ByteBusters

A web app to make the internet safer.

Irina Hallinan
Frederick Kim
Yisang Luo
Alex Truong
Yinjun Zheng

Problem

- As technology continues to rapidly evolve, many people who are not aware of how scams are evolving may be at risk of being victims to scams.
- Internet scams rose by 74% from 2020 to 2021.
- In the US, $1.7 billion dollars was lost to scams in 2021.

Target User Group

- The people who are likely to be victims of online scams.
- Adults with limited technological exposure and experience, such as seniors and middle-aged adults learning to use the computer.
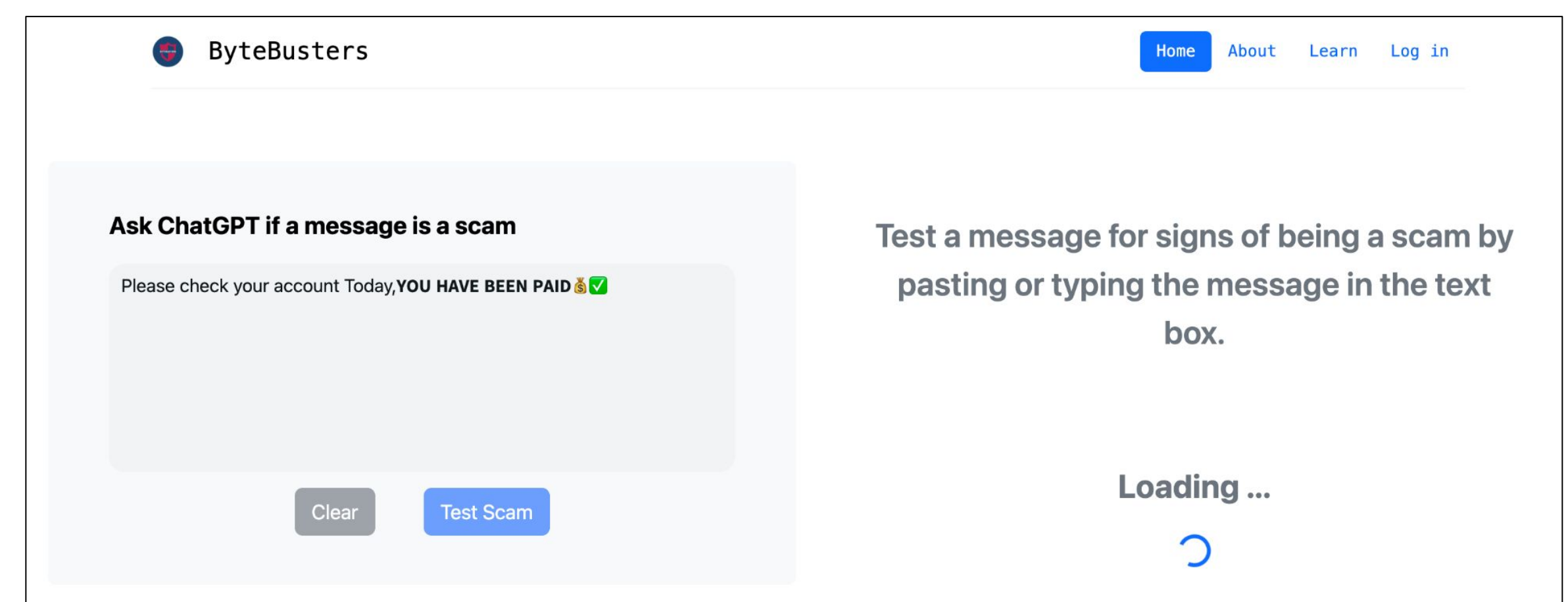- We observed and interviewed students at the Berkeley Adult School.

