MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Email Improvement Tool

The Capstone Experience

Team Amazon

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From Students…
…to Professionals

Project Sponsor Overview

- Amazon was founded in 1994 by Jeff Bezos
- Started as online book marketplace and e-reader manufacturer
- Ranked second in Fortune 500 list & part of the Big Five American Information Technology companies
- Online global retailer and web services provider, owns over 100 subsidiaries
- Hosts over 6.3 million sellers & 150 million users
- Amazon's #1 principle is customer obsession

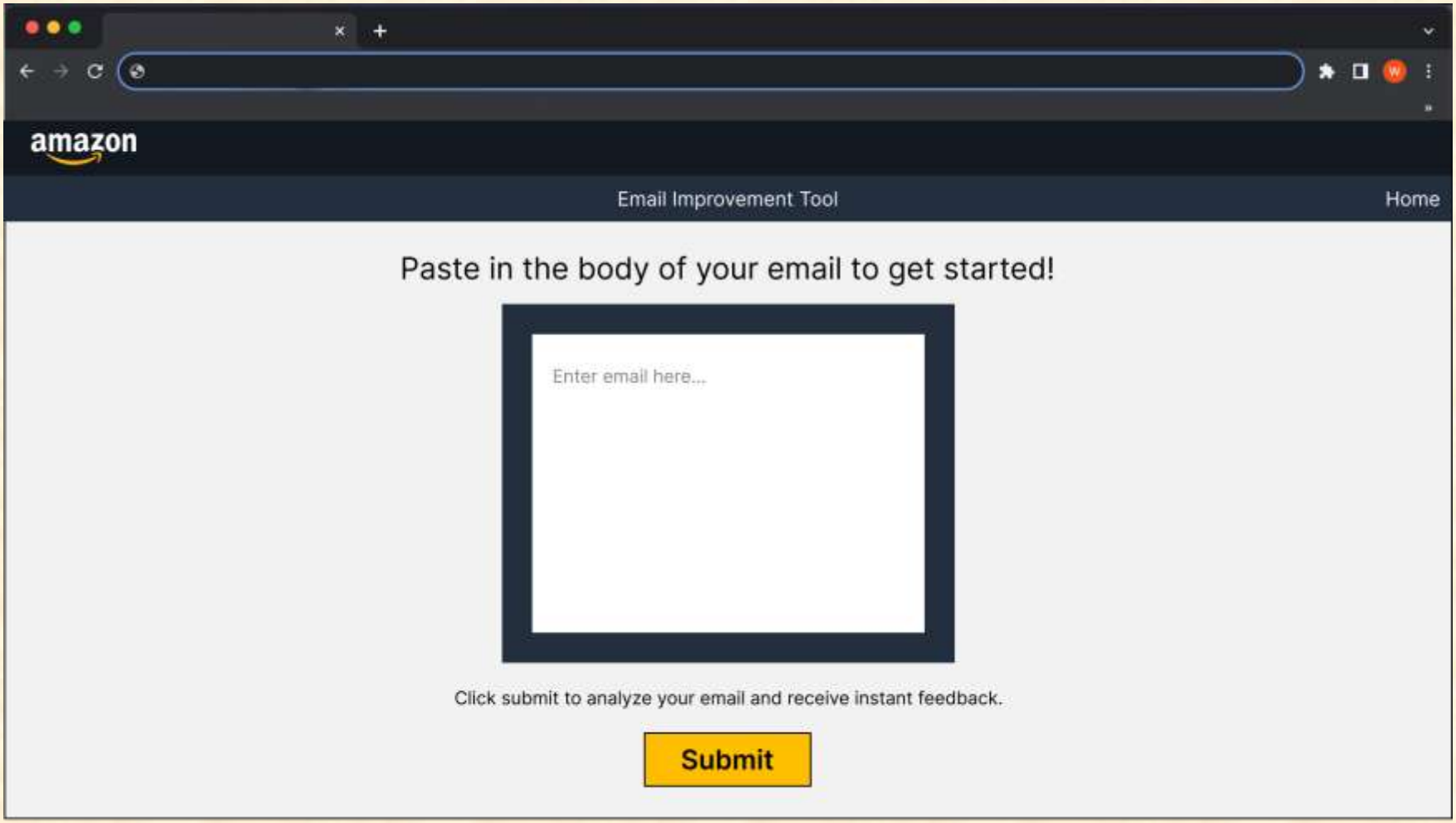
Project Functional Specifications

- Goal: Improve quality of Amazon emails
- Compare new email templates to pre-existing email templates
- Provide instant feedback on email objective, clarity, and empathy
- Provide email summary and possible template duplicates

