



Elevating Trust and Quality

Redefining Amazon Reviews with Privacy and Community in Focus

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Amazon Vine Member

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Amazon MVP

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Introduction

Meet Our Team



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**Amazon reported detecting ~200
million fake reviews in 2022.**

But even the best detection systems can still make “mistakes.”

How might we improve the quality of Amazon reviews while ensuring user's privacy preferences?

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while ensuring user's privacy preferences?

**By leveraging Amazon Vine Members to moderate
Amazon reviews we can improve trust, customer
relationships, and Amazon's machine learning models.**

Introduction

Design Hypothesis

How might we improve the quality of Amazon reviews while ensuring user's privacy preferences?

Even a small increase 1% in the accuracy of the detection systems could result in millions of reviews improved and categorized correctly.

First off, what's Amazon Vine?

Introduction

What is Amazon Vine?



Amazon Vine is an exclusive program that invites top reviewers, known as Vine Voices, to receive free products and share their experiences to help customers make informed decisions.

Solution

Data Science



Solution

EDA Based on the Amazon Customer Reviews (Apparel) Dataset on Kaggle

Figure 1

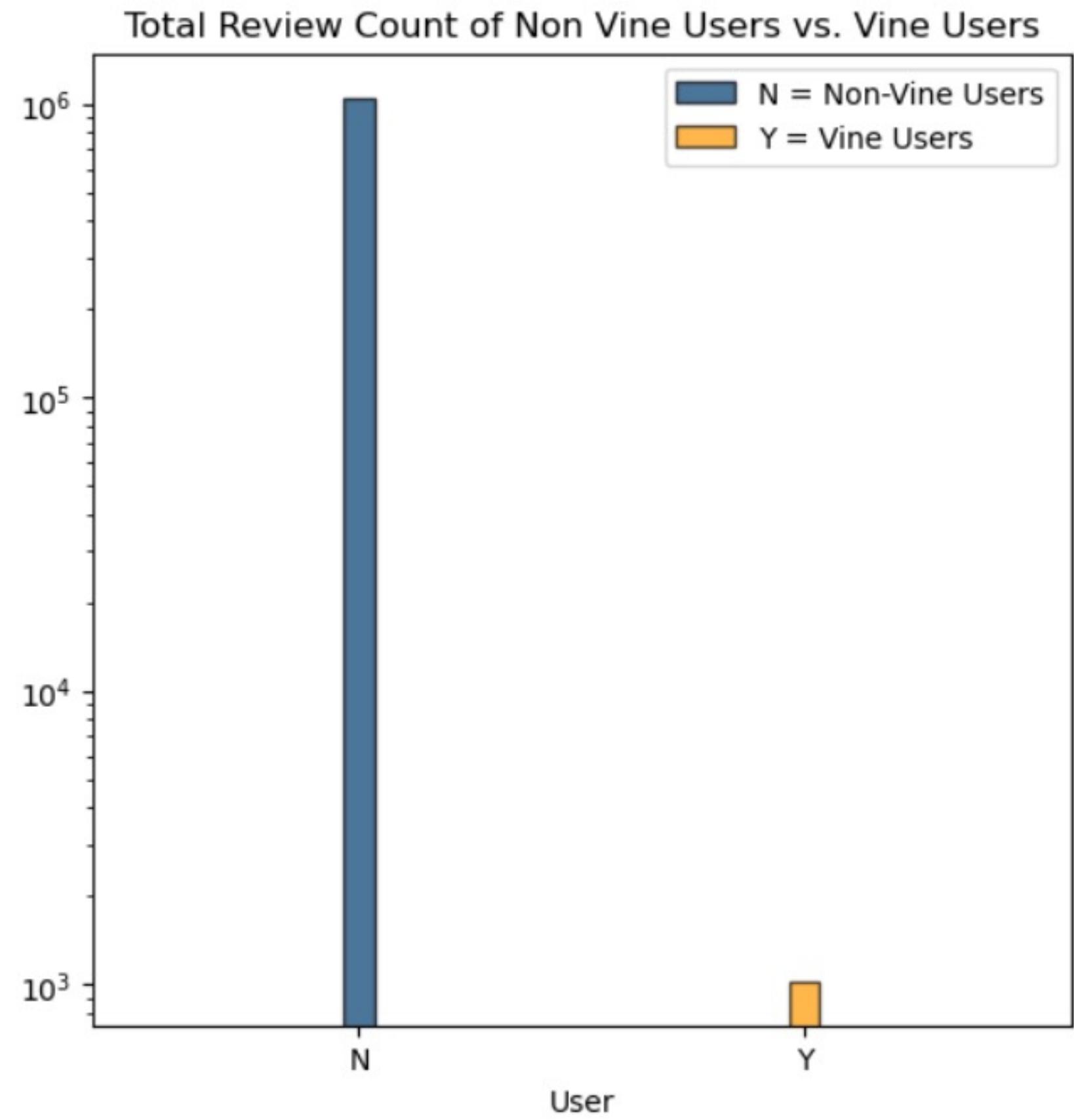
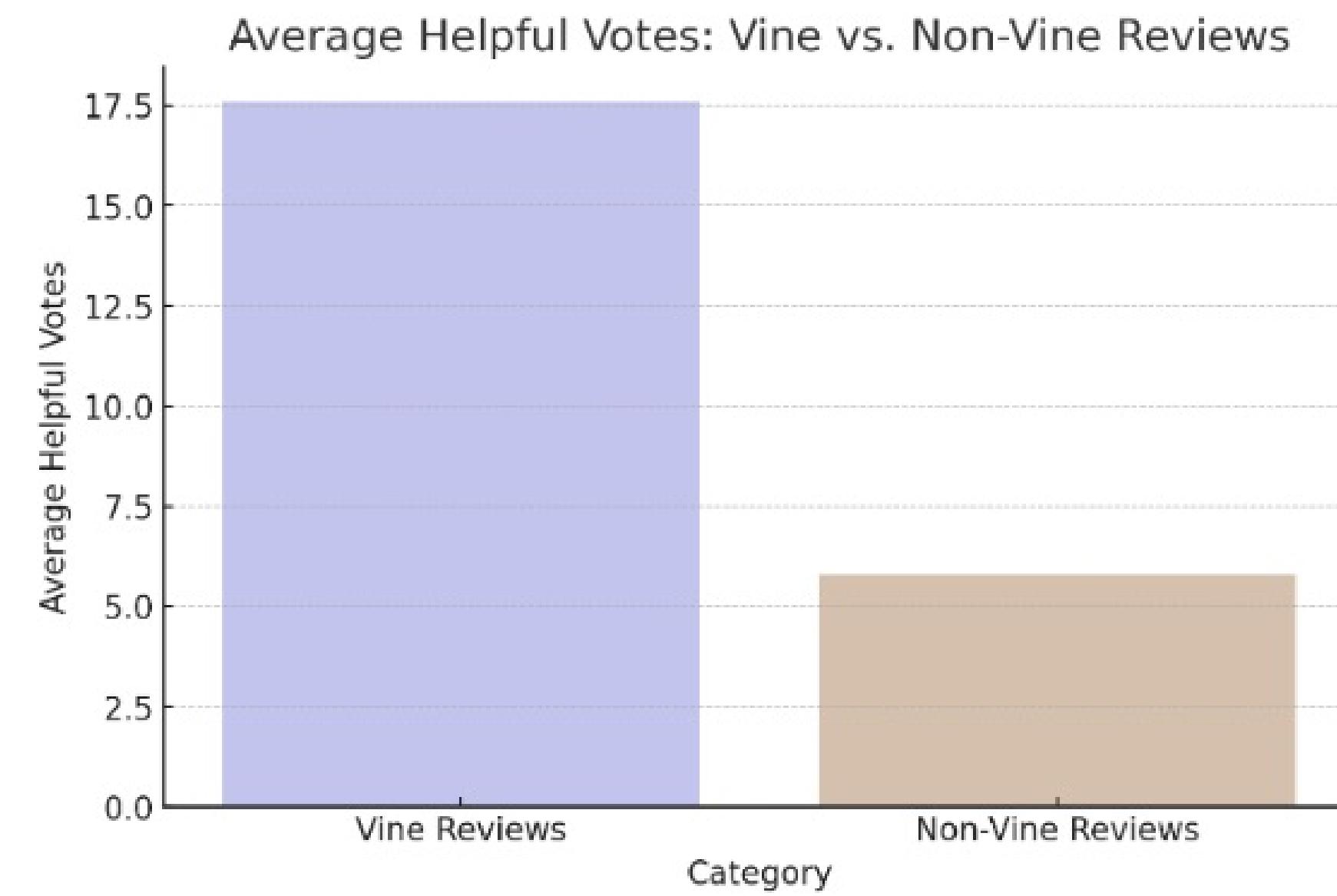
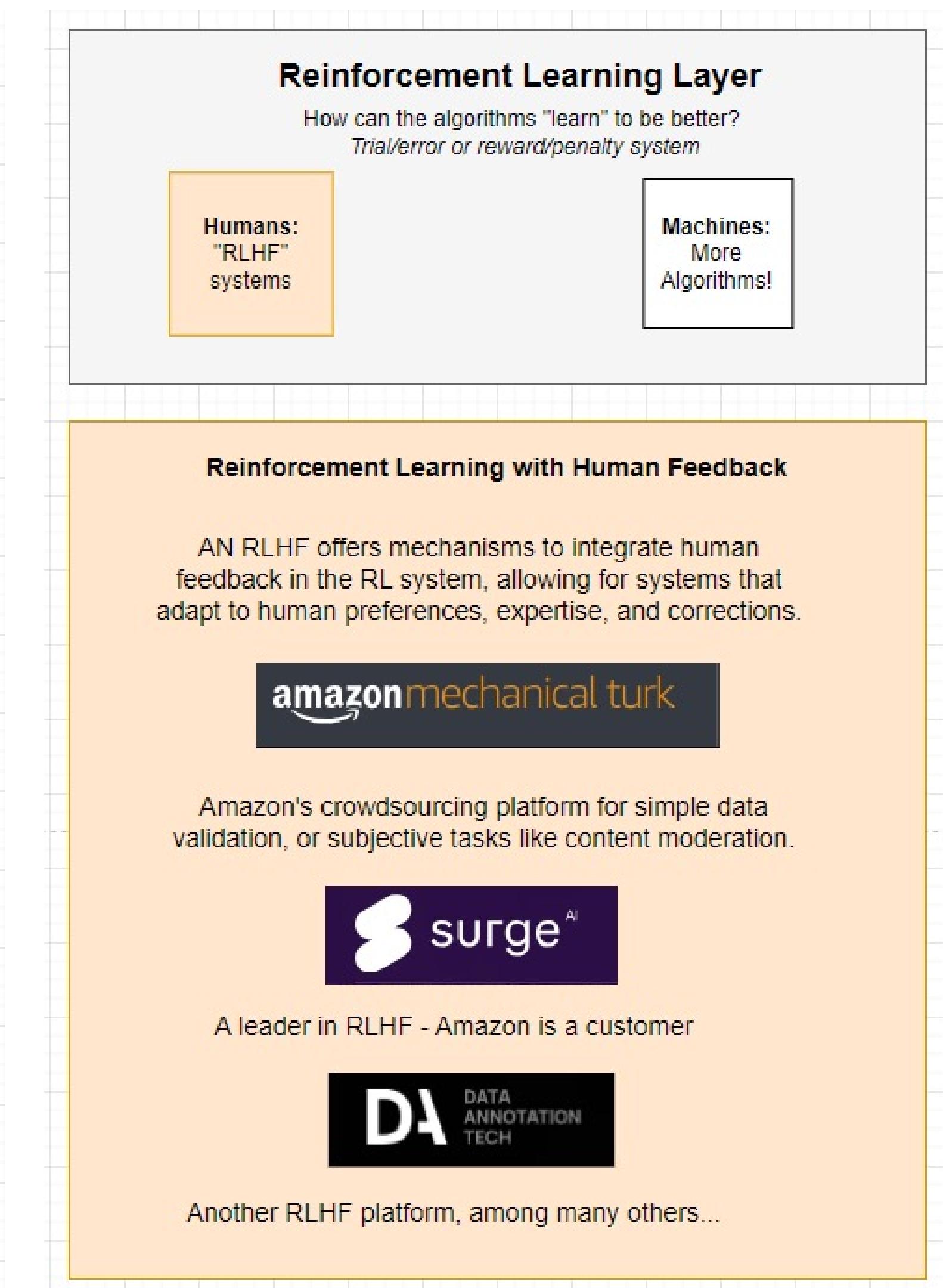
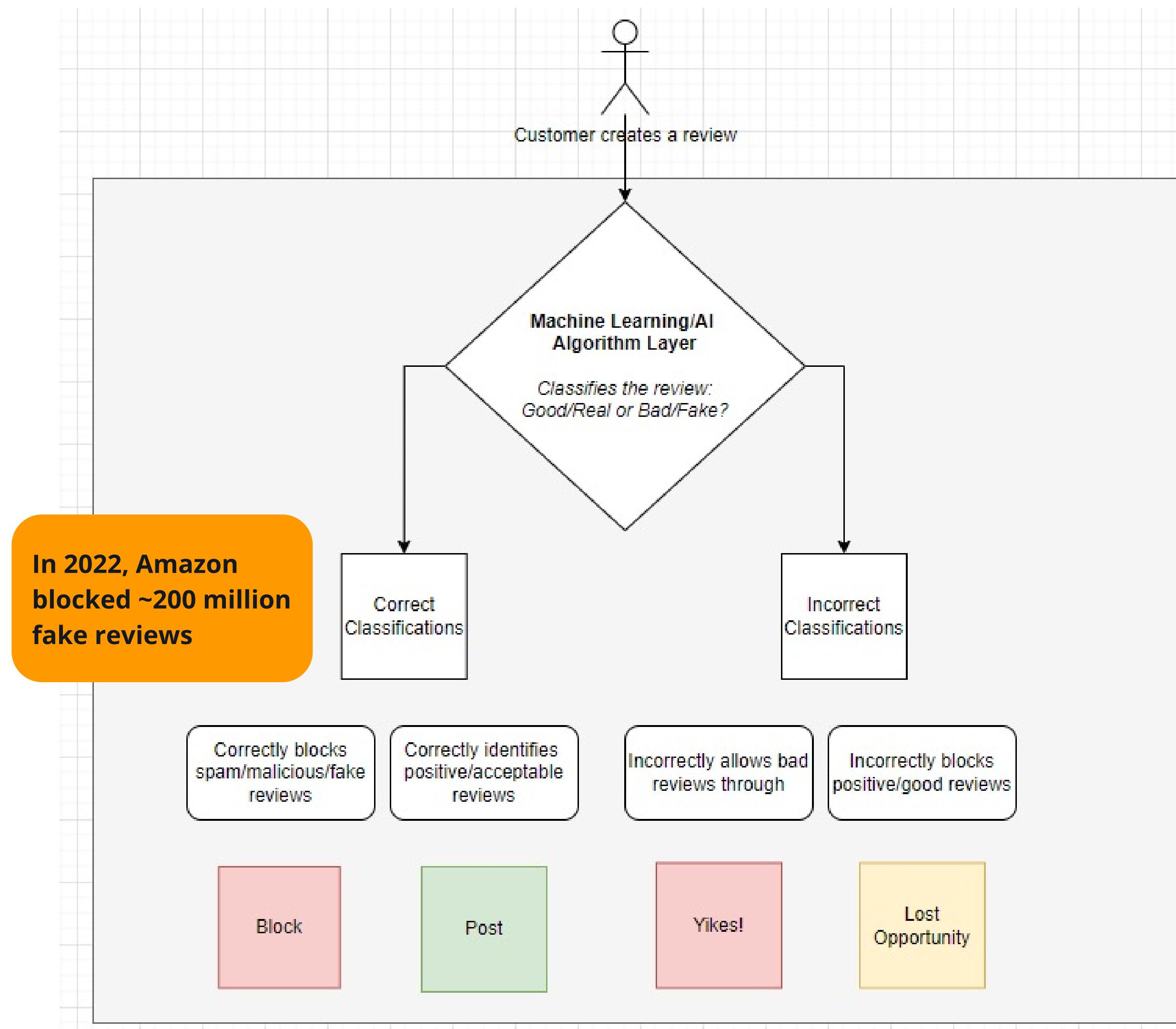


