PHOMIES

roboCAPTCHA

CS206 G2T06

2022

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ABOUT

roboCAPTCHA

INTRODUCTION

roboCAPTCHA

CAPTCHA stands for Completely Automated Public Turing test to tell Computers and Humans Apart - a concept we based our application on to detect bots.

Robo is a reference to our main adversary, fraudulent scams scaled up through automated bots.

Lowercase - insignificant due to the strength of our captcha

OUR VISION

PRODUCT VISION
PRINCIPLES

Customer-focused

Customers are the whole reason for our product.

Ambitious, but not unrealistic

Vision needs to be attainable, but motivates the team.

Show differentiation

Vision should clearly convey unique selling point of product.

Looking to the future

Provide a guidance to how our product will look like in the future.

PROBLEM STATEMENT

Explains pain points that will be addressed by our solution, as well as the criteria used for evaluating product success from the customer's perspective.

The problem of

Rise in malicious scams worldwide

Affects

The general public, especially young adults aged 18-24

The impact of which is

- Susceptible individuals falling prey to scams
- Waste of time for those who are able to detect scams

A successful solution

Prevents scams from reaching the receiver

POSITION STATEMENT

The solution is described in terms of use scenarios, features, benchmark, and unique value proposition.

For

- Young adults
- Busy individuals

Who

- Are susceptible to scams
- Greatly value their time

The

roboCAPTCHA

That

Serves as an anti-scam protection

Unlike

The ineffective existing whitelisting/blacklisting approach

Our product

Filters scam techniques like robocalls and phishing links using rigorous verification techniques

PRODUCT VISION BOARD

TARGET GROUP

The general public, especially young adults aged 18-24

Individuals who highly value their time

NEEDS

An added layer of protection against scams

PRODUCT

Filters scam techniques like robocalls and phishing links using rigorous verification techniques

BUSINESS GOALS

Maintaining a sustainable revenue stream while striving to build the solution for social good

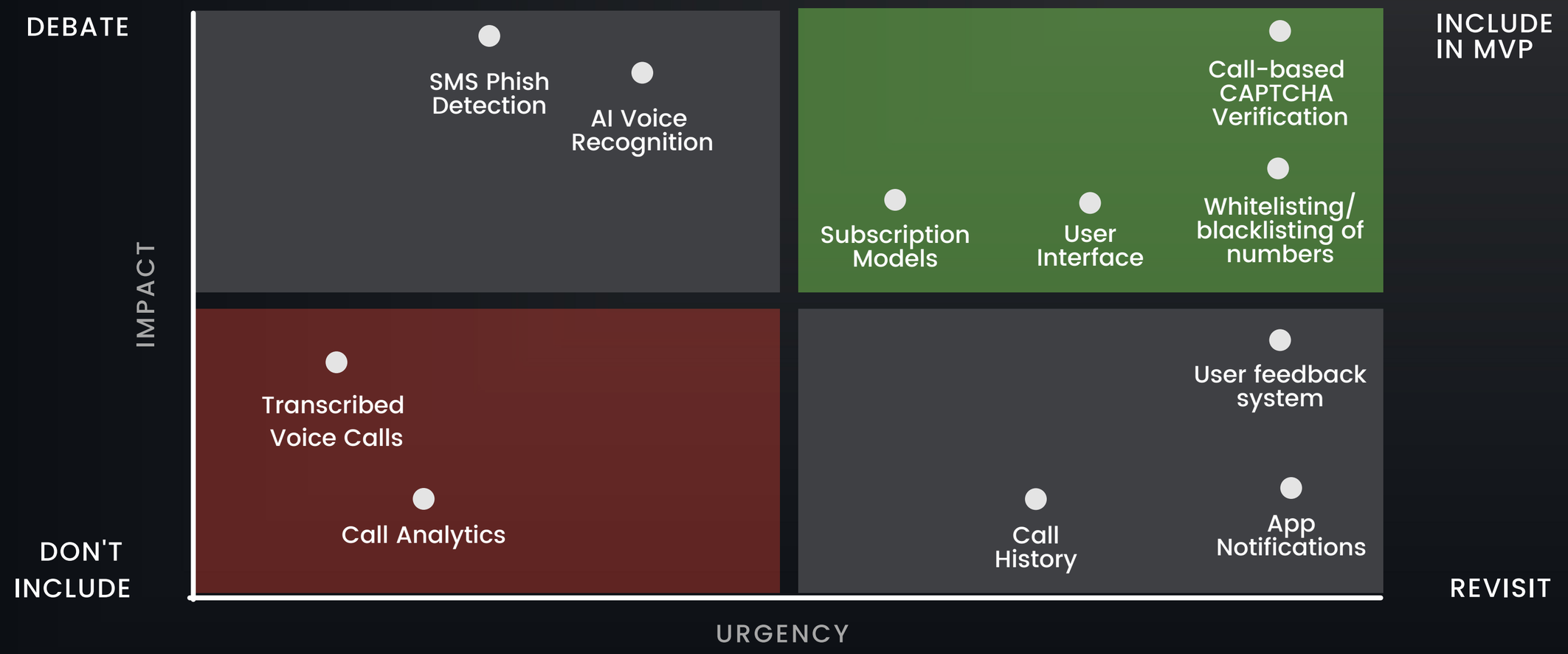
VISION

roboCAPTCHA aims to significantly reduce scams worldwide, tackling any form of scams that arise as technology and cybercrime progresses. We employ rigorous verification techniques to prevent scams from reaching the receiver, and protect unsuspecting individuals from falling prey to malicious scams.

