



# REG TECH

## DATA EXPLORERS

# PAIN POINTS OF SENIORS

# 1. LACK OF UNDERSTANDING

- Elders struggle to keep up with ever-changing digital space
- Complex interfaces
- Inadequate digital literacy

Seniors also frequently fall victim to scammers who seek to defraud them of their life savings. "They are the easiest targets as they do not know enough of the technology that enables the scammer to do that," Yeo says.

"Engaging in conversations about the latest online scams, teaching seniors how cybercriminals think, and educating them on cybersecurity best practices are pivotal," he asserts.

"While tools such as **anti-malware solutions** are readily available, awareness and education remain critical components of seniors' online safety."

With **education and knowledge**, experts believe that seniors will be better able to enjoy the benefits of the digital landscape without running into scams that are potentially devastating to their lives.

## 2. LACK OF SUPPORT FROM PEOPLE AROUND THEM

- Some elders live alone with no support or trusted figure to confide in
- Lack of real-time support when faced with potential scam

The screenshot shows a news article from CNA. At the top, there's a navigation bar with the CNA logo, a 'Best News Website or Mobile Service • WAN-IFRA Digital Media Awards Worldwide 2022' badge, and links for 'Sign In', 'My Feed', 'Search', and 'Edition: Singapore'. Below the navigation is a horizontal menu with 'Top Stories', 'Latest News', 'East Asia', 'Asia', 'Singapore', 'Commentary', 'Sustainability', 'CNA Insider', 'Lifestyle', 'Watch', 'Listen', and '+ All Sections'. The main headline is 'Elderly man nearly loses S\$3.7 million to scammers; was targeted thrice in under two months'. A sub-headline below it reads 'A 20-year-old involved in all three scam cases targeting the elderly man was arrested.' A text box contains the following text: 'This prompted the Anti-Scam Centre and CIMB officers to jointly engage the elderly victim at his home. While CIMB's fraud management team suspended the victim's bank account to prevent further losses, the Anti-Scam Centre sought the victim's son's assistance to provide family support to the elderly man.' Another text box below it states: 'The next day, the Anti-Scam Centre was alerted by the elderly man's son that three cheques amounting to S\$1.2 million were issued by Hong Leong Finance under the victim's instruction to three individuals.'

# 3. GULLIBLE IN A NEW ENVIRONMENT

- Unable to differentiate between the trusted & scam

- Susceptible to impersonation scams (e.g. government officials) as they are afraid of authority

He said: "A lot of seniors are isolated and live alone so they are lonely. So, when (a scammer) speaks nicely to them or sends them a link they want to see, they will be very excited and go for it."

"I was told that someone impersonated me and used my credit card in China to spend around 300,000 yuan (\$57,000). I was scared and shocked, but the person kept reassuring me that they're the police and would help me settle this," she said. The retiree was then transferred to several other "police officers" who promised to prove her innocence.

"They were very patient and seemed very kind. It really sounded like they wanted to help me," she said.

To assist with investigations, Mary was told to report to an "Officer Lin" every day via WhatsApp.

"They said they needed this money to check that the funds I owned were clean, and I believed them," she added.

The screenshot shows a news article from AsiaOne. At the top, there are several awards and accolades: 'AWARDED' (Best in Audience Engagement • Winner of Small/Medium Media Category), 'Best Native Advertising • Winner of Small/Medium Media Category', and 'SME500 Singapore SME 500 Award 2023'. Below the awards, there is a navigation bar with links for LATEST, NEWS, ENTERTAINMENT, LIFESTYLE, DIGICULT, EarthOne (which is highlighted with a green border), VIDEO, MORE, and MULTIMEDIA. There is also a search icon. The main headline is 'They seemed very kind': Retired cleaner nearly scammed out of about \$160k by 'police officers' (with a 'SINGAPORE' tag). The article text discusses how the victim was impersonated and used her credit card in China, and how she was reassured by the scammer that they were police officers. It also mentions that she was transferred to other "police officers" and asked to assist with investigations via WhatsApp.

# PROBLEM STATEMENT

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As technology advances, how can we help seniors better understand and differentiate between legitimate and fraudulent online communication, while providing the support they require.

# TARGET AUDIENCE

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## Seniors

- Protect them from getting scammed
- Able to get assistance immediately when needed

# OUR SOLUTION

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An application that detects suspicious URLs & scam messages from unknown numbers

# URL DETECTOR

01

Every URL can be detected & categorised as safe or unsafe

02

If deemed safe, there will be a message that says the URL is safe

03

If deemed unsafe, there will be a message warning the user to be cautious & click the link at their own risk



