HELBme.

Security for Education

General Problem

Smishing, a **$485 billion global fraud crisis** that targeted 82% of Kenyans in 2024.

Nasdaq Verafin, The Star, Transunion Africa

Specific Problem

HELB loan beneficiaries are increasingly at risk of falling for SMS scams, as fraudsters **exploit the lack of sender ID verification** to mimic official messages.

Problem Validation

Conducted a survey with **13 undergraduates** who said they were unable to differentiate real from fake HELB SMSs with **4** of them falling victim as a result.

Are you familiar with SMS scams
How do you deal with them?
Name: Mr Collins & Wenje
Designation: Act Deputy Director of Comms
h Customer Experience

Private
Line: 0

Introduce yourself and explain what the
project is about.

① How do you typically deal with scams?
→ Students come complain
→ We urge them to file reports with the DCI
→ Most fear that process
→ Intensive awareness on SM
→ Release statements

⑤ What do you think of our solution? Is it
feasible?
- It's a good idea
- Would really help students.
- Though he wishes students were educated
more about these scams
- ~~Wished~~
- More beneficial if we are to ~~test it on~~ build for
social media
- Actively looking for viable solutions

Reminder: Kindly note that to validate your 2025/2026 loan and scholarship application, you are required to send KES 100 to Paybill 247247 (Account: ███████████ 26th August 2025. Track your application status at www.hef.co.ke.

Tap to load preview

Link previews are on.
Learn more or turn off in Settings.

Bravo!

Your 2025/2026 Undergraduate Subsequent Loan and Scholarship application (Serial ██████████) has been received.

To confirm your application and verify your mobile number for a smooth Semester 1 funding process,

Dear Velma. Your tuition loan award of Ksh.15117 (Batch 6406) has been disbursed. Check with student finance office. Dial *642# to self-serve.
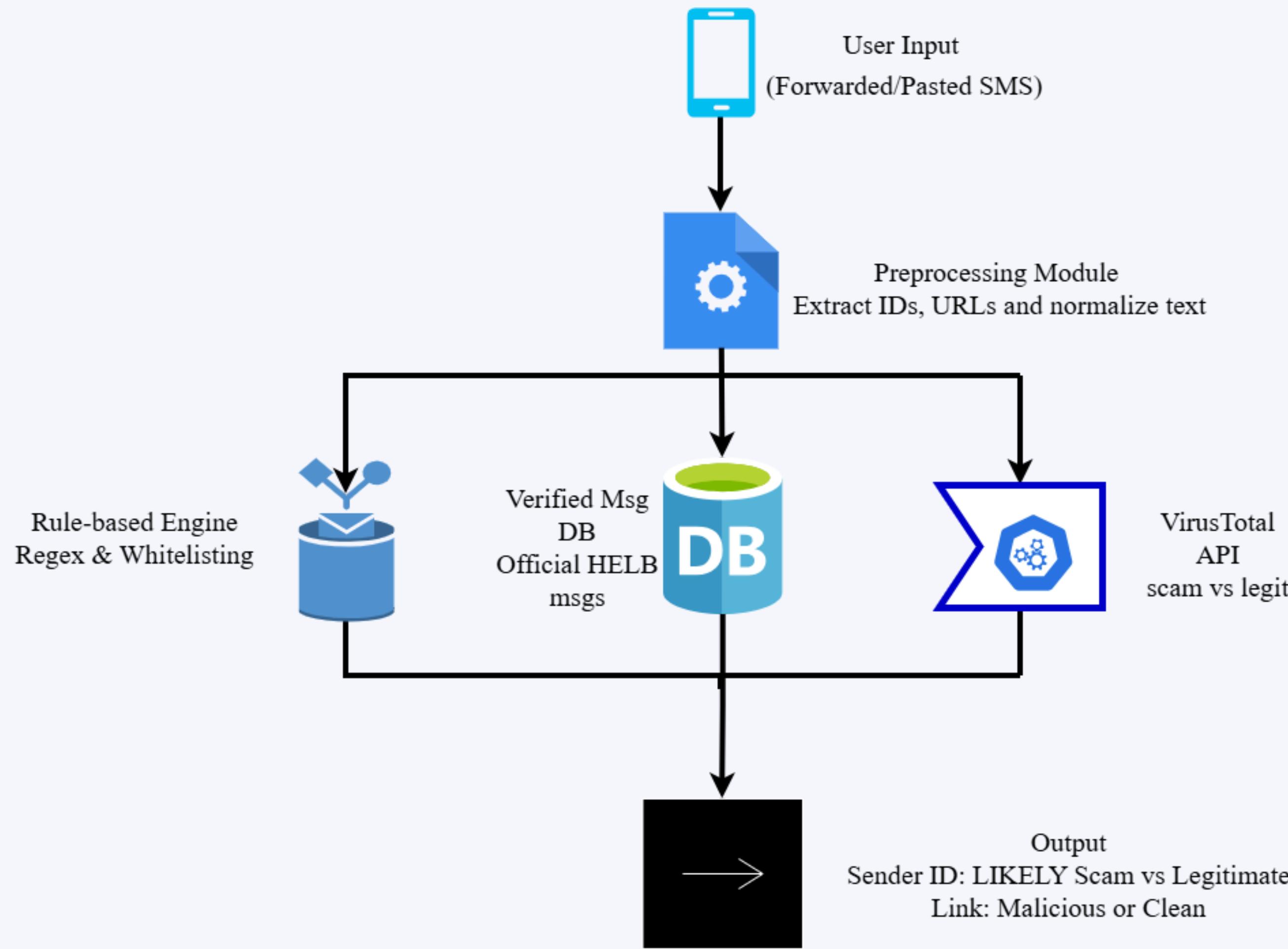
Unread