Figure 2



Solution

Human Feedback Data Model: Current State



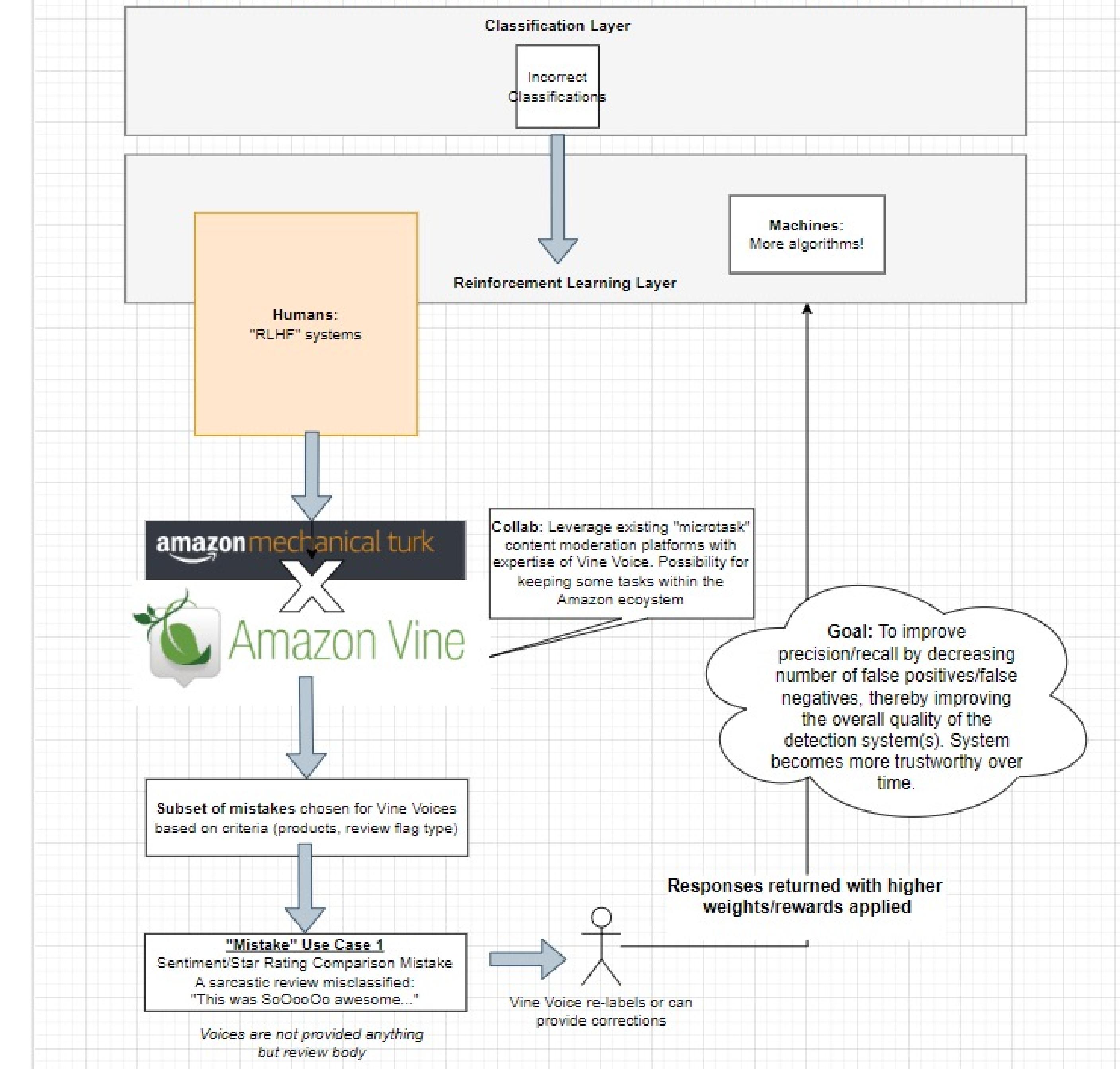
Solution

Human Feedback Data Model: Future State

A subset of mistakes could be fed through RLHF to leverage expertise of “Vine Voice” user for content moderation tasks.

Responses can be returned to RL system with higher weights (“rewards”) applied with goal of decreasing the number of false positives/negatives.