# SCAM MESSAGE DETECTOR

01

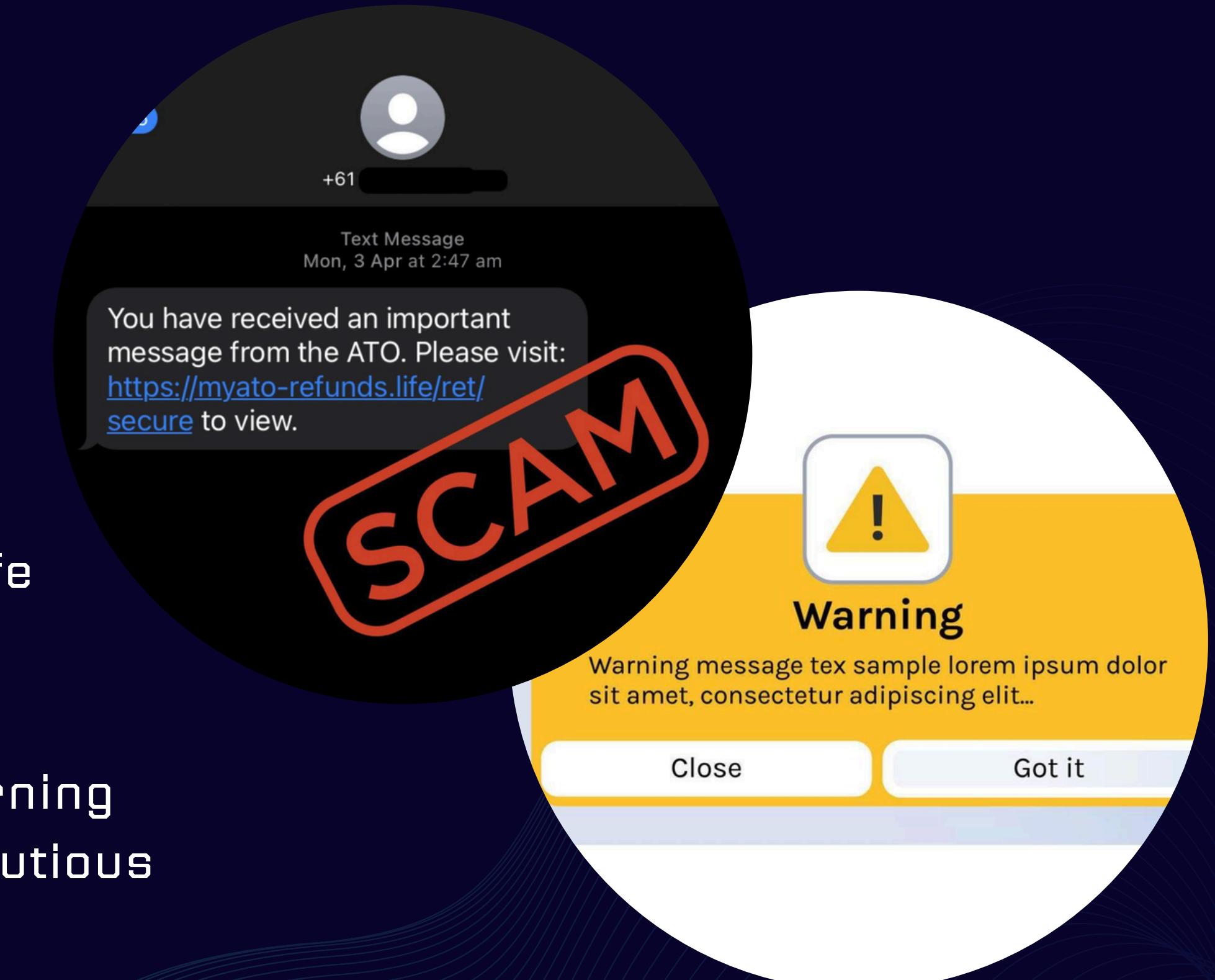
Detect keywords & identify if the message align with scam patterns

02

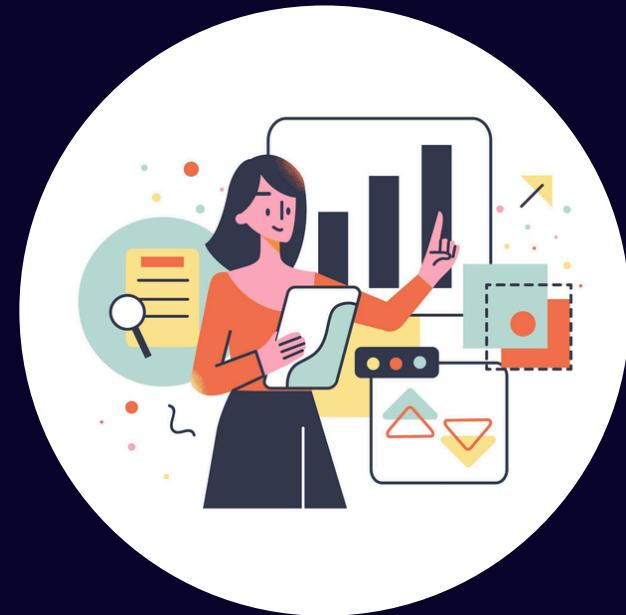
If the message is deemed safe, there will be a message that says it is safe

03

If the message is deemed unsafe, there will be a warning that tells the user to be cautious



# OUR PLAN



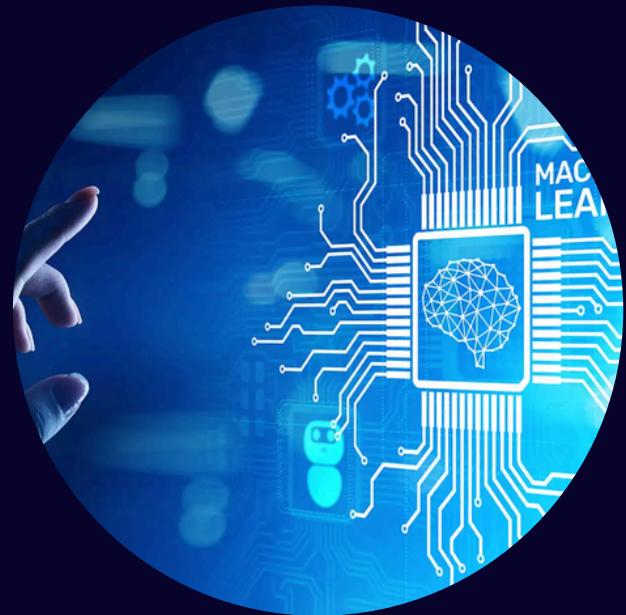
## Data Collection & Curation

Gather comprehensive databases of known scam URLs & message patterns



## Develop Algorithms

Develop algorithms for analyzing message content & URLs to detect potential scams



