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DigiClips Media Search Engine Overview

Client: DigiClips

Advisor: Ashfaq Khokhar

Team members: Niharika, Eshanth, Varun, Edmund, Nguyen

Agenda ●

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Task Decomposition

Gantt Chart

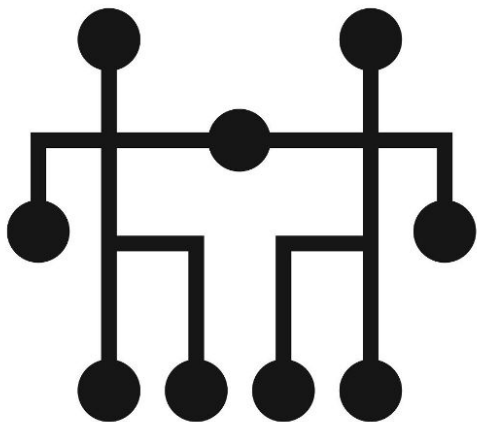
Testing Strategies

Engineering Standards

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Team Roles and Skills

Introduction to DigiClips



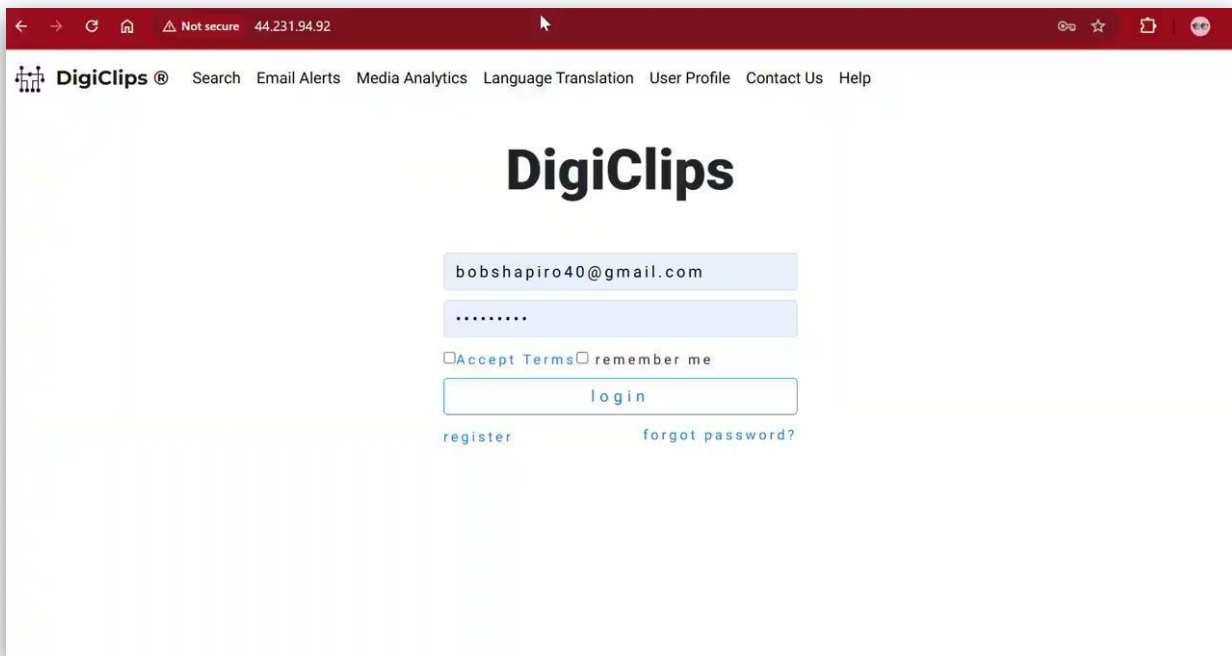
- A comprehensive **media monitoring platform** for professionals and the general public.
 - **Tracks media content** across TV, radio, blogs, and social media.
 - **Bridges gaps** left by existing tools that are expensive or complex.
 - Offers a **free, ad-supported option** for general users.
 - Provides **premium features** for subscribers, including analytics and alerts.
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Challenges in media monitoring

- The **media landscape** generates vast content across television, radio, social media, and blogs, making it challenging to track relevant information.
- Professionals like **reporters, lawyers, and media analysts** need accessible and efficient tools to analyze the overwhelming media volume.
- Existing tools are expensive or lack functionality.
- **DigiClips bridges this gap** with a streamlined, **affordable platform** offering essential media search and monitoring features.