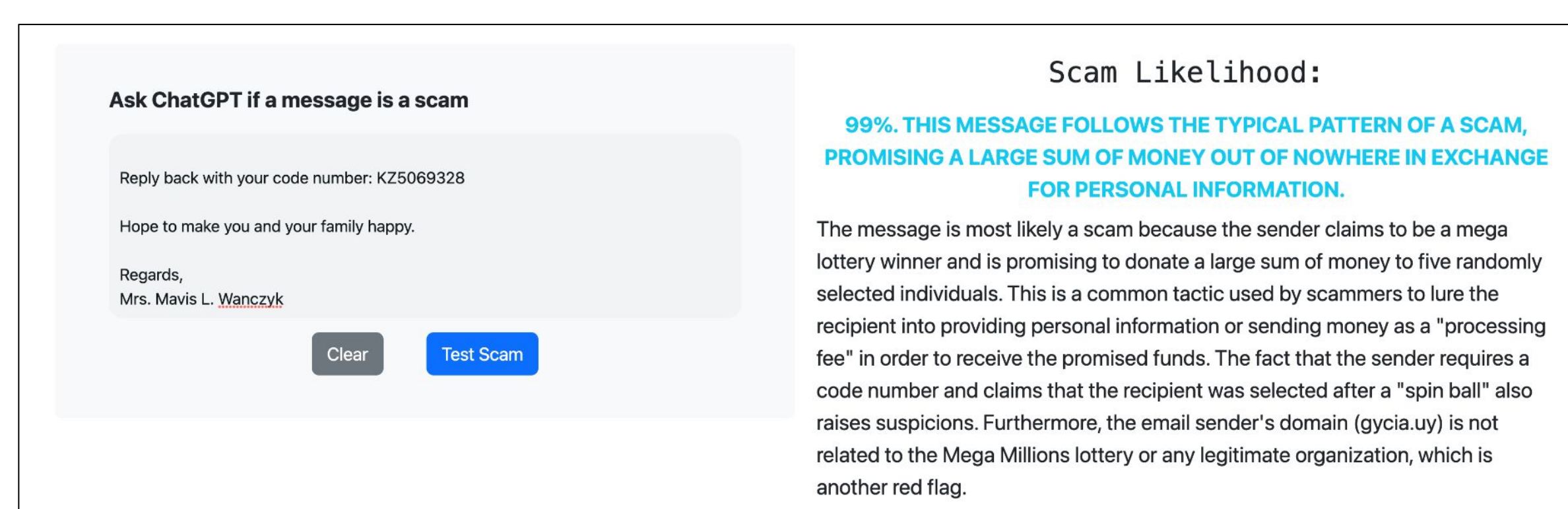Figure 1. Home Page scam message evaluation in progress.

Figure 2. An example scam email that was correctly detected by ChatGPT as a scam.
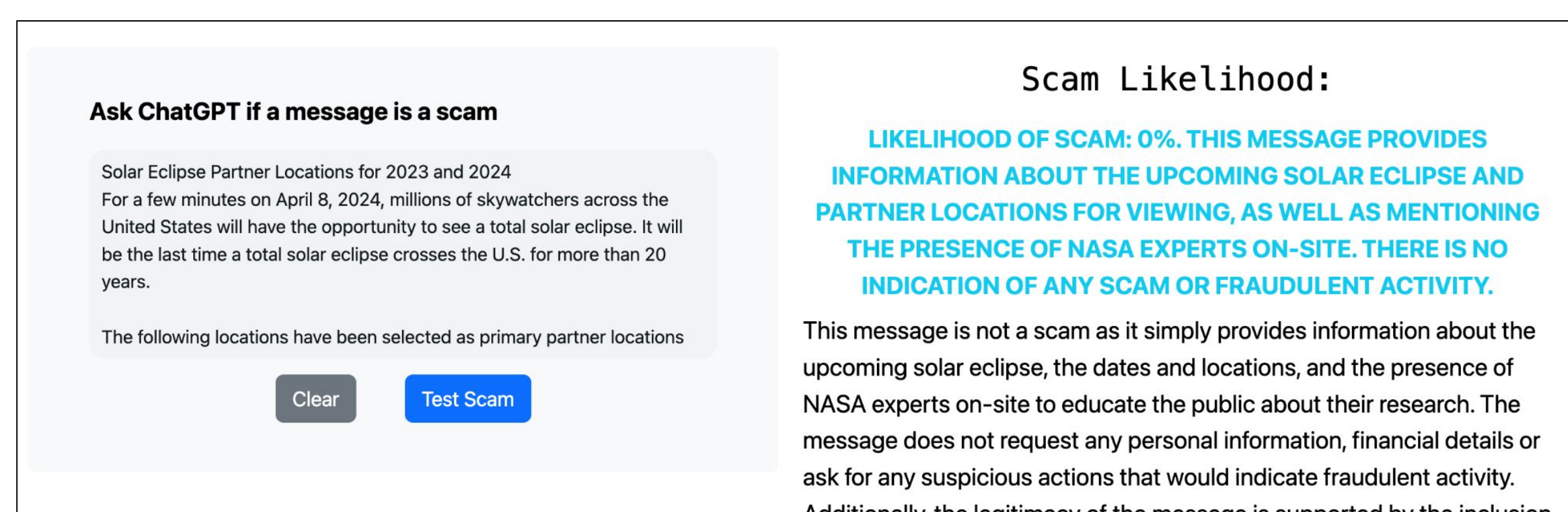