## AI & Machine Learning Models

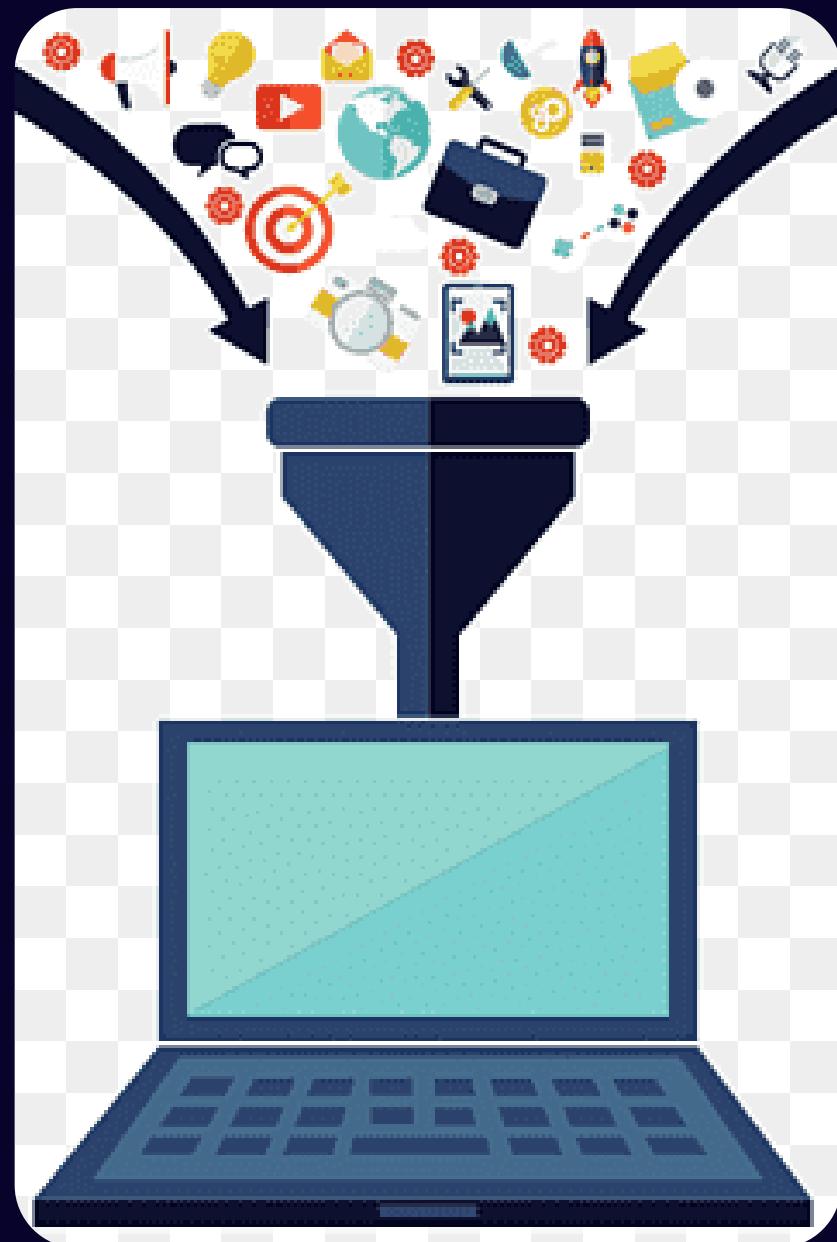
Use Web Scraping & Analysis, Feature Extraction, & Model Training



## User Interface

Design a user-friendly interface notifying users of message safeness & detect URL risk

# DATA COLLECTION & CURATION



01

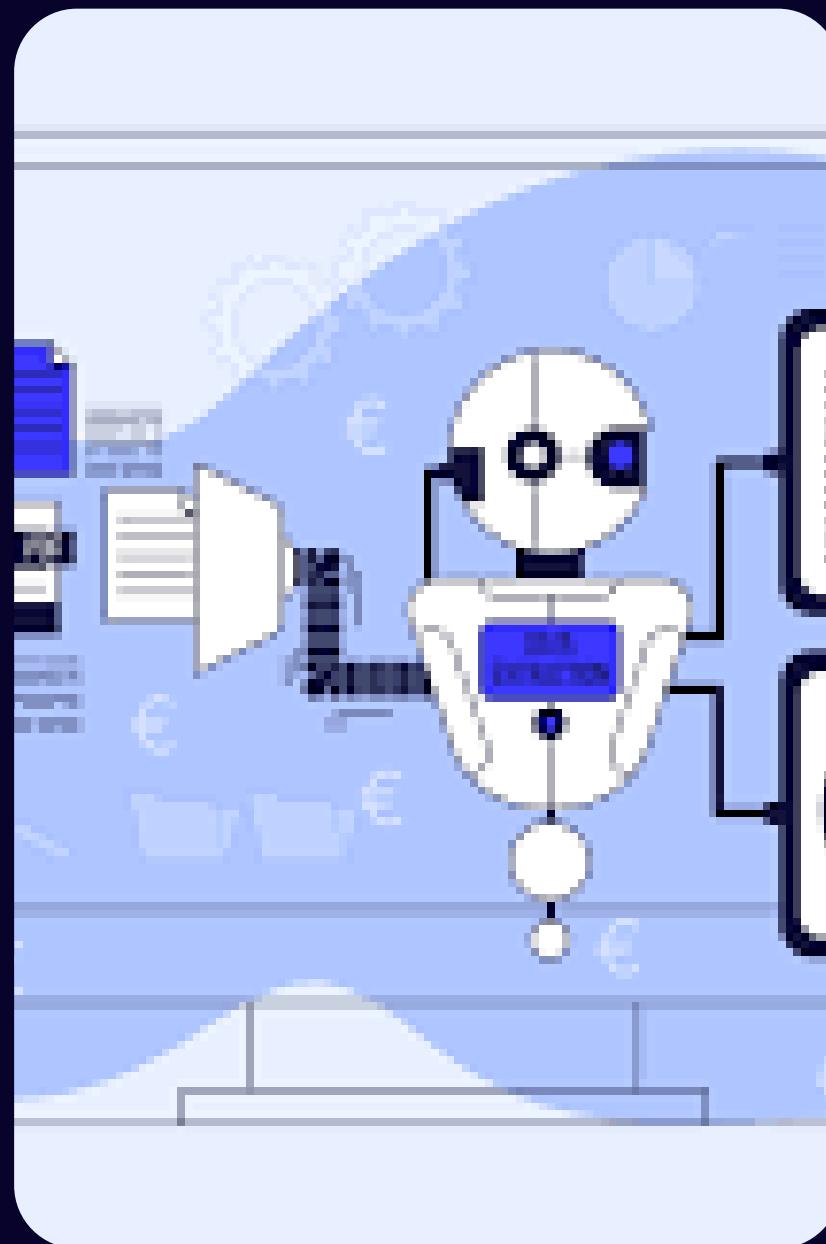
Identify reliable sources to perform web-scraping, collecting real-time data on new scam URLs & scam messages