OUR MVP

PRIORITIZATION MATRIX

IDENTIFYING OUR MVP



FEATURES IN OUR MVP

CALL-BASED CAPTCHA

The main selling point of our product, needed to deal with the issue of robocall scams

WHILTELISTING & BLACKLISTING

Whitelist known user contacts and block undetected robocalls. Addresses issue of troubling contacts.

USER INTERFACE

Users should be able to easily access our provided features.

SUBSCRIPTION MODELS

Help maintain our sustainability to keep the service running

INCLUSION IN PROTOTYPE

We implemented all the identified features above in our product, which we believe will allow us to maintain a unique competitive advantage in the market.

PROTOTYPE

ADDITIONAL FEATURES + MVP

USER FEEDBACK SYSTEM

Allow us to receive feedbacks rapidly iterate and improve the application

APP NOTIFICATIONS

In-app notifications to give users real-time updates on both successful and blocked calls made to their number

CALL HISTORY

Allow users to keep track of their accepted and blocked call history - so that they will not miss any important calls

CALL ANALYTICS

Visual dashboard to display call trends and overview for each user

JUSTIFICATION

Despite not being in the MVP, these were features that we believed would greatly add value to the user experience. We thus decided to implement them as well.

USER FLOW AND

DEMONSTRATION

roboCAPTCHA

User Journey

User registers for an account on roboCAPTCHA

User goes through regulatory identity verification

User is assigned a masked number and a 30-day trial

Users that get a robocall will have their calls screened by roboCAPTCHA

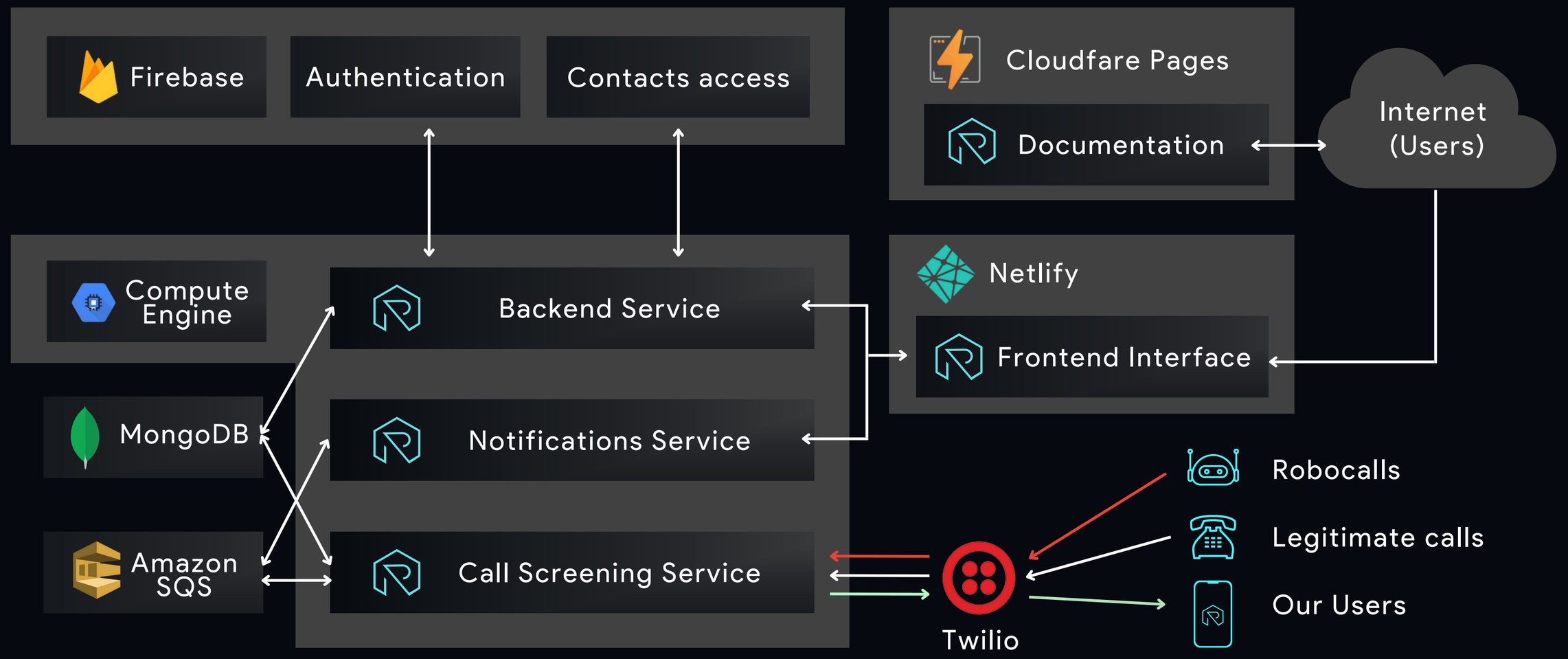
Users will get a notification and will be able to view the analytics dashboard

