

MICHIGAN STATE

UNIVERSITY

Project Plan Presentation

Advancing PreK-12 Educational Opportunities

The Capstone Experience

Team Malleable Minds

Temi Agbebi

Noah D'arcy

Alex Ralya

Siyuan Rong

Travis Walton

Department of Computer Science and Engineering

Michigan State University

Spring 2022



*From Students...
...to Professionals*

Functional Specifications

- Review aggregator platform for educational opportunities and programs for PreK-12
- Connect parents, educators, and providers
- Skill trees & subject pages (subject overview and progression tracking)
- Serves professional, academic, and hobby development

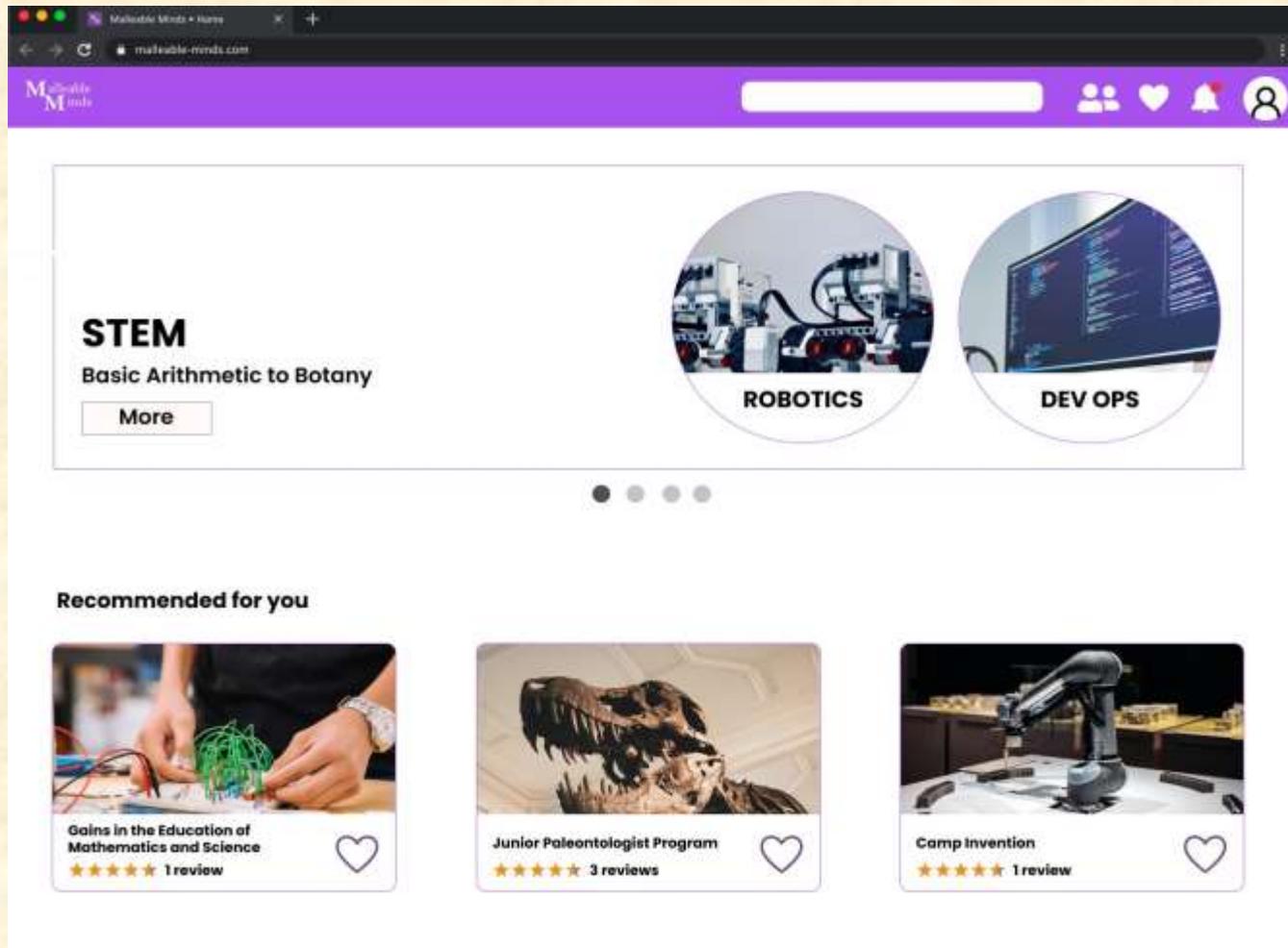


Design Specifications

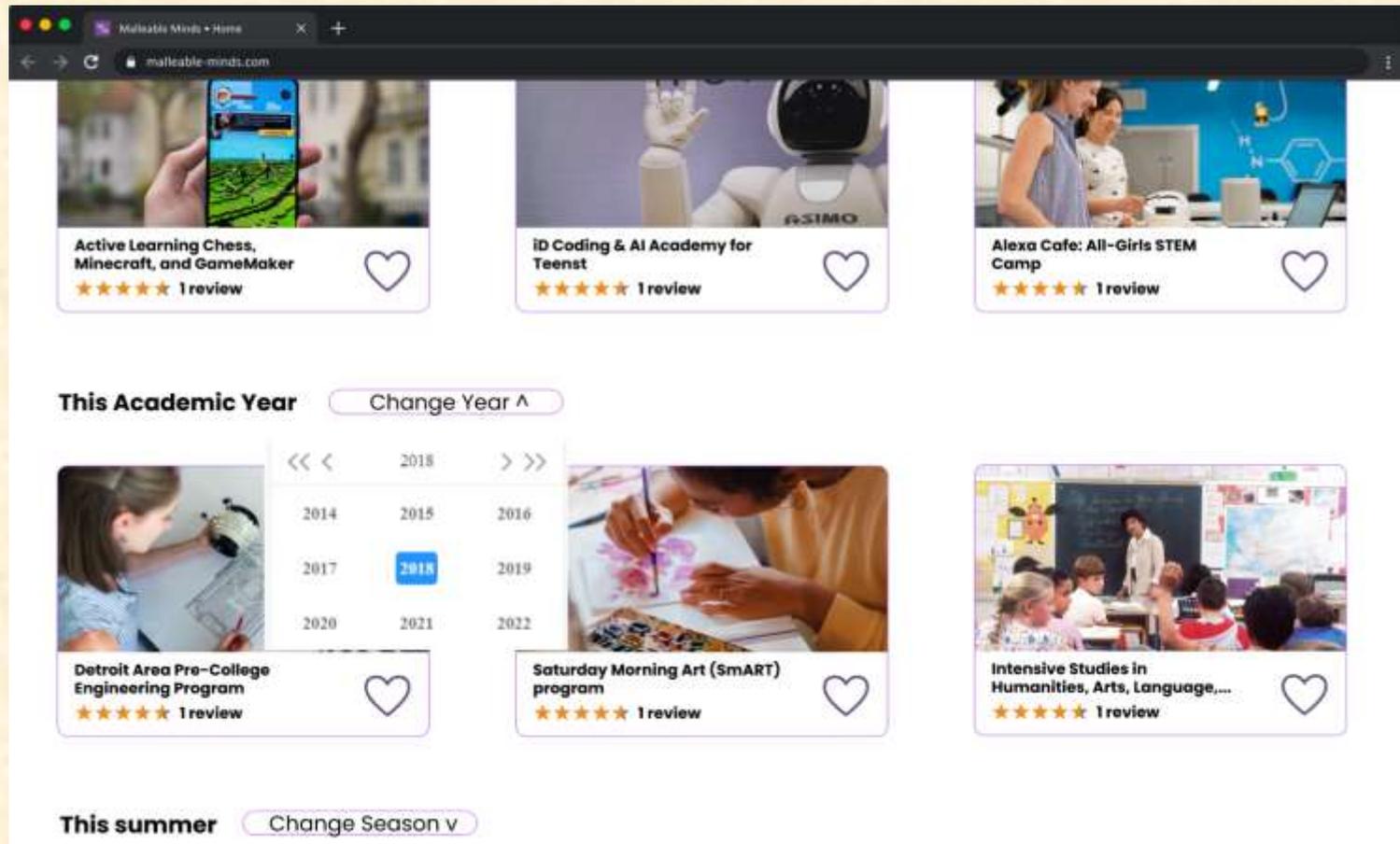
- New personalized home page catered to the user's preferences
- Users can like programs, follow educators, and get notifications on changes
- New skill tree for parents to track educational path
- Educators and Providers have their own profiles where they can rate programs and add programs, respectively