02

Create scraping scripts to collect text-based messages & extract URLs

# DEVELOP ALGORITHMS

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01

Create algorithm that analyzes the message contents to detect patterns and keywords that are associated with scams

02

Create an algorithm that matches URLs against known patterns for malicious URLs used in phishing attacks

# AI & MACHINE LEARNING



01

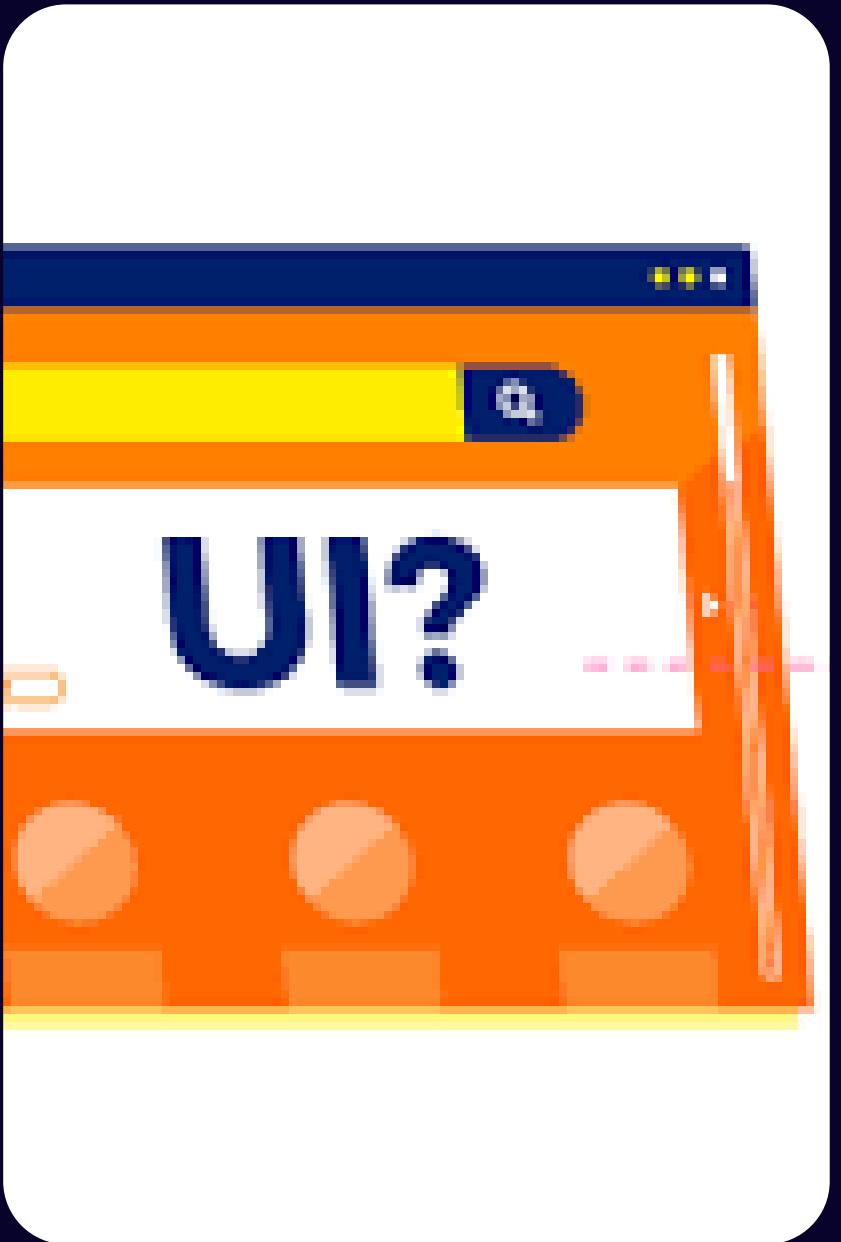
**Model Training** - Train machine learning models using the features extracted. Supervised learning techniques can be used with labeled data from trusted & malicious websites to predict the likelihood of a new website being safe or malicious.

02

**Feature Extraction** - Develop features that help identify the trustworthiness of a website, such as domain reputation, site age, presence of contact information, and user feedback.

# USER INTERFACE

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- 01 Design a user-friendly interface where user can enter URLs and initiate checks on the URL safeness**
- 02 Also include in the design for users to input text messages and run a scam detection analysis for messages**
- 03 After these scans if the URL/message is detected as a scam a report should be displayed on the parts where the URL/message flagged the scam detection, assisting users on recognizing potential scams**

# HOW OUR SOLUTION ADDRESSES PAIN POINTS

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- Users can insert a link into our application. The URL is scanned to distinguish if it is suspicious based off the database. There is no need to click into the link & risk being scammed.
- Users can also paste a message into our app. The app will identify if it is suspicious. Users will be reminded to not reply back to the message if it is deemed suspicious.
- By blocking off all unknown international numbers, elderly's do not have to worry about scam messages coming from overseas (e.g. impersonation scams).
- With a report local number feature, the app ensures that other users wont be getting phone calls from the suspicious number