14:57

Hello. Kindly note that your son/ daughter's Higher Education Loans Board upkeep loan has been paid.

Solution

User Input
(Forwarded/Pasted SMS)

Preprocessing Module
Extract IDs, URLs and normalize text

Rule-based Engine
Regex & Whitelisting

Verified Msg
DB
Official HELB
msgs

VirusTotal
API
scam vs legit

Output
Sender ID: LIKELY Scam vs Legitimate
Link: Malicious or Clean

Responsible Computing

Data privacy.
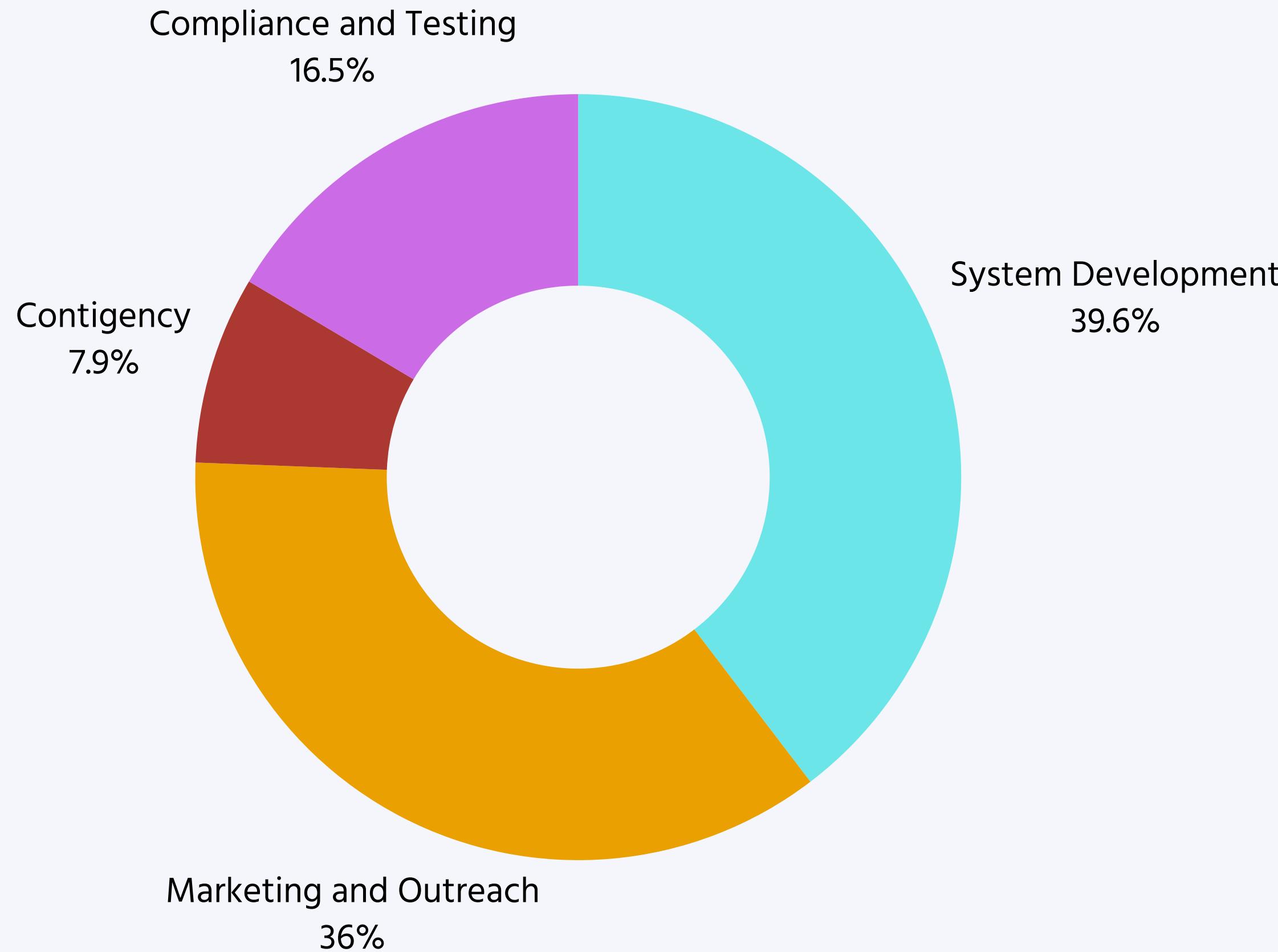
Transparency.

Accessibility.

Business Model

Entity	Model	Explanation
Students	B2C Freemium & Premium	Freemium → Sender ID verification Premium → Link verification, text semantics
Learning Institutions	B2B Premium	Platform access and training
Digital lending applications	B2B Premium	API access for their clients to verify messages
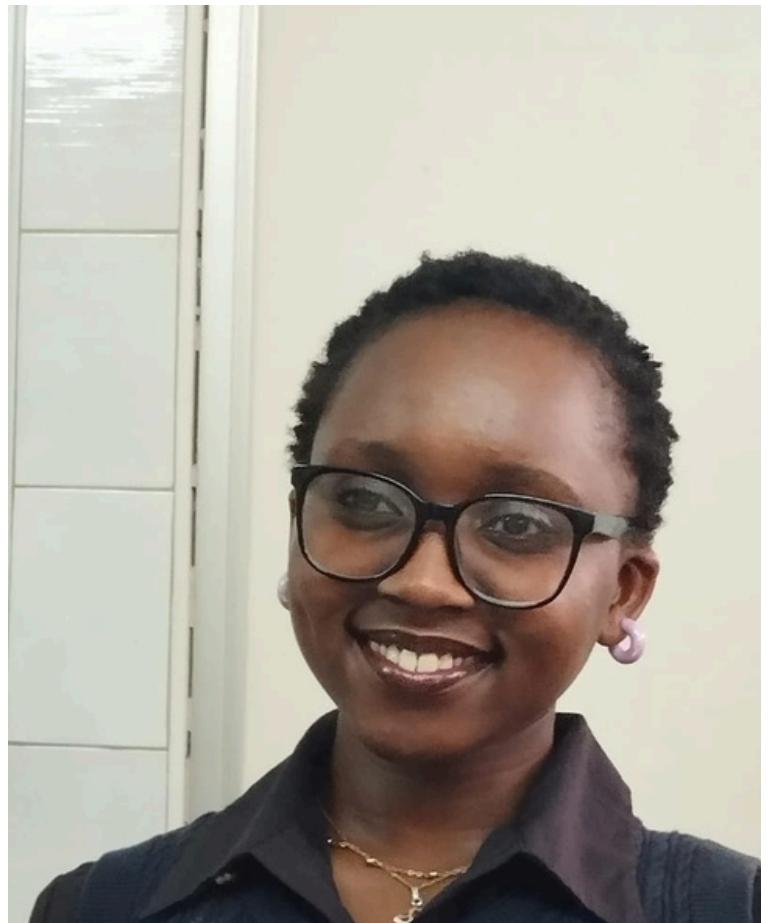
Amount needed to pilot
1,928,000