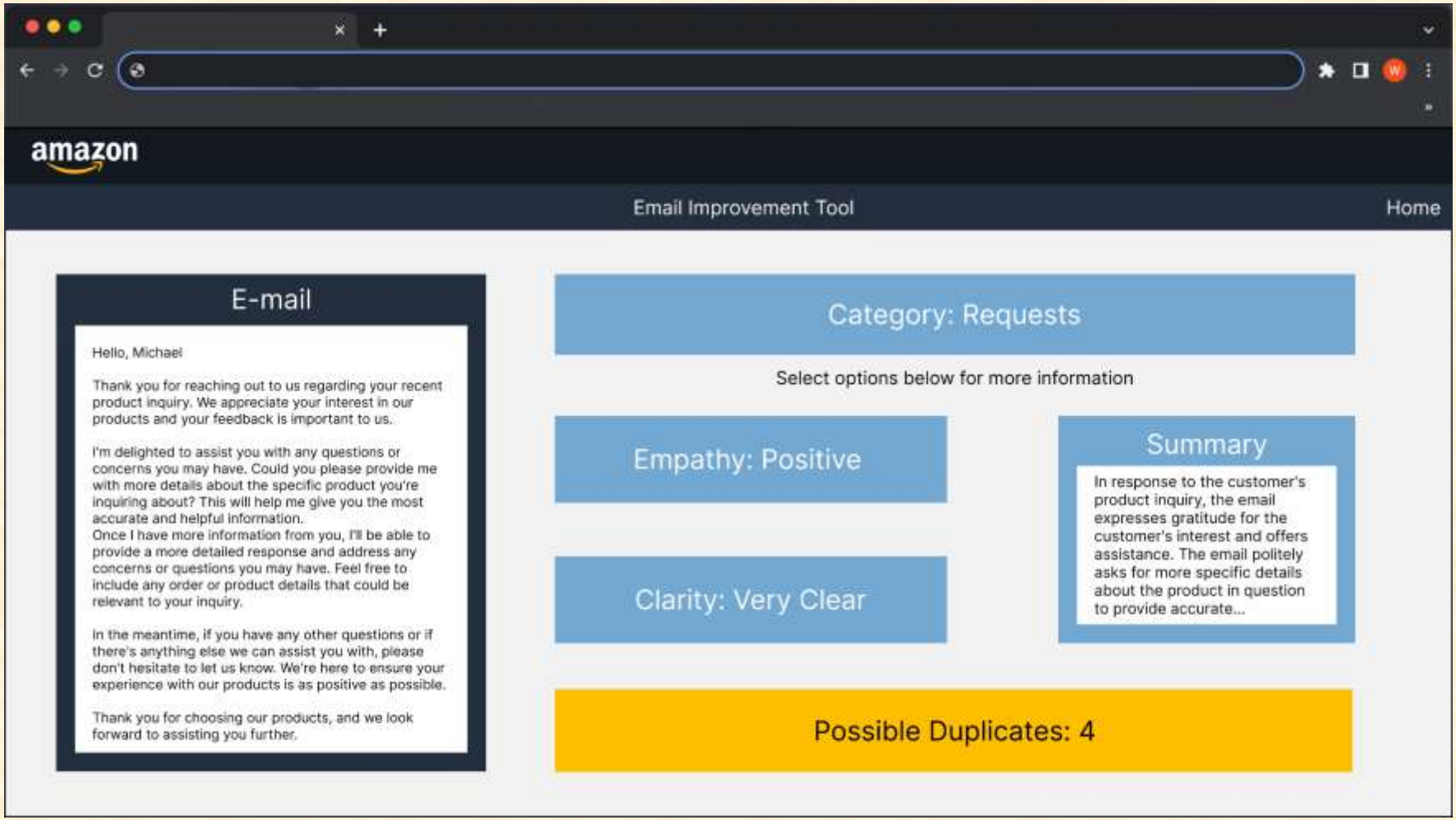
Project Design Specifications

- The app is a standalone web application
- Follows Amazon color scheme
- Email Analysis Page contains interactive dashboard
- Simple UI for quick use

