

Pinocchio

Scam Detection App

The Problem

As Singapore transforms into **smart digital nation** through technology, it becomes important to shield people from the **increasing number of text scams**.

Scammers are also **becoming smarter** and **more deceptive**

The image displays three screenshots of news articles from The Straits Times, illustrating the prevalence of text scams in Singapore. Each screenshot shows the newspaper's masthead, navigation menu, and a headline about a scam incident.

Top Screenshot: The headline reads "Nearly \$1 billion lost by scam victims in Singapore since 2016". Below the headline, a sub-headline states: "Singapore 'I just felt really stupid': How a scam victim almost lost more than S\$1 million – until police and the bank intervened".

Middle Screenshot: The headline reads "At least 587 victims lost \$2.7 million to scammers posing as friends since start of 2022". Below the headline, a sub-headline states: "Singapore 325 suspects investigated over scams involving more than S\$9 million". A small text note below the sub-headline reads: "The 201 men and 124 women are aged between 16 and 86."

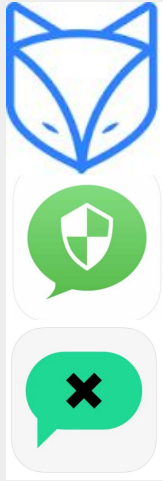
Bottom Screenshot: The headline reads "Scam victims in S'pore lost \$633.3 million in 2021".

The Solution

An **app** which monitors messaging platforms and **consolidates scam or spam chats** for the user to **sort, look through or delete.**

Market Research

Similar Apps



ScamShield

SMS Shield

TextKiller

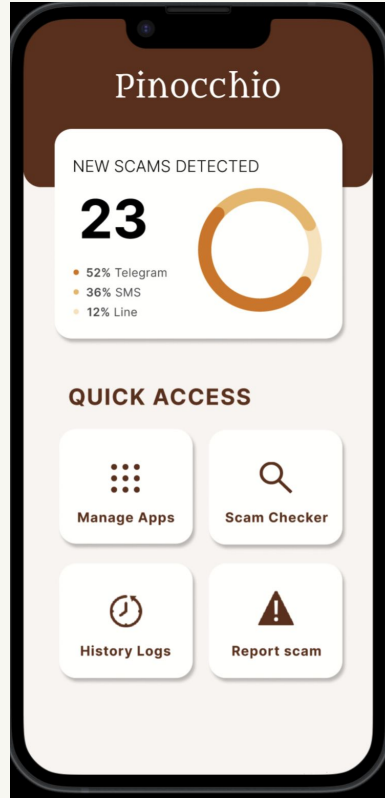
Our Unique Selling Points

- Scam detection across multiple messaging platforms (other than SMS)
- Compatible on both Android and iOS devices
- More user options (Delete / Leave / Sort)
- Manual scam message checker

The Features

Consolidates scam
chats across
different messaging
platforms

Natural Language
Processing for scam
chats detection



Delete / Leave /
Sort compiled chats

Textbox for users to
manually check if a
message is a scam

Incorporating Artificial Intelligence

- **Natural Language Processing (NLP)**
powers the spam message detection feature by predicting the likelihood of the message received being a scam

**Training the
ML Model
with existing
scam dataset**

**Data undergoes
preprocessing
(i.e.
Tokenization,
Stemming)**

**Wrangled data
trains Random
Forest
Classification
Model**

**New input data
is entered into
ML Model for
prediction**

**AI Model
determines
whether or not
the message is
a scam**

Potential Issues & Solutions



Privacy Issues

Pinocchio does not store any user data unless permitted to



Inaccurate Detection

Users may report any inaccurate detections to help train the AI further



No access to most platform's delete or leave chat function (not all platforms have ready-to-use libraries like Telegram & Telethon)

Partner up with them to gain more access to those functions

Scalability & Future Considerations

- **Increasing number of supported platforms**

Requires AI Model to be updated regularly due to the increase in different types of scams

- **Increasing accuracy of scam detection**

Adding deep facial recognition for profile pictures of scammers (usually similar), voice to text analysis to detect scam phone calls, web scraping of website data to detect scam sites, and AI reinforcement learning

- **Collecting scam data to help in anti-scam efforts**

Collecting certain data such as the profile picture, number, message(s) sent, etc, of the chat may help the government fight scams (SPF)

- **Monetisation**

Offer a free Basic Plan (SMS & WhatsApp only) and a subscription-based Premium Plan (All compatible platforms, including calls)