Compliance and Testing
16.5%

System Development
39.6%

Contigency
7.9%

Marketing and Outreach
36%
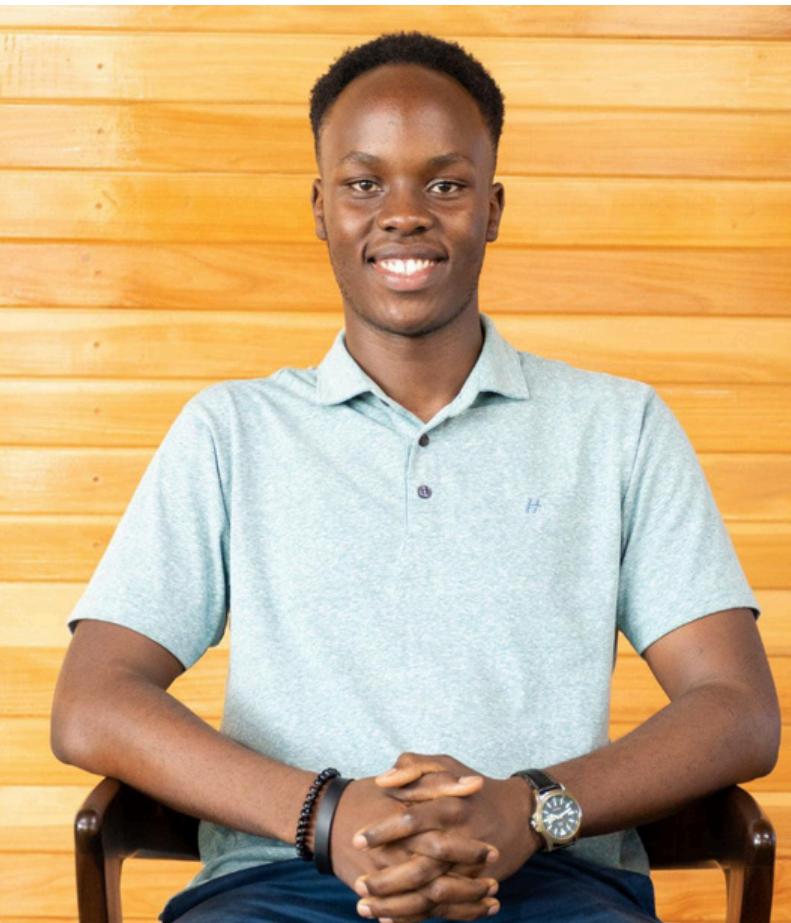
Value Proposition

We protect HELB beneficiaries from falling victim to smishing scams by verifying authenticity of messages.

Team

Bridgette Musango
Team Lead & Network
Security Engineer

Augustine Chironga
Software Engineer

Victor Mwai
Security Analyst

Norah Kimathi
AI Engineer and
Documentor

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