Project Plan Presentation
Review Aggregator for Educational Programs

The Capstone Experience

Team Malleable Minds

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Functional Specifications

- Malleable Minds (MM) is a web application review aggregator with a collection of PreK-12 programs, from the arts to the sciences
- MM is similar to a Yelp, TripAdvisor, or Angie’s List but for educational programs
- Parents and educators review and compare educational programs on the website
- The site provides users with recommendations
- Users can track kid’s progress and earn a reputation for being a solid contributor
Design Specifications

• Overall Design: Web app in which users may browse and rate educational programs
• Recommendation Engine: Takes data to create personalized content
• Skill System: System for users to keep track of progress towards learning skills
• User Activity Dashboard: Port user activity dashboard from React to New Relic
• Status Feature: System for users to get special statuses on website based on contribution
Screen Mockup: Recommendation Engine, Main Web View
Camp Nissokone

Rating: 5.0/5.0

Description:

Our programs are focused on developing self-confidence, and based on our four core values: caring, honesty, respect and responsibility. Great camps are built on tradition. Since 1914, campers from around the world have come together to experience adventure, friendship, and laughter on our shores, in our cabins, and in our woods. Discover 100 summers of tradition. Discover summer at its best.

Contact Info:

Tel: n/a
Email: n/a
Web: https://ymcadetroit.org/contact-the-ymca/
Screen Mockup: Skill System, Main View

Welcome, Charlie C.

Your Skills:
- Music Theory I
- Nutrition
- Economics

Currently Viewing:
- Music Theory I
  - Module I
  - Module II
  - Module III
  - Module IV

Completed:
- Intro to World Cuisines
- Marketing
Screen Mockup: Skill System, Expanded View
Technical Specifications

• Malleable Minds has two services running, our front end (FE) service, and our back end (BE) service
• The FE is developed in JavaScript using React
• The back end (BE) is developed in Python using Flask
• Data is stored in AWS and used to generate the dashboard in New Relic
System Architecture

Back-end

Front-end

Database

User

Web Application

React

{.js} JavaScript

Flask

python

amazon RDS

New Relic

Okta

Malleable Minds
System Components

- **Hardware Platforms**
  - PC with any kind of Operating System

- **Software Platforms / Technologies**
  - React
  - Flask
  - New Relic
  - JavaScript and Visual Studio Code
  - Python and PyCharm
  - AWS Relational Database
Risks

• Collecting Enough Relevant Data for the Web Application
  ▪ We need to collect enough relevant data to create our recommendation engine
  ▪ We will start collecting data immediately once the client determines what type of data they want

• Creating a Skill System that Accurately Represents Skills that Students Learn
  ▪ It will be difficult to create a skill system that compares skills apples to apples when all educational programs are different
  ▪ Discuss with client and experiment with how broad or unique skills should be categorized

• Developing an Accurate Recommendation Engine
  ▪ We will need to have a large amount of data to create a machine learning model for our recommendation engine
  ▪ Start data collection early and begin creating an initial machine learning algorithm once we have a sample pool of data
Questions?