Future State: Leverage microtask content moderation platforms with expertise of an Amazon Vine Voice



Solution

UX Design



Solution
Proto-Persona



John Singh

Vocal Vine Member

Age: 35
Occupation: IT Specialist
Location: Mumbai, India

Bio

John is a **highly active Amazon user** and **Vine Voice Member** who is passionate about sharing his expertise with others.

Pain Points

Writing an unbiased and constructive review can be a challenge.

Motivations/Goals

Takes pride as a trusted reviewer who can help other customers make informed decisions with his expertise.

Behaviors

Actively participates in the Amazon community by replying to other reviewers.

“Every review I write is a chance to contribute to a better shopping experience for others”

Solution Features

The screenshot shows the 'Review Feedback' section of the Amazon Vine website. At the top, there's a decorative illustration of a person sitting on a yellow sofa with a steaming cup of coffee. Below the illustration, the heading 'Welcome to Amazon Vine' is displayed. The main content area lists four customer reviews:

- Strings are garbage but not a bad guitar** (**Verified Purchase**)
\$5.25 Amazon Credit
The strings seemed cheap despite the advertisement that they were from a quality string company. Watched a quick youtube video and replaced the strings myself with better ones. All in all not a bad little...
- Fast shipping and great service**
\$4.80 Amazon Credit
Received my order quick than expected and customer service was friend and helppd.
- Not worth the price** (**Verified Purchase**)
\$3.90 Amazon Credit
The item did not live up to its high price tag. Quality was mediocre at best.
- Stylish and practical** (**Verified Purchase**)
\$4.50 Amazon Credit
The design is sleek, and it's practical for daily use. I love it!

A sidebar on the right side of the page displays a list of five badges with their respective icons and names:

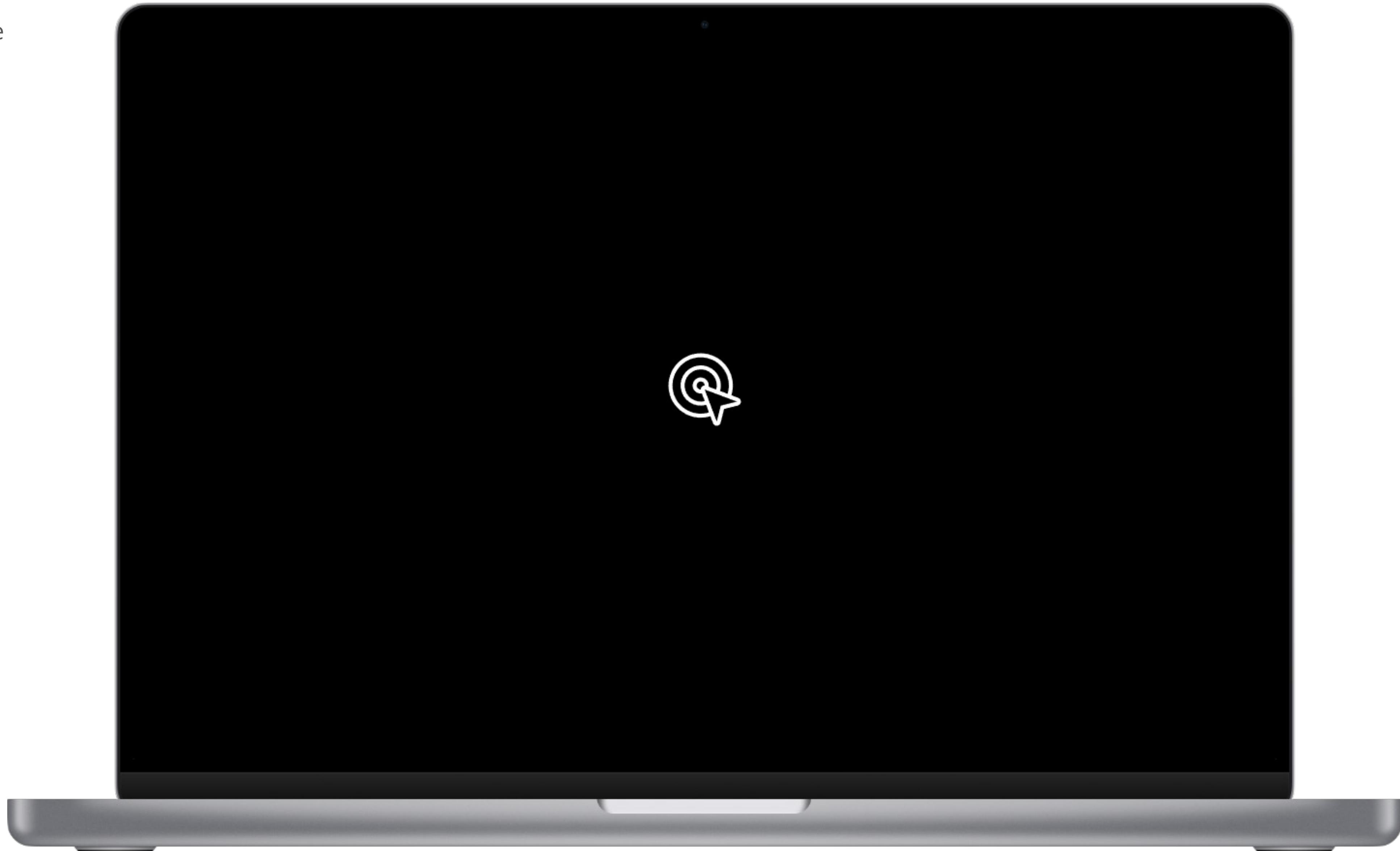
- Vine Taster
- Grape Expectations
- Expert Reviewer
- Referral Master
- Grape Champion

Feature 1: List of customer reviews that you are eligible to validate/invalidate

Feature 2: Badges designed to provide additional incentives for users to submit more reviews

Feature 3: Add Amazon Credits to provide users with tangible rewards, boosting motivation and increasing the quantity and quality of their reviews.