Past Accomplishments



- Initial AWS Setup
- Early UI Designs
- Basic Dashboard Prototypes
- Database Integration Began
- Angular Frontend Testing

Users

General/Public Users

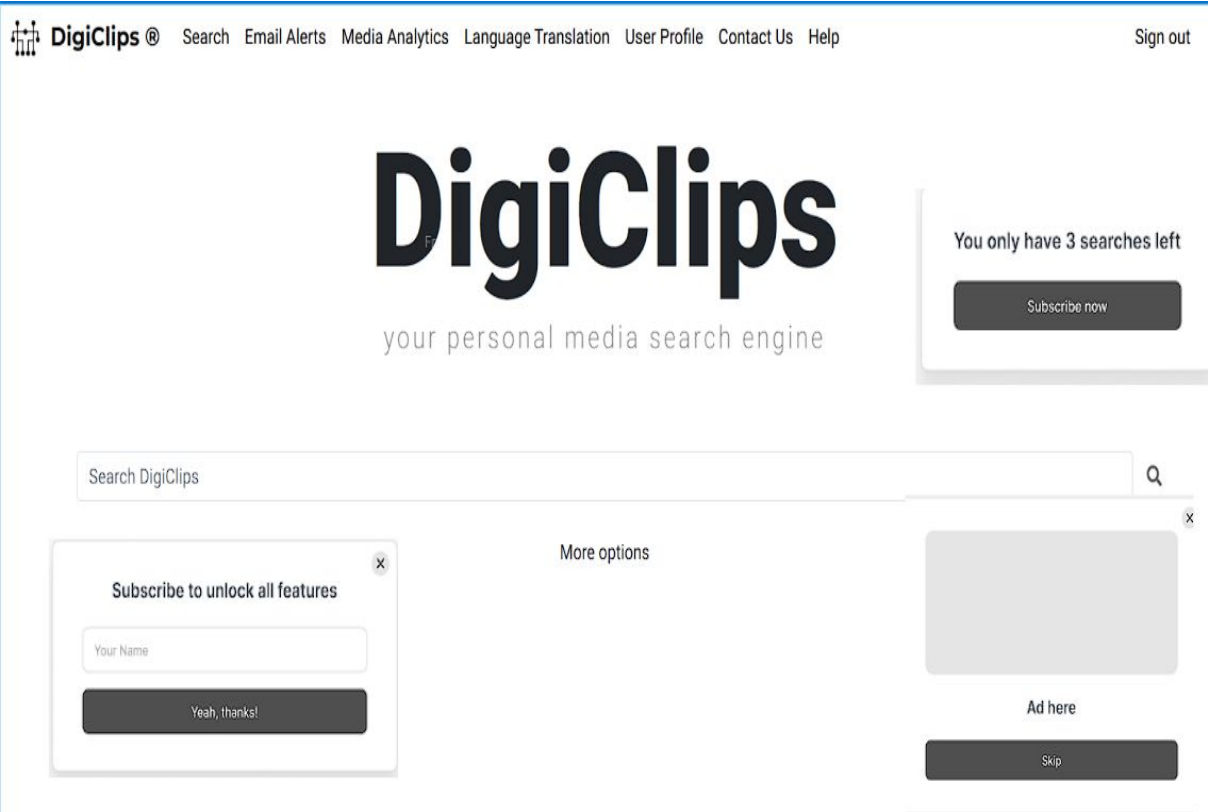
- Free access with limited functionality
- Supported by advertisements



Subscribers

- Full access to advanced features
- Includes media analytics, email alerts, and reports