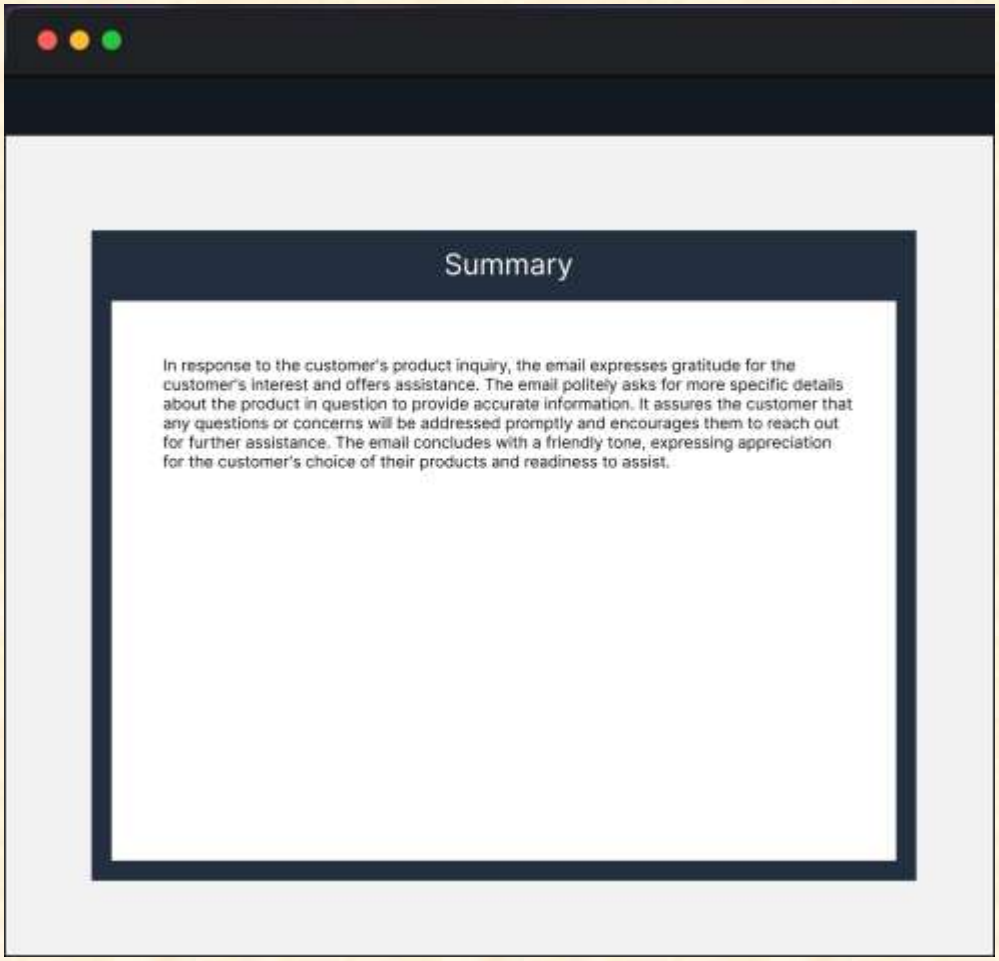
Screen Mockup: Homepage



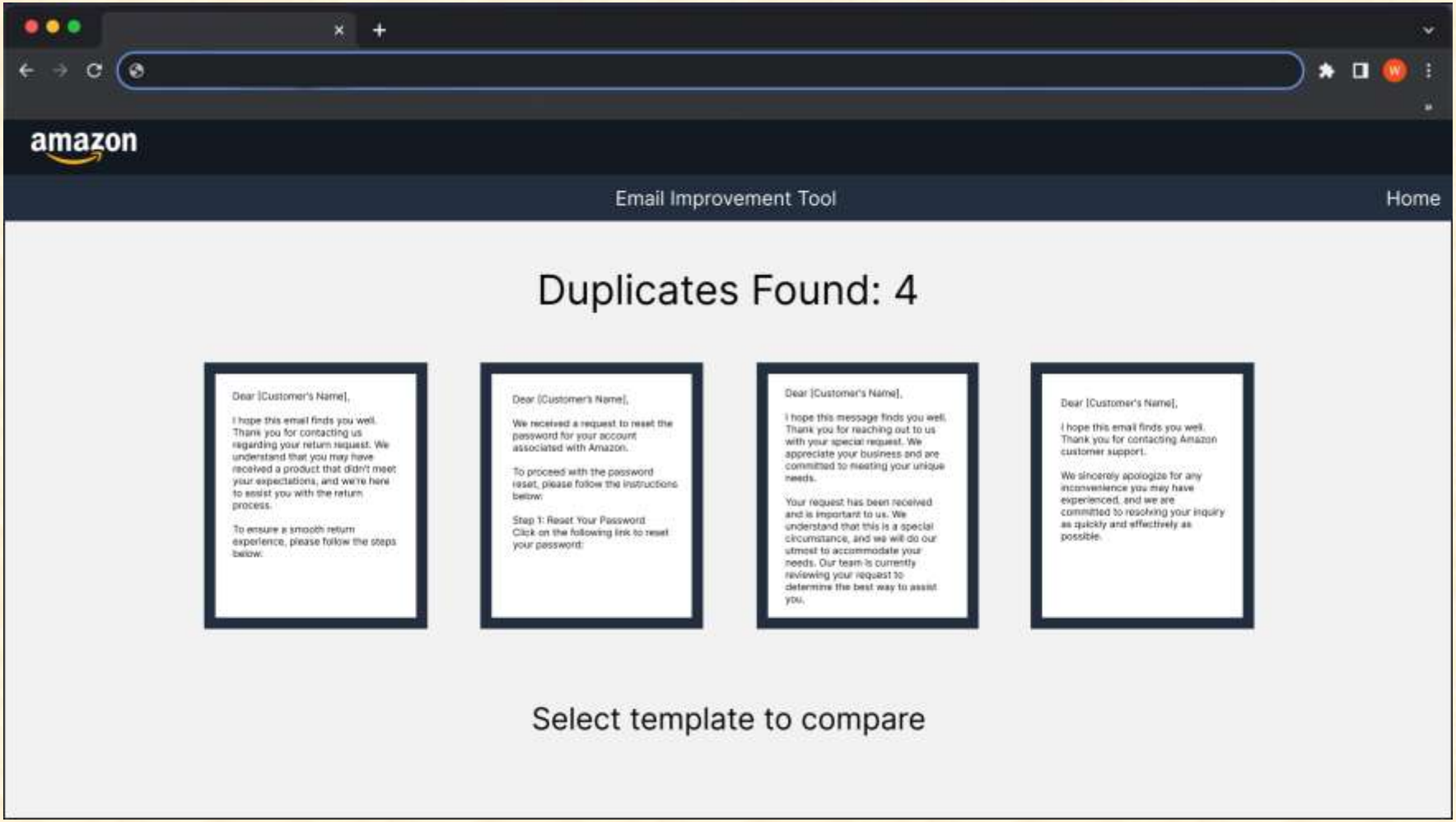
Screen Mockup: Analysis Page



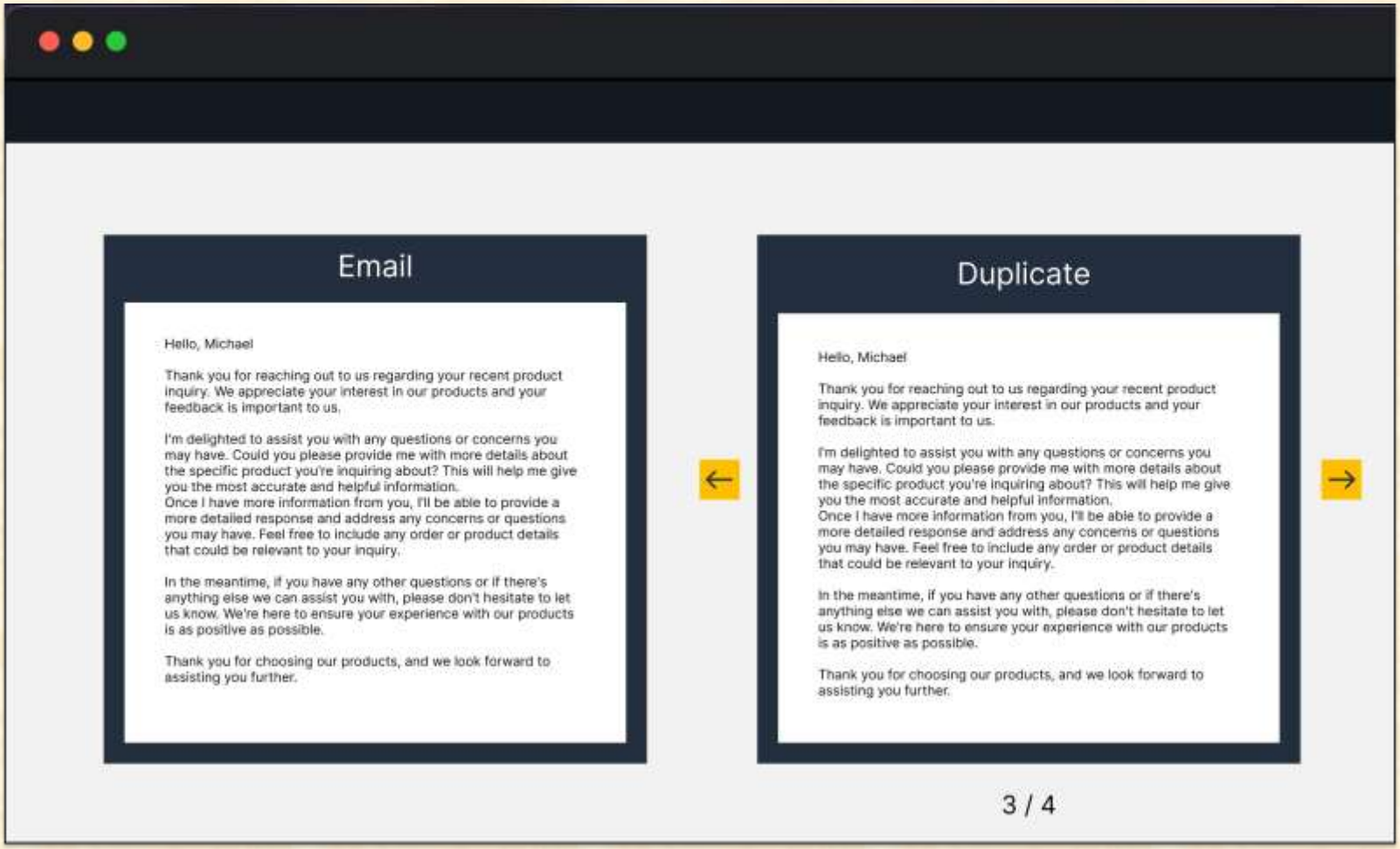
Screen Mockup: Summary Pop-Up



Screen Mockup: Duplicates Page



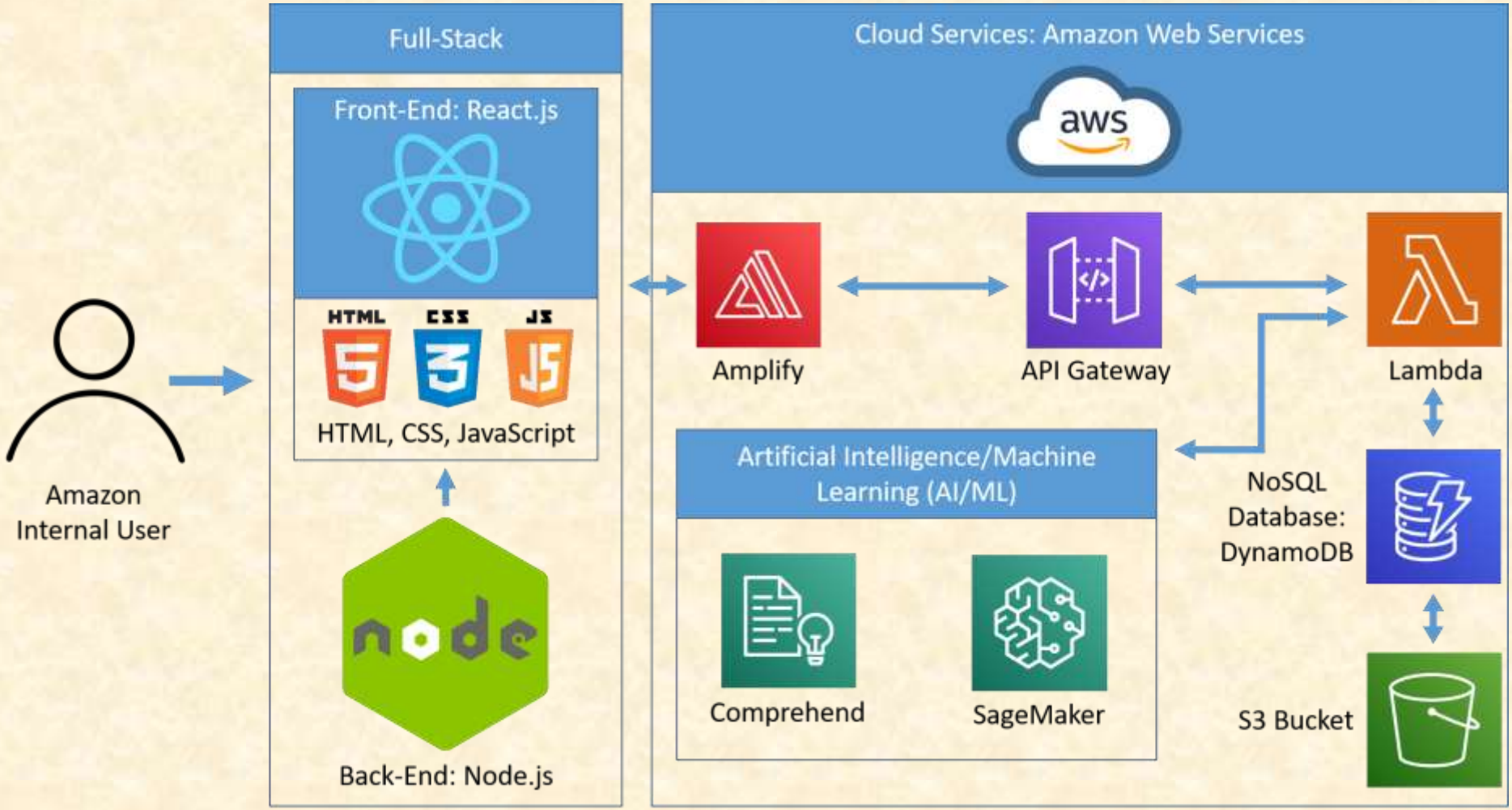
Screen Mockup: Duplicates Pop-Up



Project Technical Specifications

- React web application, supported by Node.js
- Leverages Amazon Web Services for deployment and cloud technologies
- Utilizes AWS SageMaker and Comprehend to make ML queries
- Data stored in NoSQL and DynamoDB

Project System Architecture



Project System Components

- Software Platforms / Technologies
  - **AWS Amplify** - Host web application
  - **API Gateway** – Creates and manages the APIs for the lambda functions we will create
  - **Lambda** – Creates functions that will manage events on our web app such as finding potential duplicates
  - **SageMaker** – ML service used to classify the emails by category, determine clarity, and summarize
  - **Comprehend** – NLP service used to analyze empathy/tone
  - **DynamoDB** – Stores the summaries for future reference
  - **S3 Bucket** – Stores the training/testing data for ML

Project Risks

- **Categorizing, Testing and Training Data**
  - Since there are 10+ main categories that split into 40+ sub-categories, we are unsure if we will have enough training data to accurately classify each sub-category.
  - We will continue to push our sponsor to give us the data we need and once received determine the best method for categorization. We may have to reduce the categories to the main 10+.
- **Data Storage**
  - Determining the optimal method for storing the data provided to us with the AWS services available to us.
  - Research and work with sponsor to learn more about the available storage methods and find which works best with our data.
- **Project Expense**
  - We have been provided a $100/month budget to use AWS services and we must stay below this figure.
  - We will implement cost-effective strategies with how we use the AWS services to stay below this monthly threshold.