Solution
Prototype



Solution

Software Development



Solution
Functional Prototype

The screenshot shows a functional prototype of the Amazon Vine platform. At the top, the Amazon header is visible with delivery information to John in Bangalore, 560034, and a search bar. Below the header, the main navigation menu includes All, Fashion, Mobiles, Gift Ideas, Prime, Amazon Pay, Gift Cards, Sports, Fitness & Outdoors, Computers, Customer Service, and a promotional banner for CINDRELLA JOIN PRIME NOW | prime video.

The main content area features the "Amazon Vine" logo and a "Welcome to Amazon Vine" message. To the right, there is a cartoon illustration of a person sitting on a yellow couch, holding a speech bubble, with a steaming coffee cup on a small table nearby.

A navigation bar below the welcome message includes links for Review Products, **Review Feedback** (which is underlined in orange), Payments, Transfer Funds, Referrals, and Inbox.

The "Reviews" section displays two entries:

- Strings are garbage but not a bad guitar** (\$5.25 Amazon Credit)
The strings seemed cheap despite the advertisement that they were from a quality string company. Watched a quick youtube video and replaced the strings myself with better ones. All in all not a bad little uke, I am happy with it to learn on.
- Fast shipping and great service** (\$5.25 Amazon Credit)

A search bar labeled "Search in reviews" is located at the top right of the reviews section.

Solution

Tech Stacks and Back-End

Tech Stacks

Front-end: React, Axios

Back-end: Node, Express, knex, mysql2

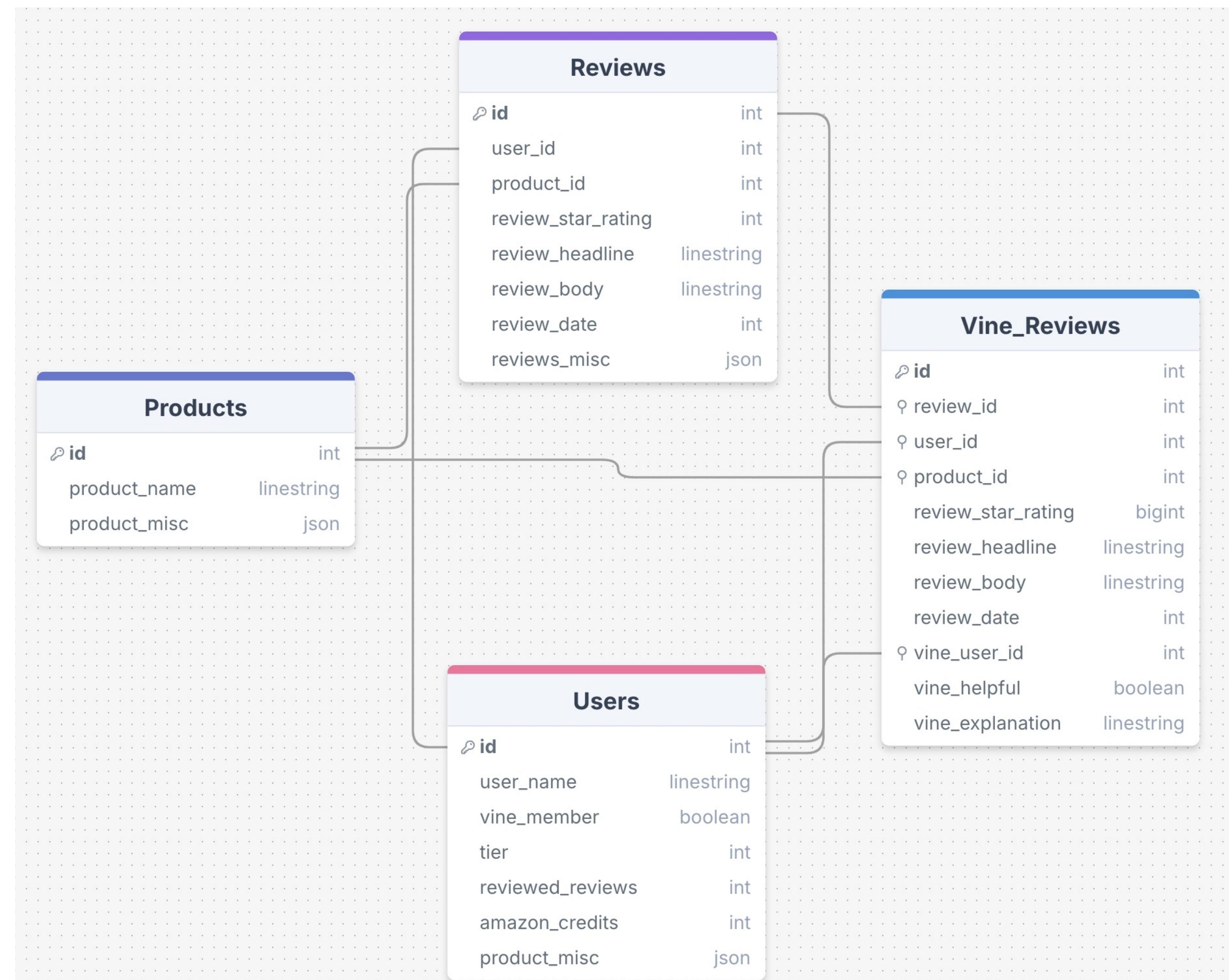
Database: MySQL with migration and seeding