# FEASIBILITY

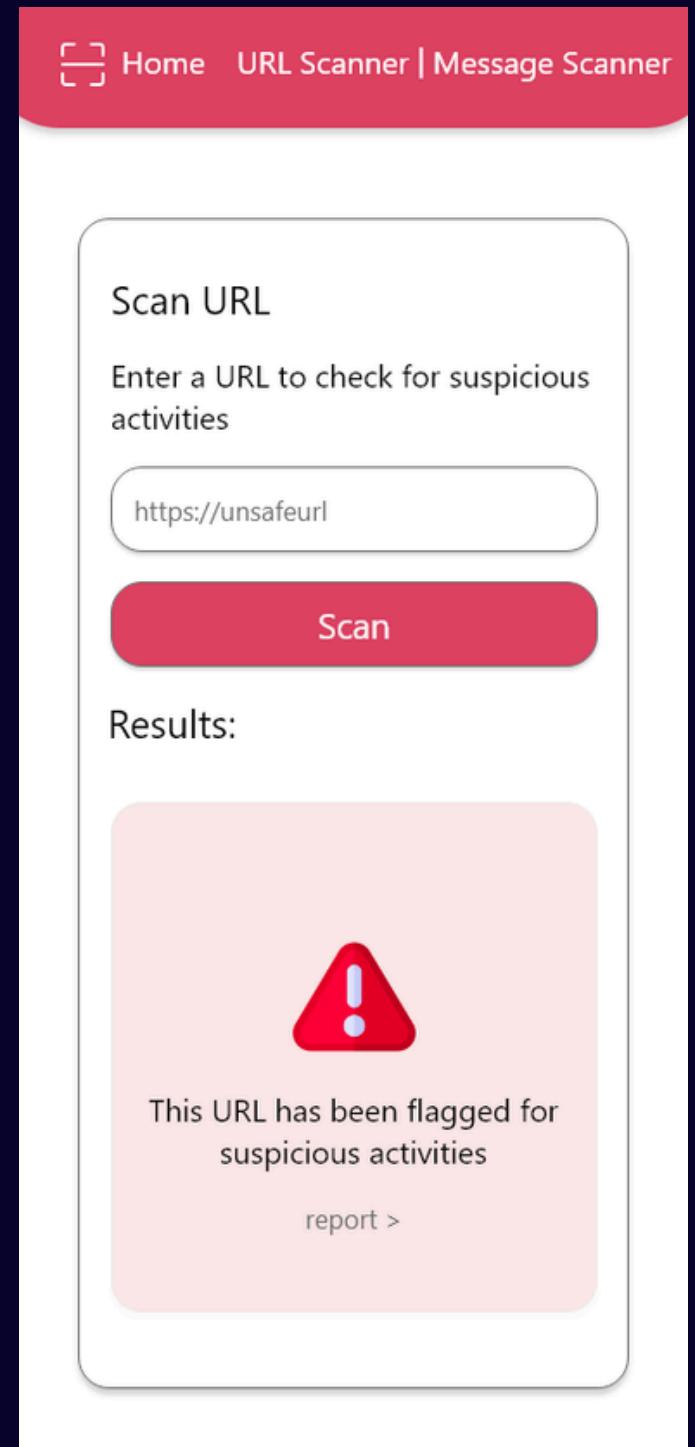
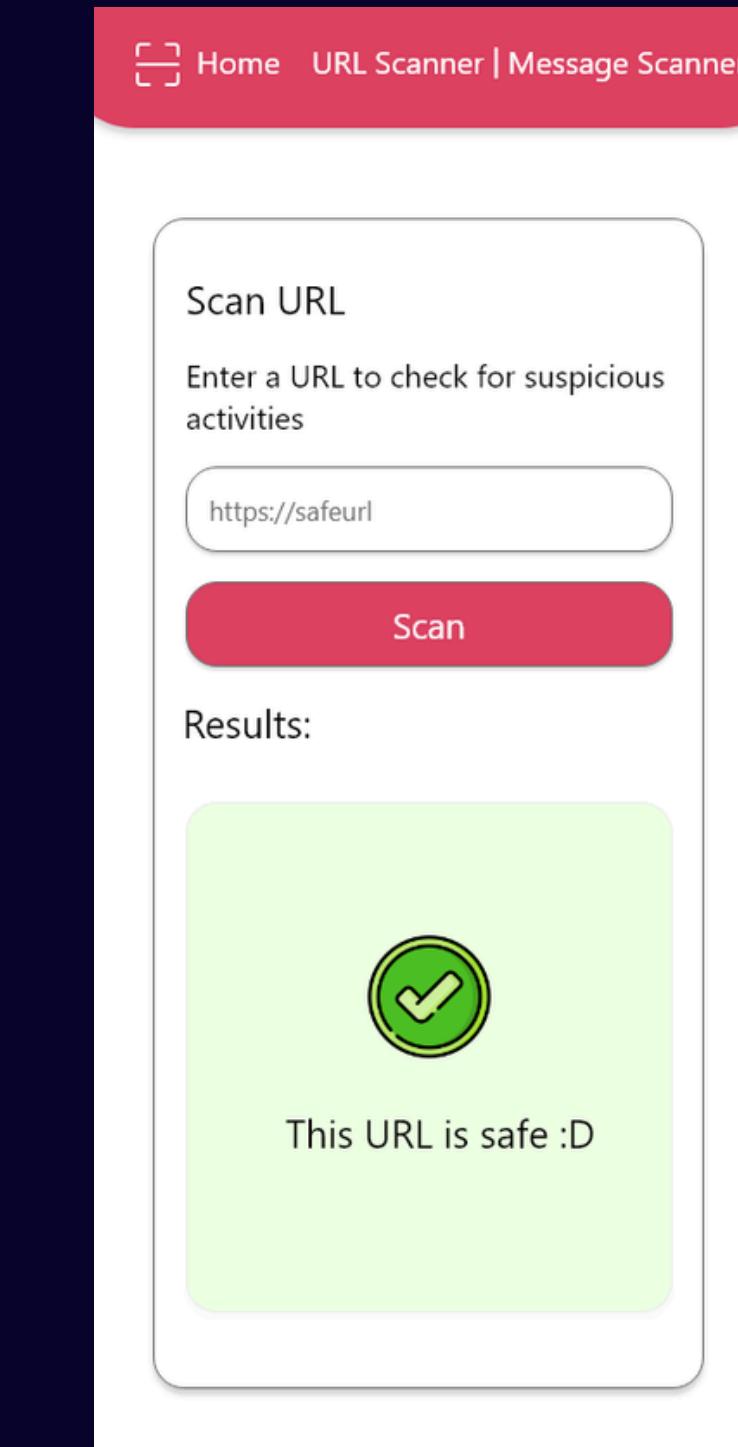
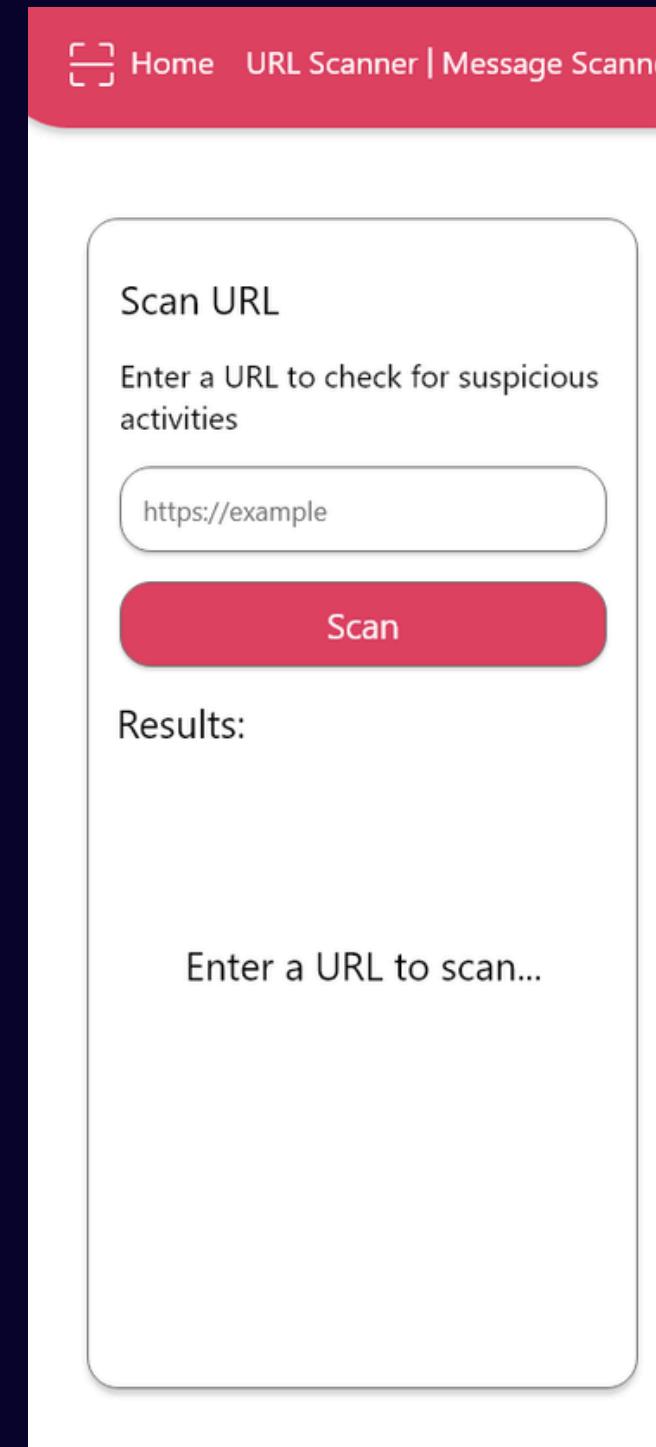