Our problem

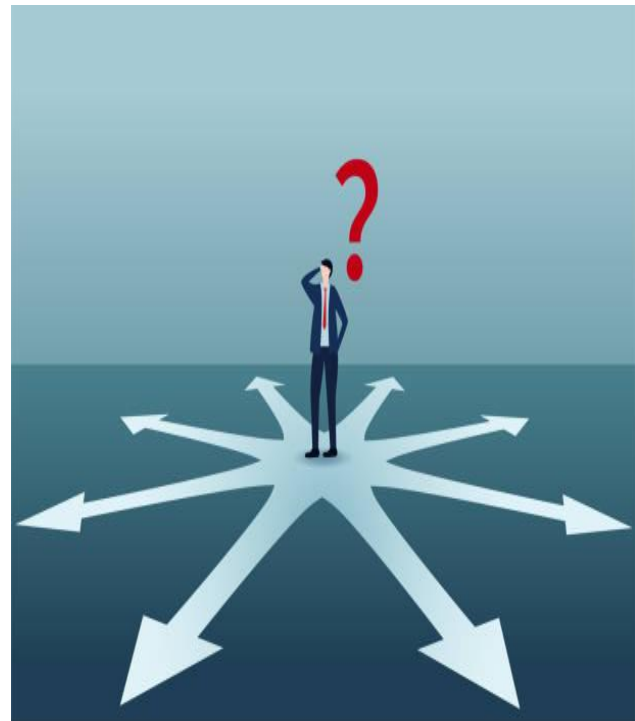


We focus on the
General/Public portal for
DigiClips

How to make DigiClips
accessible to users while
still generating profit for
the company?

Some Ideas

- Daily Search Cap
- Search Token System
- Time-Based Search Limit
- Feature-Limited Search
- Ad-driven Unlimited Search



Decision-Making

Option	User Experience	Subscription Incentive	Technical Feasibility	Revenue Potential	Weighted Score
Daily Search Cap	4	5	5	4	4.5
Search Token System	3	4	3	4	3.7
Time-Based Search Limit	4	3	4	3	3.7
Feature-Limited Search	5	2	4	3	3.7
Ad-Driven Unlimited Search	2	1	5	5	3.3

- User Experience (30%),
- Subscription Incentive (30%),
- Technical Feasibility (20%)
- Revenue Potential (20%).

Each option was scored on a scale of 1 to 5.

Final decision: Daily Search Cap with ads



DigiClips ®

[Search](#)

[Email Alerts](#)

[Media Analytics](#)

[Language Translation](#)

[User Profile](#)

[Contact Us](#)

[Help](#)

[Sign out](#)

DigiClips

your personal media search engine

You only have 3 searches left

[Subscribe now](#)



Subscribe to unlock all features

[Yeah, thanks!](#)

More options

Ad here

[Skip](#)

Functional Requirements

Search Functionality

- Implement basic keyword search across multiple media platforms (TV, radio, web, social media). General/Public users are limited to 5 searches per day.

Ad-Supported Model

- Display ads for General/Public users to sustain free access while providing premium features to paid users, encouraging subscription upgrades.

User Differentiation and Security

- Differentiate between subscribers and General/Public users, ensuring secure access with role-based authentication, two-factor verification, and data encryption.

Other Requirements

UI/UX

- Unobtrusive ad popup with a clean layout, include a clear call-to-action button to encourage subscriptions.

Responsiveness

- The system should respond within 3 seconds.

Technology

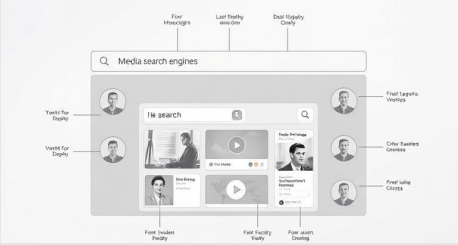
- Using Angular 18 for the front-end, MySQL for the back-end, and Amazon Lightsail server.
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Technical Constraints



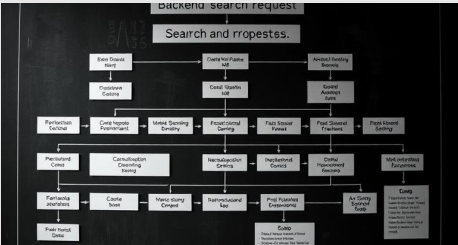
- Key constraints in our technical setup include reliance on Amazon Lightsail for hosting the DigiClips platform. Achieving 99% uptime requires strong monitoring and fast responses to any potential issues, ensuring the system remains reliable and accessible to users at all times.

System Architecture Overview



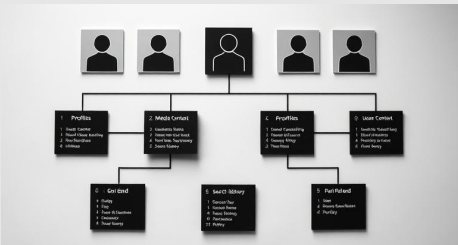
Frontend Interface

The user-facing component built with Angular 18, responsible for search, media playback, report generation, and alert display. It interacts with the backend to retrieve and display data, as well as receive notifications from the alert system.