Endpoints

router.get("/reviews")

router.get("/reviews/:id")

router.post("/vinereviews")



Solution

Cybersecurity



Solution

Key Security Features

Multi-Factor Authentication

2-step verification

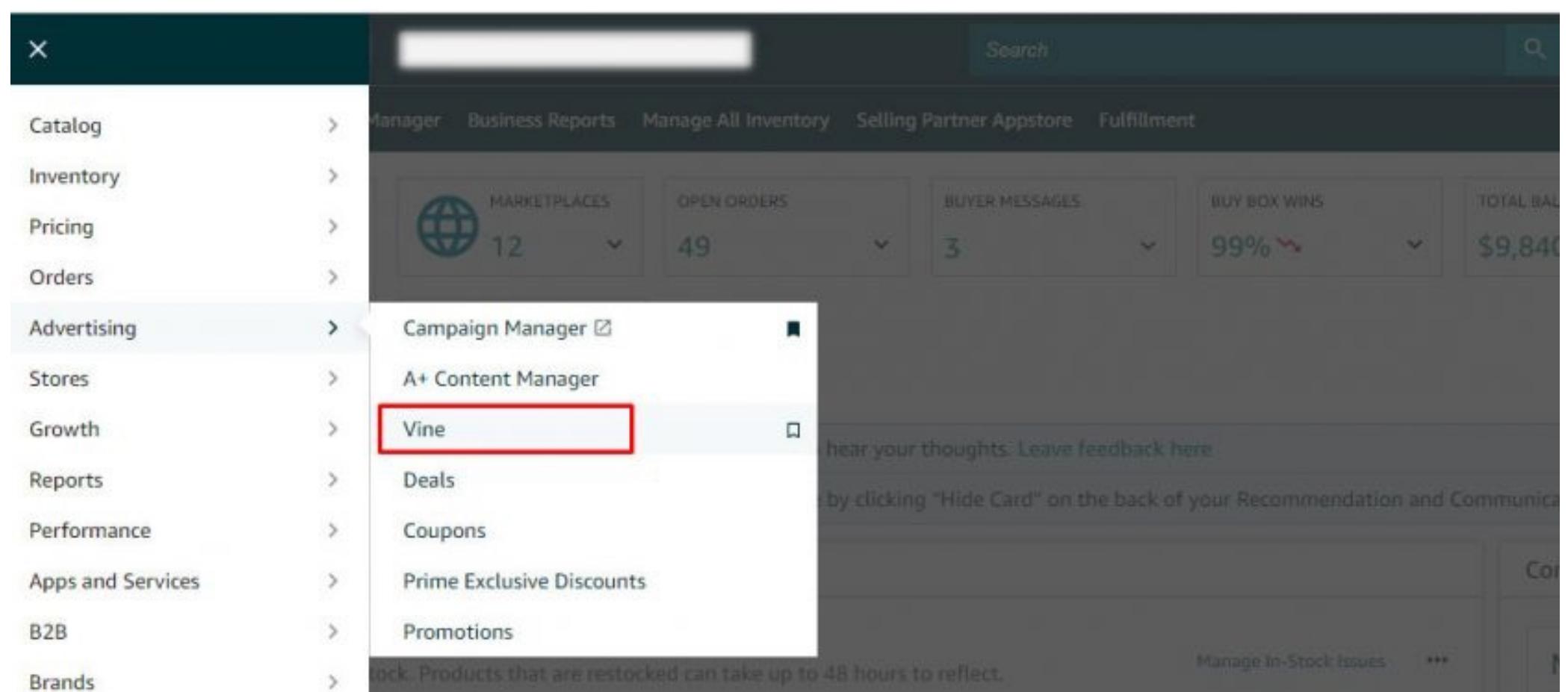
⚠ Add a layer of security. Require a code in addition to your password.