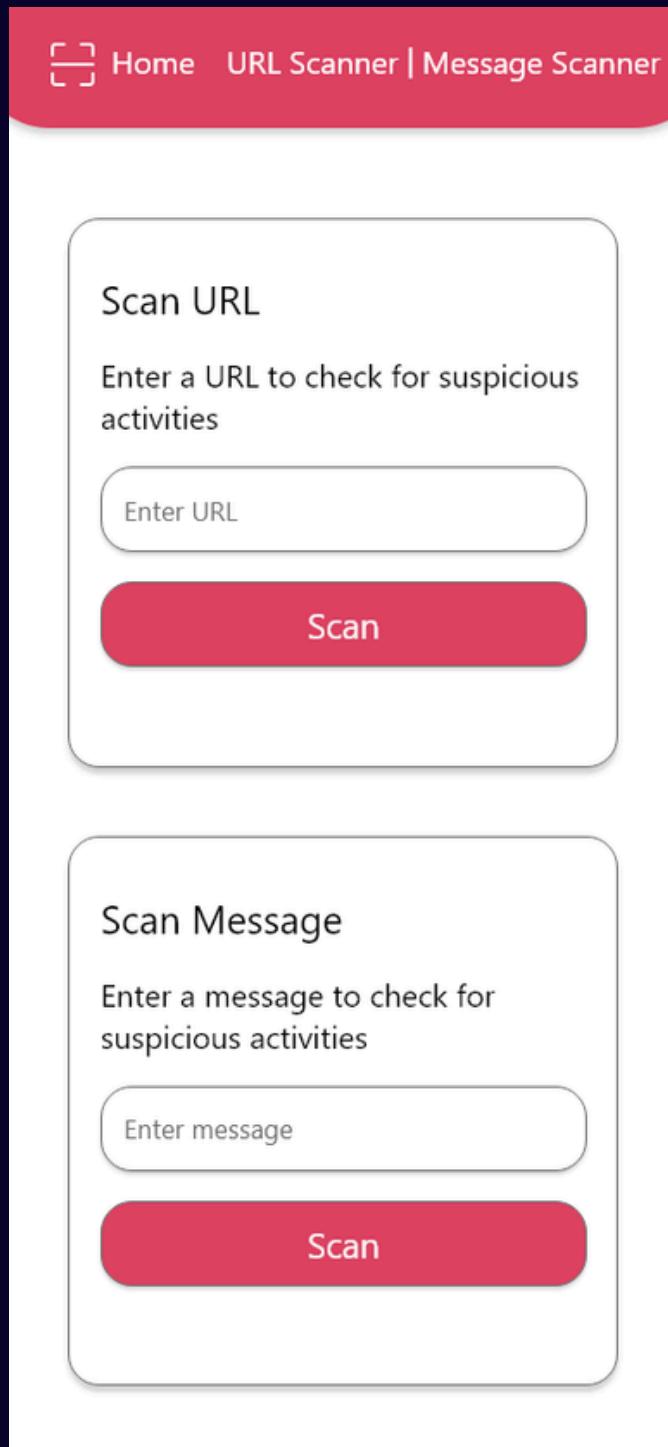
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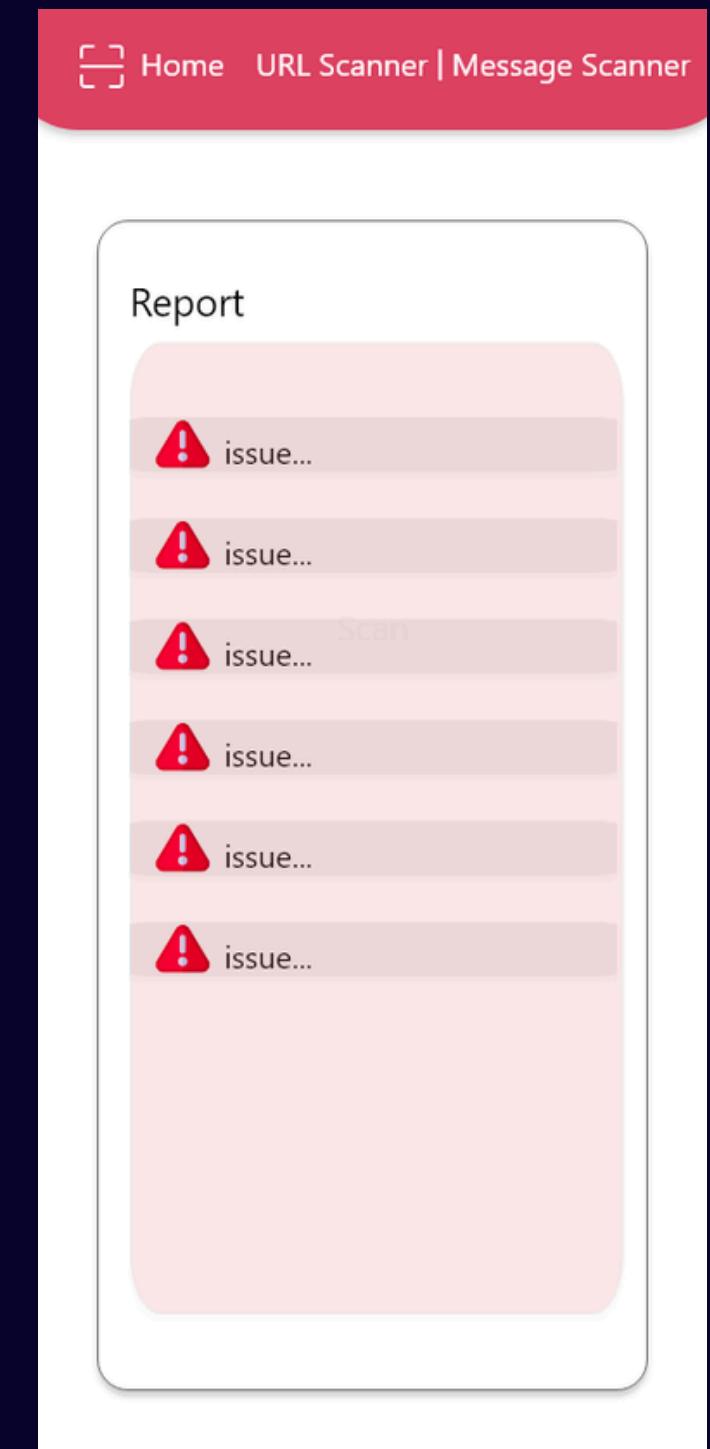
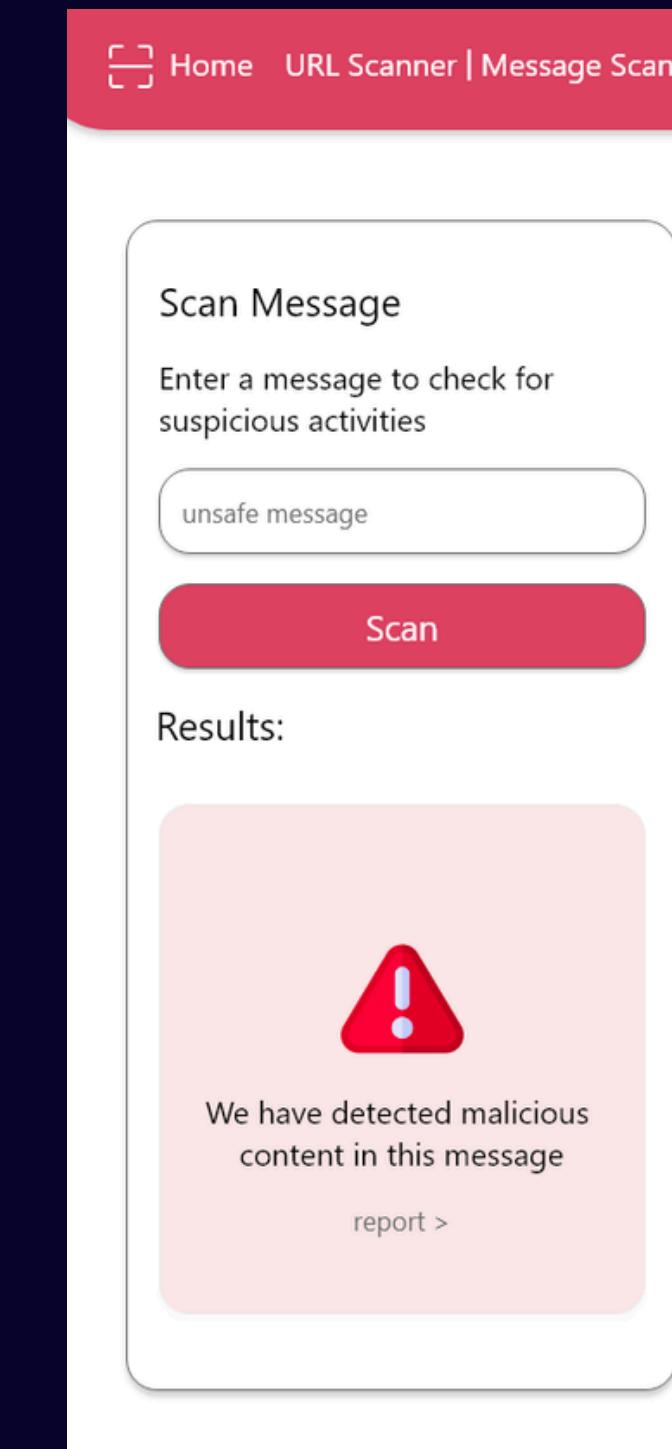