Backend Processing

The core processing unit implemented in Node.js, handling data requests, processing media content, and managing search and alert algorithms. It serves as the hub, connecting with the frontend, media database, and notification system.



Database and Security Features

A MySQL database stores media content, user profiles, search history, and metadata. The system employs JWT for authentication and HTTPS for encrypted data transfer, ensuring secure access for authorized users only.

Project Plan and Progress



Management Procedures

The DigiClips project employs Agile management, enabling iterative development through sprints. This approach allows for feature implementation, testing, and refinement with ongoing client feedback.

- Weekly sprint reviews
- Continuous client feedback
- Task adaptation

Task Decomposition

Tasks are categorized for clarity. Key areas include verifying users, ad integration, search limitations, and subscription encouragement, with responsibilities assigned to team members.

- Defined user roles
- Ad provider integration
- Search limits for non-subscribers

Milestones Achieved

Milestones include the basic media search interface and user role differentiation. A working prototype of the General Public Page has been developed, featuring search limits and ads.

- Media search interface
- Prototype of General Public Page
- User role system implemented

Current Progress & Next Steps

Progress includes successful setup of frontend and backend components, with initial testing validating core functionalities. Next steps involve scalability optimization and refining the ad strategy.

- Scalability plans
- Refined ad strategy
- Enhanced search accuracy plans

Task Decomposition

Key Categories and Tasks

User Verification:

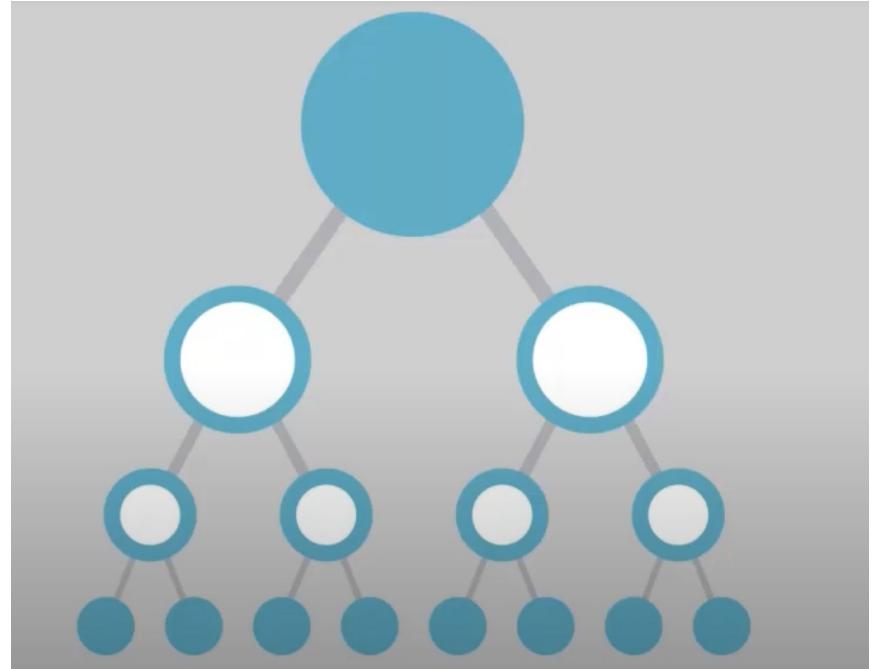
- Define roles: Subscriber vs. Non-Subscriber
- Role assignment and validation during registration
- Enforce access limitations for Non-Subscribers
- Display ads and subscription prompts

Advertisement Integration:

- Research and select ad provider
- Integrate ads into layout and test performance
- Set visibility rules based on subscription status

Search Limitations:

- Define search count limits for Non-Subscribers
- Track and notify users of daily search usage
- Implement daily reset functionality