Turn on

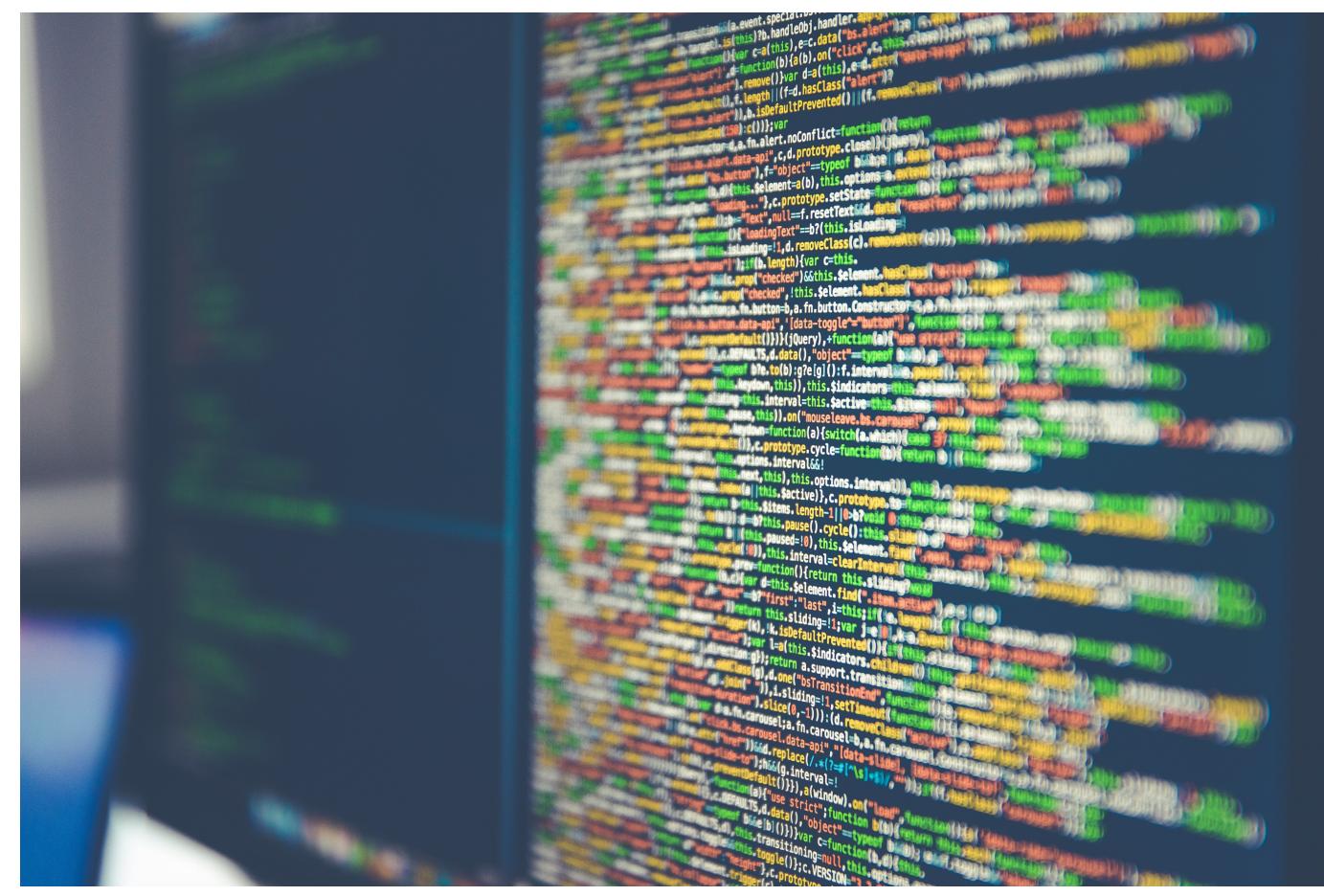
Passkey

⚠ Sign in the same way you unlock your device, by using face, fingerprint, or PIN.

Set up



Data Anonymization





Impact
Next Steps

- 01** Conducting additional analysis to determine optimal price points for each review incentive (e.g., Amazon Credits and Badge System)
- 02** Perform usability testing for the Minimum Viable Product (MVP) to ensure its effectiveness and user-friendliness.
- 03** Implement new MFA policy specifically for Vine Voices.
- 04** Conduct Static Application Security Testing (SAST) and Dynamic Application Security Testing on the new function before deployment and continue application security monitoring activities.
- 05** Conduct additional analysis on subset of reviews appropriate for Vine Voice content moderation tasks

Impact
Benchmark ROI

By expanding the Amazon Vine program to incorporate a content moderation process, we expect to improve the accuracy of fake review detection models.

Even small increments gained in accuracy can result in millions of correctly-classified reviews.



Thank You



General Resources

- [Amazon Vine](#)
- [Amazon](#)
- [Unsplash](#)
- [What happens after you write and submit a review? \(Amazon 2024\)](#)
- How Amazon AI spots Fake Reviews (Amazon 2024)
- Amazon
 - [Amazon CloudFront](#)
 - [AWS DDoS Prevention](#)
- [Accessing Vine Image](#)
- [Data Anonymization Image](#)

Appendix

Appendix A: UX Design

- [Brainstorming](#)
- [UI Inspiration Board](#)
- Wireframes
 - [Low-Fidelity](#)
 - [Mid-Fidelity](#)
 - [High-Fidelity](#)
- [Prototype](#)
- Amazon Design Systems
 - [Amazon UI Design \(Community\)](#)
 - [CDS Components 1.1 \(Community\)](#)

Appendix C: Cybersecurity

- [Risk Report](#)
- [Asset List & Risk Register](#)

Appendix D: Data Science

- [Data Flow](#)

Appendix B: Software Development

- [GitHub Repository: Front-end](#)
- [GitHub Repository: Back-end](#)