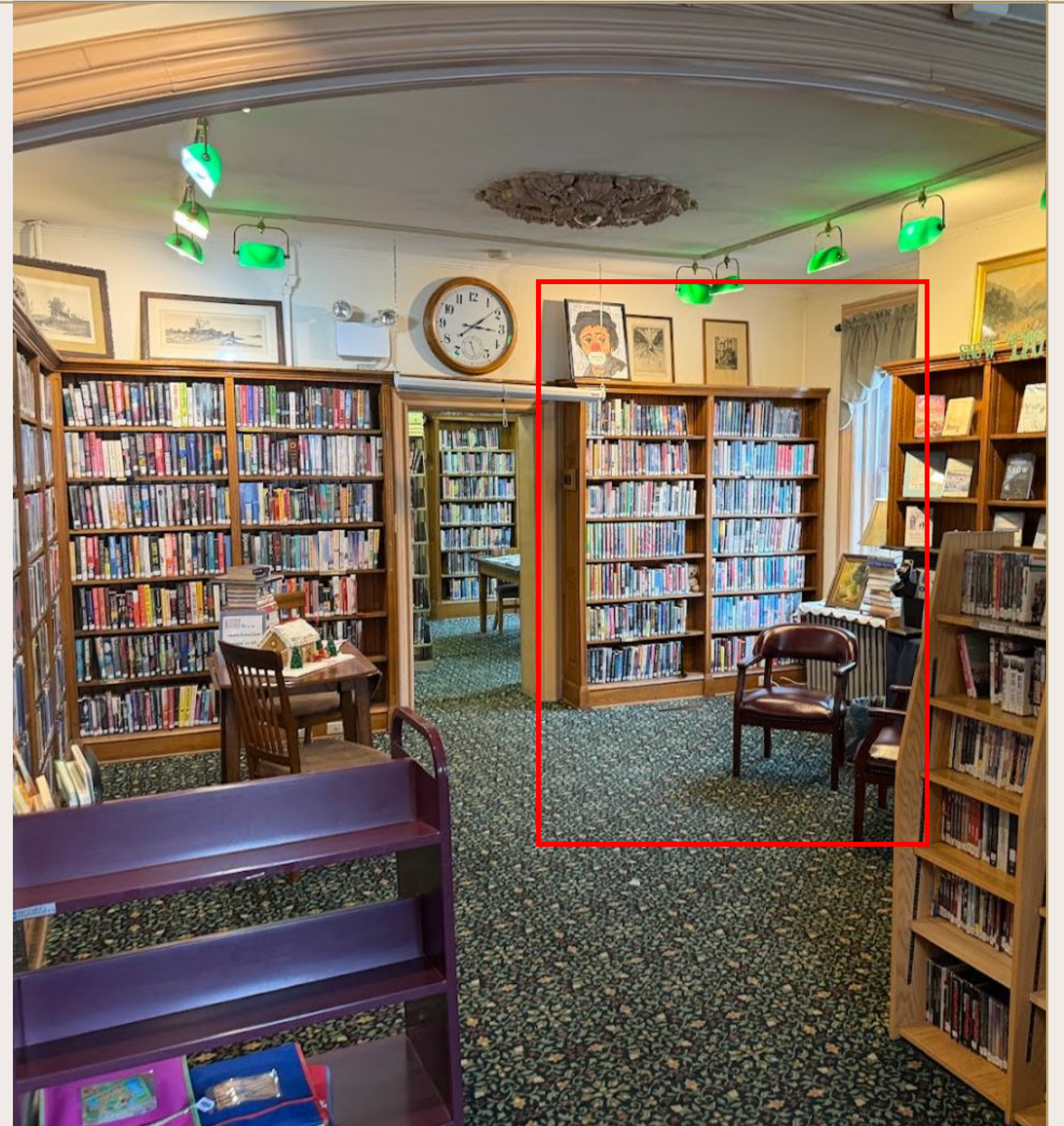
TECHNICAL APPROACH



Limited Space

Looking Glass requires a specific viewing angle and distance, which is hard to guarantee in a small space with groups of visitors.

TECHNICAL APPROACH





Pirates of the Caribbean

TECHNICAL APPROACH



Possible Solutions

Next Steps

- By halves: validated gameplay loop
- After halves: focus on Priestley’s content to create the experience flow

Risk

- Engagement with teenagers needs real testing
- Handwriting recognition is still under exploring
- Equipment integration: handwriting input, LED screen, local models deployment, physical props

**What question would
you want to ask
Priestley?**

**What do you see as the
biggest risk in our
current direction?**

QUESTIONS