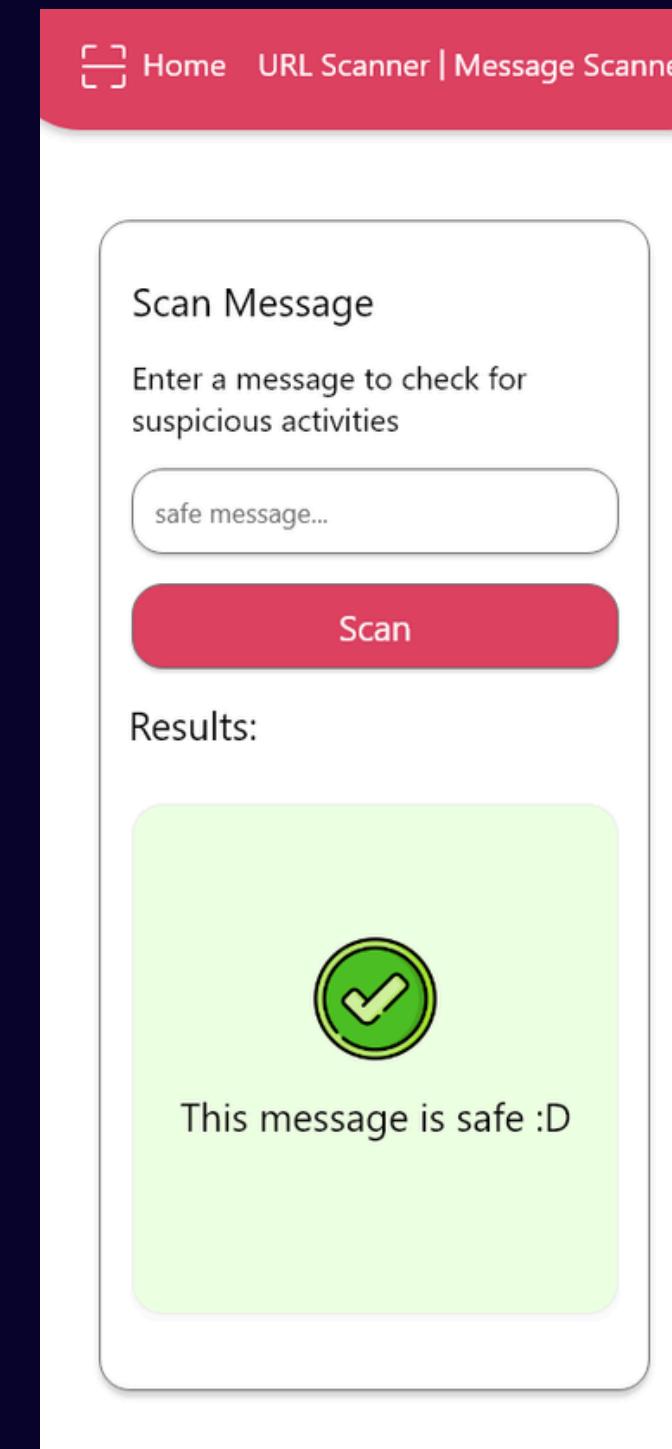
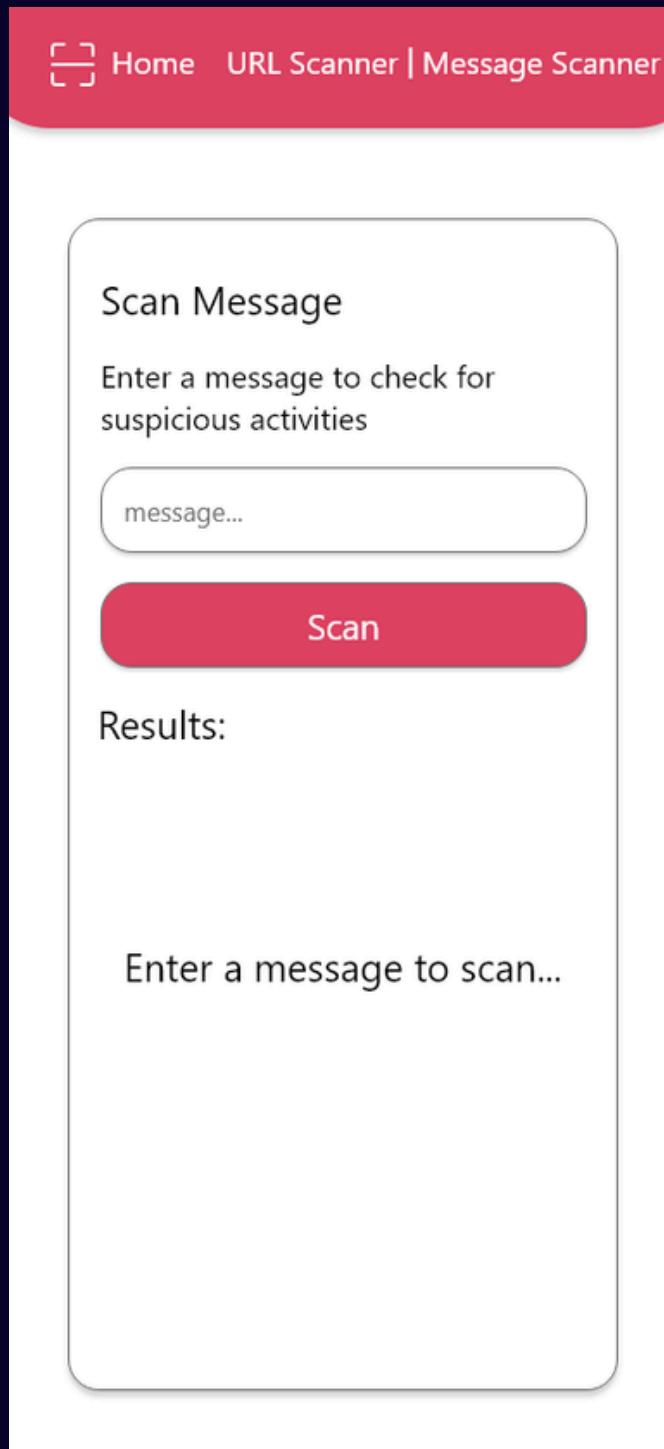
## Technical Feasibility

Technology required for web scraping, data analysis, machine learning, & API development is well-established and within reach

## UI



## UI



THANK  
YOU

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