Figure 3. An example email that was correctly detected by ChatGPT as not scam.
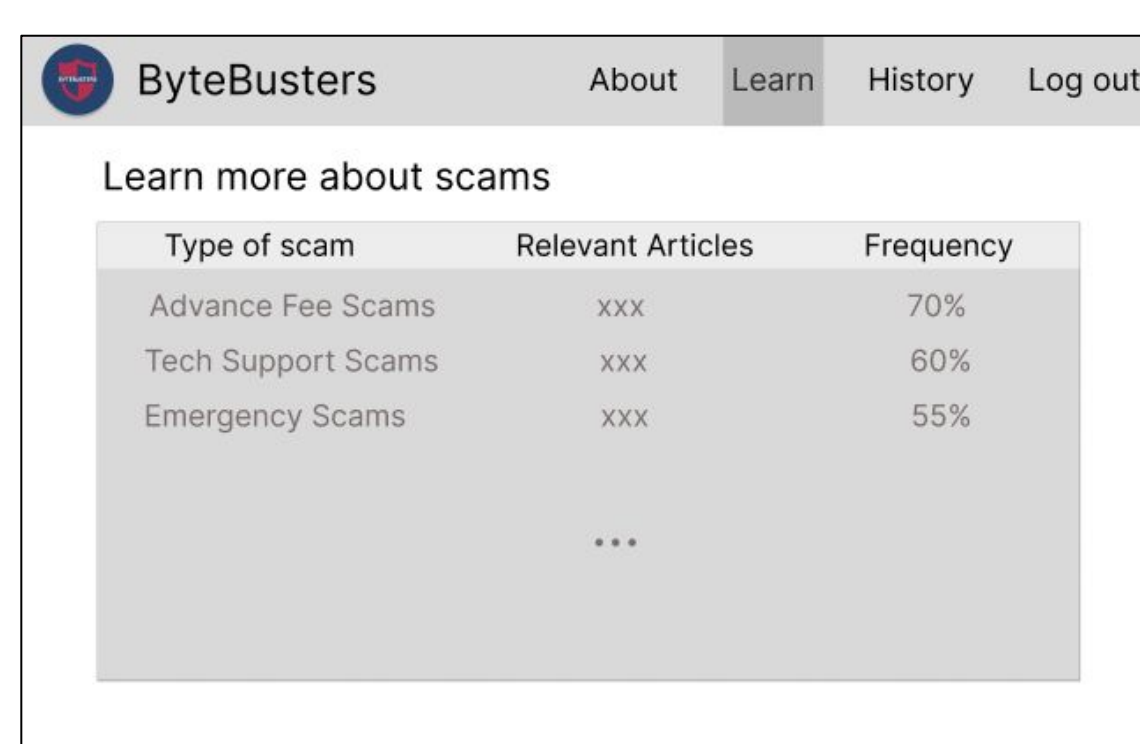