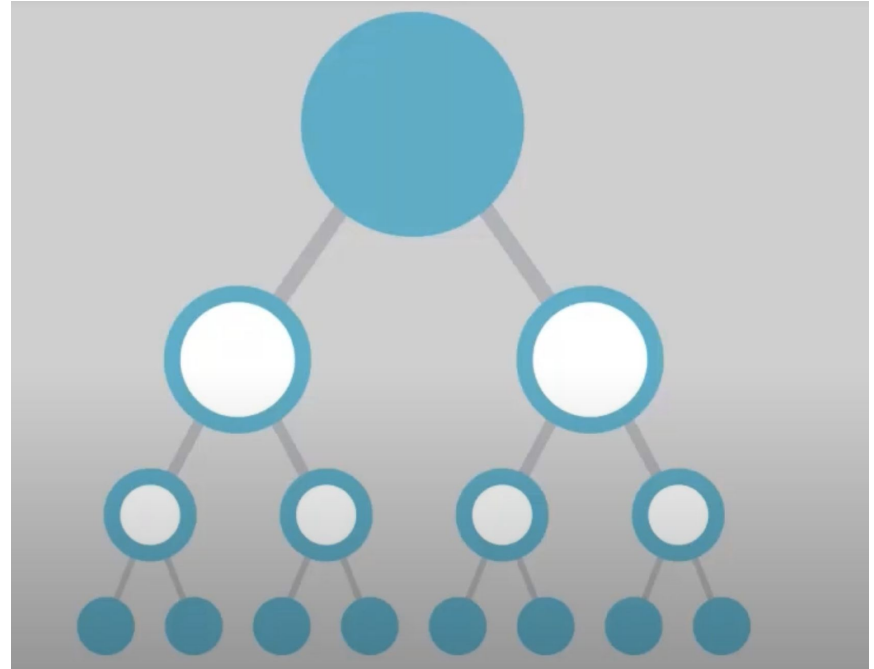
Task Decomposition

Subscription Encouragement:

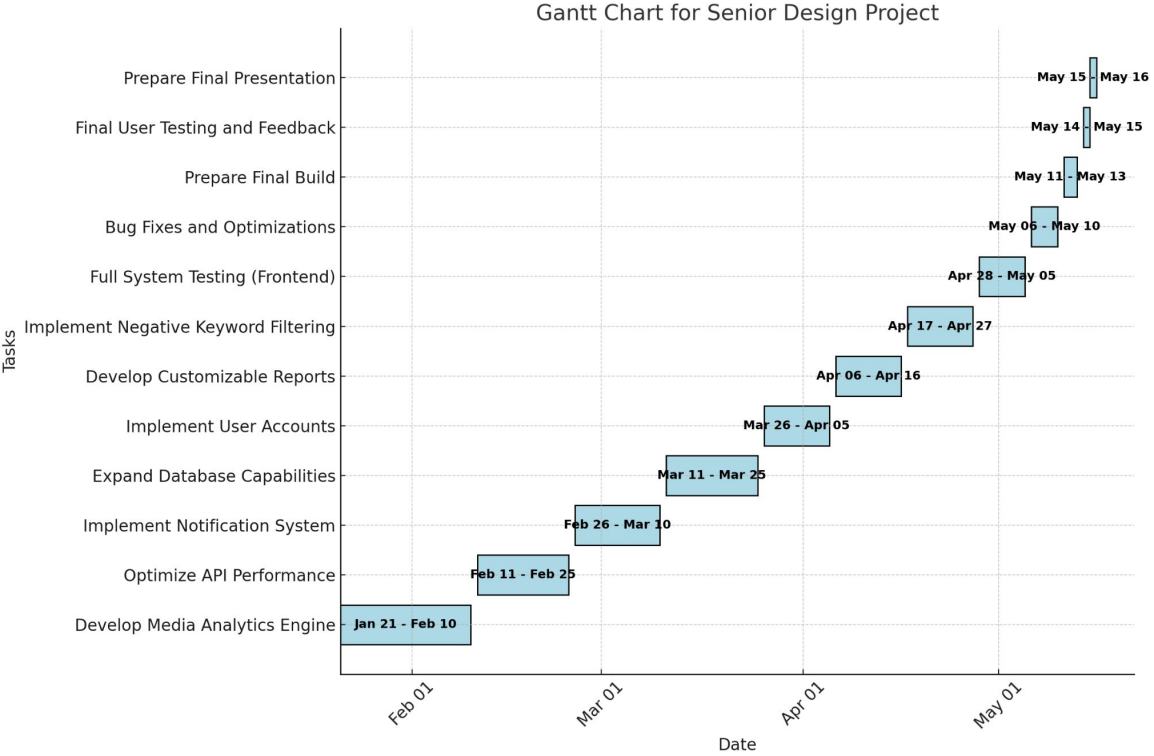
- Design and test "Upgrade to Subscribe" CTAs
- Implement subscription upgrade links
- Track click-through rates and visibility

Milestone Overview

- **Milestone 1:** User verification, initial ad integration
- **Milestone 2:** Search limitations, advanced ad features
- **Milestone 3:** Subscription prompts, testing & feedback



Gantt Chart



Testing Strategies



Unit
Tests

Unit Testing

Focus: Verifying individual components like search limits and ad visibility logic.