User can upgrade to a paid account and port in their number
[Future Iterations]

OUR DEMONSTRATION

roboCAPTCHA

Solution Architecture



OUR

PERFORMANCE METRICS

PERFORMANCE METRICS

WITH MEASUREMENTS (EXPERIMENT OF 20 VALID, 20 ROBOT SAMPLES)

Accuracy of Robocall Detection
100% Accuracy (n=40)

Our solution should not impede actual legitimate phone calls or allow robocalls through

Time taken to pass verification
17.55 seconds (n=20)

Our solution minimizes the time taken by legitimate callers to reach a user.

Speed of Website (GTmetrix)
Rated A

Our website should load quickly to minimize waiting time.

Google Mobile Friendly Test
Passed

As a communications-based solution, we strive to be a mobile-friendly solution.

OUR

PRODUCT ROADMAP

roboCAPTCHA

Release Planning and Roadmap

	MVP NOW	v1.0 Q3 2022	v1.1 Q1 2023	v2.0 Q1 2024	FUTURE 2025 AND BEYOND
MARKETS	TRIAL USERS	REAL USERS	TELCOS	INDUSTRY PARTNERS CORPORATE USERS	GLOBAL LAUNCH
EXTERNAL / TECHNOLOGIES		REGULATORY APPROVAL	TELCO INTEGRATION	CORPORATE INTEGRATION	
FEATURES	ROBOCALL PREVENTION BLACKLIST/ WHITELIST	VOICE RECOGNITION SCAM SMS DETECTION	API PLATFORM FOR TELCOS	ML-AIDED DETECTION ENHANCED CALL TRACING	TACKLING NEW AND EMERGING THREATS

Customer-oriented Roadmap

LOWERING SUBSCRIPTION COSTS
BY Q1, 2023

In line with our objective of reducing robocalls for all, we aim to **make our services low-cost** as we seek to forge partnerships.

ENHANCED CALLER IDENTIFICATION
BY Q1, 2024

Our platform aims to provide increased **observability** into who is calling you by identifying the callers using advanced techniques.

CORPORATE CUSTOMERS
BY Q1, 2024

We plan to add support for **corporate plans** and support growing business needs

ENHANCED EFFICIENCY & RELIABILITY
BY 2023-2024

As telecommunications are the backbone of modern day communication, we aim to **increase our resilience** through partnerships with multiple diverse providers.

ENHANCED ACCURACY
BY Q1, 2024

Our services will evolve with plans to use cutting-edge technologies such as **Artificial Intelligence and Machine Learning for enhanced accuracy.**

CONSTANTLY EVOLVING WITH THREATS
OUR LONG TERM VISION

Our vision aims to be able to **adapt** to the scam threats landscape as bad actors constantly think of new ways to deceive.

OUR

LEARNING POINTS

LEARNING POINTS

Most important learning points in the prototype development process

1

Importance of Product Vision

Forces higher level long-term thinking. Expanded the scope of our vision from solely scam calls to all scams to general, including calls and messages. We focused on ensuring our product's success in the long run.

2

Usefulness of MVP

We learnt that having an MVP allowed us to test the feasibility of the product, allowing us to start small and adapt quickly to avoid big failures.

3

Conducting Research

Important to know our target audience and their preferences. Doing surveys to get garner consumer sentiment, allowing us to draw interesting insights.

4

Importance of Prioritization

We had learnt the usefulness of putting urgent and impactful features first and developing our product incrementally.

OUR

REFLECTIONS

IF DONE DIFFERENTLY,

WE WOULD HAVE...

CHOSEN A DIFFERENT TECH STACK

We chose an unfamiliar tech stack for the development of our prototype so that we would be able to learn new frameworks.

However, in a real-world situation, it might have been better if we used technologies that we were more comfortable with for quicker prototyping.

DONE MORE EXTENSIVE RESEARCH

In addition to surveys, we could have conducted interviews and field studies to obtain deeper insights during the development of our minimum viable product.

A more thorough and in-depth user engagement method could reveal hidden user needs which we could address.

Q&A

THANK YOU