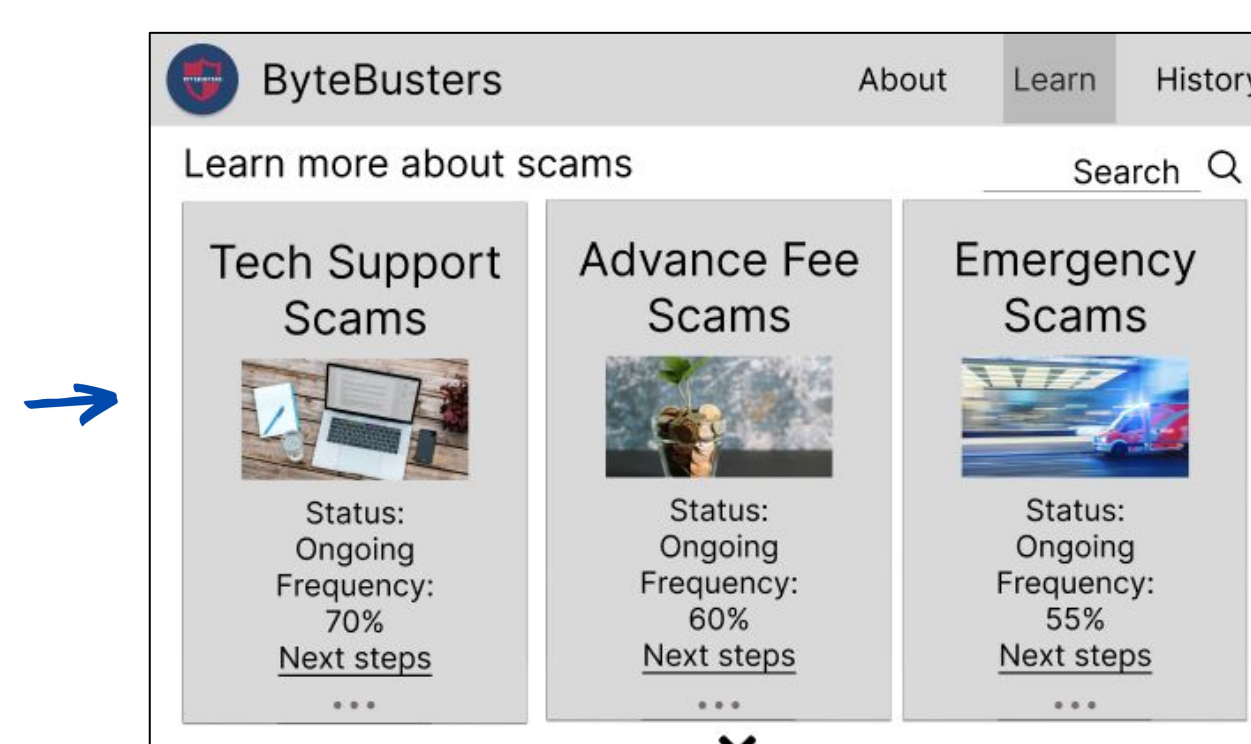Figure 4. Initial design of the Learn Page in Figma.