Tools: Jest for validating business logic and server-side functions. Mockito to mock frontend objects and test their behaviour.



Integration
Tests

Integration Testing

Focus: Ensuring seamless interaction between user authentication and features such as search functionality and subscription enforcement.

Importance: Critical for a seamless user experience and accurate data flow.



System
Tests

System Testing

Focus: Evaluating overall system performance, stability, and integrated feature limitations.

Tools: JMeter for load testing under real-world scenarios to assess scalability.



Security Testing

Focus: Protecting sensitive user data (login credentials, subscriptions, etc.).

Tools: OWASP ZAP to identify vulnerabilities and strengthen user data protection.

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Engineering Standards

IEEE 23026:2023 - Website Engineering and Management

- Ensures usability, accessibility, and secure user data handling.

IEEE 29119 - Software Testing Framework

- Comprehensive guidelines for test management and dynamic testing.

IEEE 27001 - Information Security Management

- Focuses on securing sensitive data and mitigating risks.



Ethical Considerations

Data Protection

- The DigiClips project ensures secure management of sensitive user data by adhering to IEEE 27001 standards, implementing robust measures such as encryption, access control, and risk management.

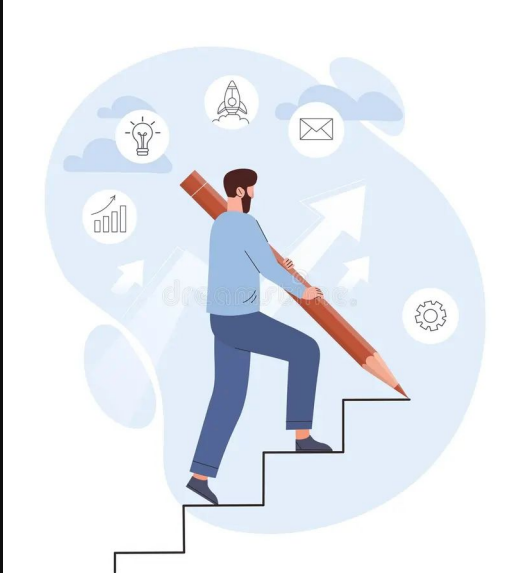
User Privacy

- We prioritize user privacy by implementing role-based authentication and two-factor verification, safeguarding personal information and ensuring that only authorized users can access their data.

Social Responsibility

- DigiClips aims to benefit society and communities by providing free access to essential media insights, promoting inclusivity, and reducing misinformation through accurate, real-time updates.
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Next Steps and Future Plans



Scalability Optimization

- Implement load balancing to handle traffic spikes.
- Enhance backend infrastructure for increased efficiency.

Refine Ad Strategy

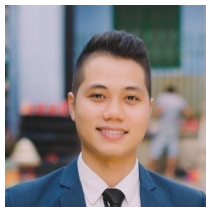
- Optimize ad placement based on user feedback.
- Balance revenue generation with user experience.

Enhanced Search Accuracy

- Improve search algorithms for better relevance and precision.
- Ensure users receive accurate and meaningful results.

Team

Team Roles and Skills



Nguyen Do
Team Organization

Nguyen has experience with Java, HTML, CSS, JS, Node.js, React, Express, and MySQL.



Edmund Lim
Client Interaction

Edmund has full-stack skills in PHP, JS, jQuery, and MongoDB, focusing on backend.



Eshanth Chinthireddy
Testing

Eshanth is passionate about testing frameworks like jest, mockito. Also have experience with Angular Typescript.



Varun Reddy Yeduru
Individual Component Design

Varun has experience with Java, JS, HTML, CSS, Node.js, Angular, and React.



Niharika Pathuri
Documentation

Niharika has experience in Java, JS, HTML, CSS, Node.js, and MongoDB.

The team consists of five members, each with unique skills. Agile methodology fosters collaboration & improvement.

Thank you.