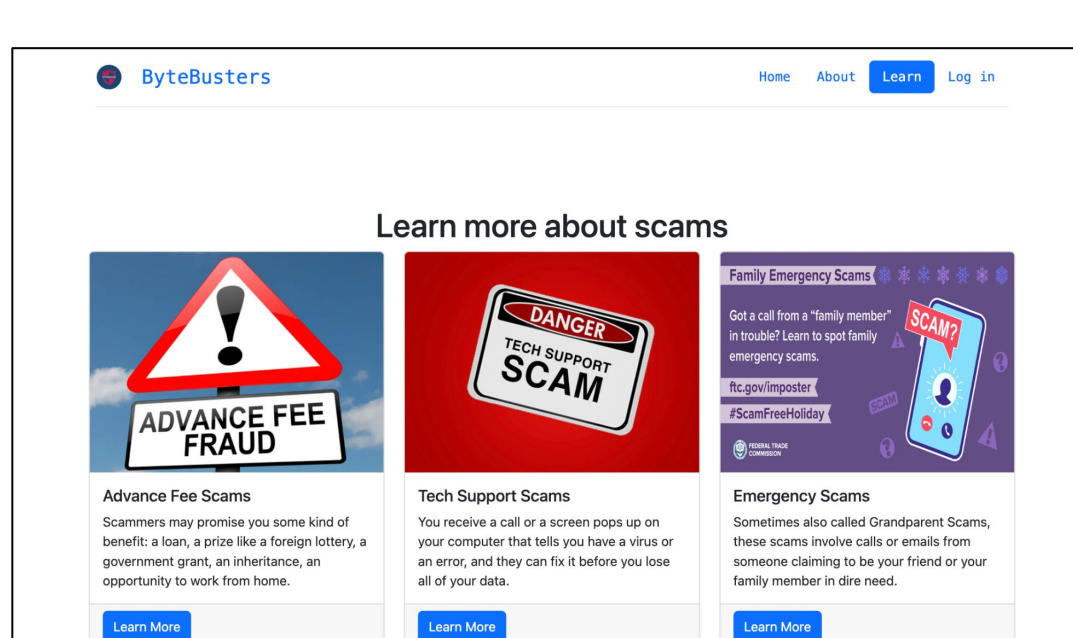Figure 5. Redesign of the Learn Page in Figma.
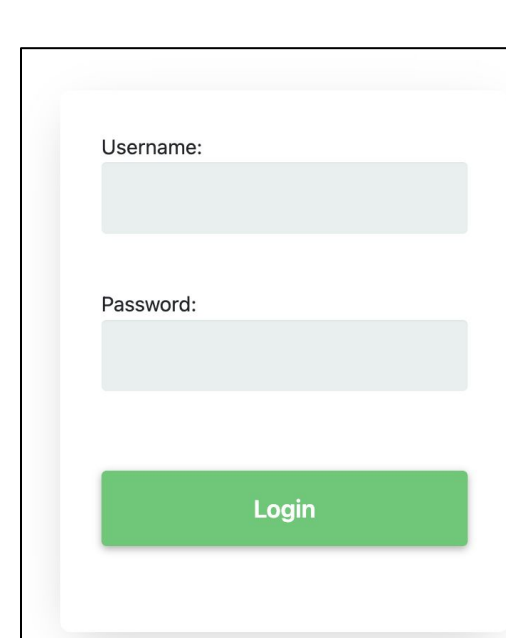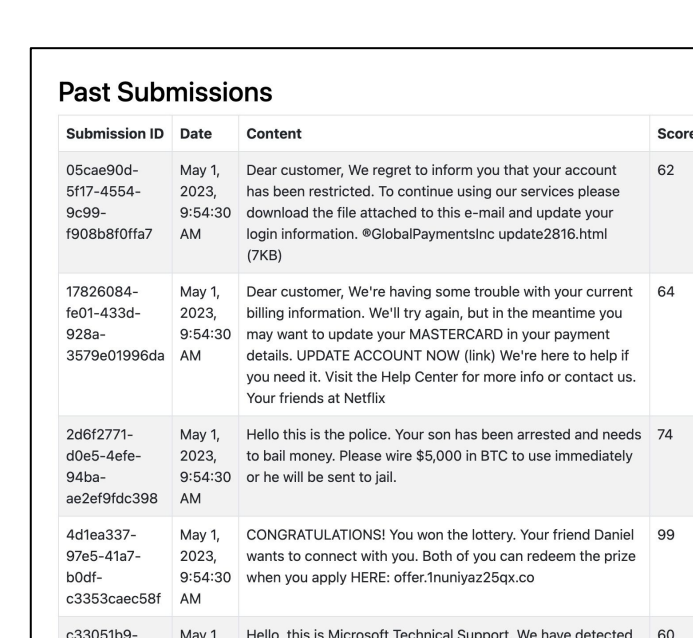

Figure 6. Final implementation of the Learn Page.

Figure 7. The Login.

Figure 8. User History table.

Solution

Our solution is a web platform, where users can copy and paste messages from their phones or their emails to check via OpenAI ChatGPT if a message is a scam or not. The Home page displays a scam likelihood score and a reason of why a message is or isn't a scam (Figure 1, 2, and 3).

Our platform offers a Learn page that provides card views of different types of scams, so that the users can learn more about scams and read relevant articles to protect themselves.

Our platform offers a secure login and logout functionality. Once logged in, users can view their past submissions and see the scam likelihood score and reasons for each message in the History page (Figures 7 and 8). With this feature, our platform provides a comprehensive solution to help users identify potential scams and protect themselves from online fraud.

Design Evolution

We designed ByteBusters following the Human-Centered Design approach. We started with observations, followed by low-fidelity static wireframes, and finally built a high-fidelity interactable prototype.

We used Figma to iteratively design and improve low-fidelity interface. Figures 4, 5, and 6 show the evolution of the Learn page.

Final Prototype

Our final prototype is built with React on the Next.js framework, Bootstrap CSS, and IndexedDB database. We created an API to connect with OpenAI's ChatGPT with a prompt asking for the likelihood and reason of whether or not the message is a scam.

In the future, we would add highlights to the suspicious parts of the message and color-code the likelihood score, so that the user can see at a glance which parts of the message are suspicious.

Additionally, we would add which type of scam the user is facing, and the frequency of each scam type, so that we can recommend the most relevant news and articles to the user.