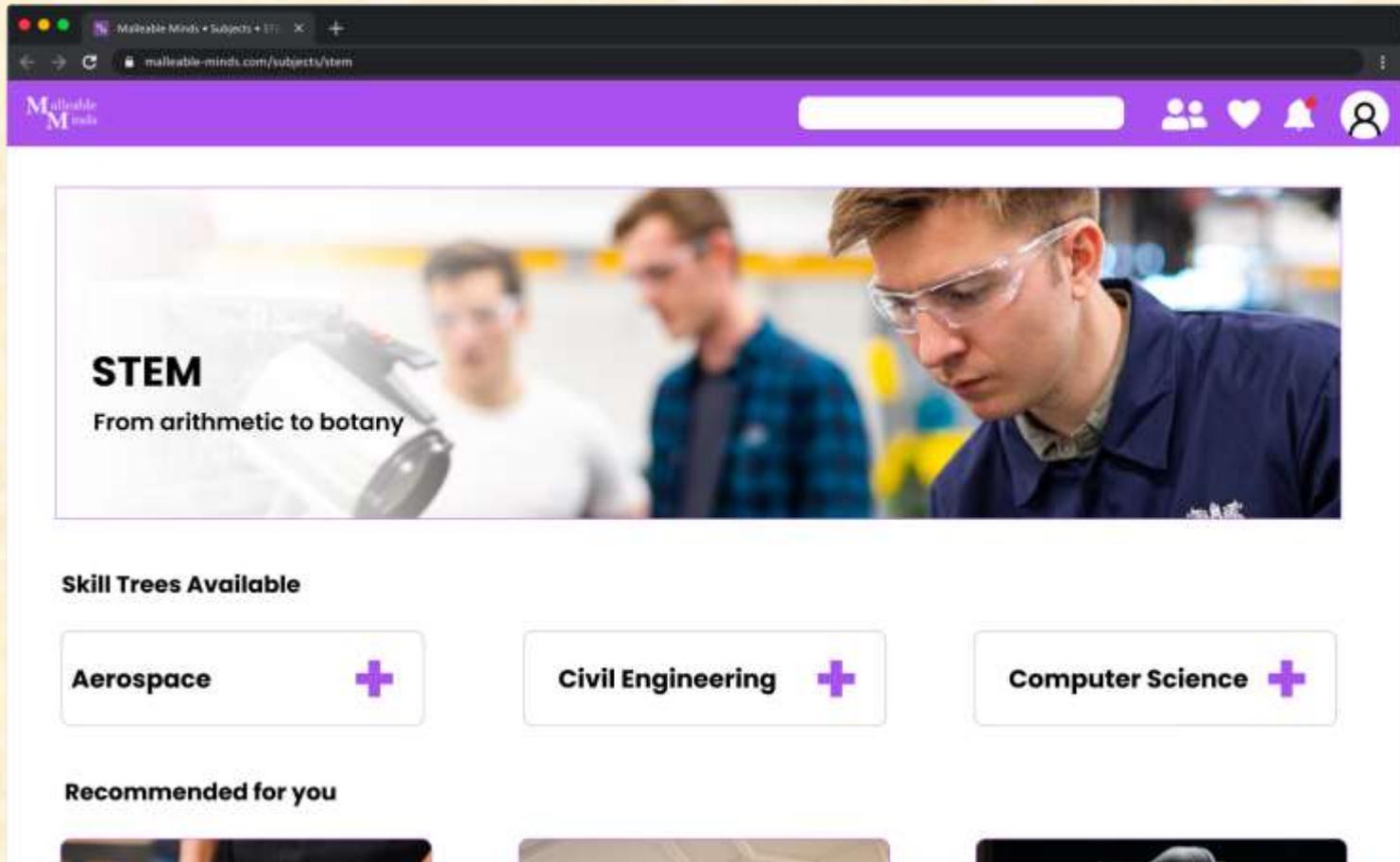
Screen Mockup: Home Page



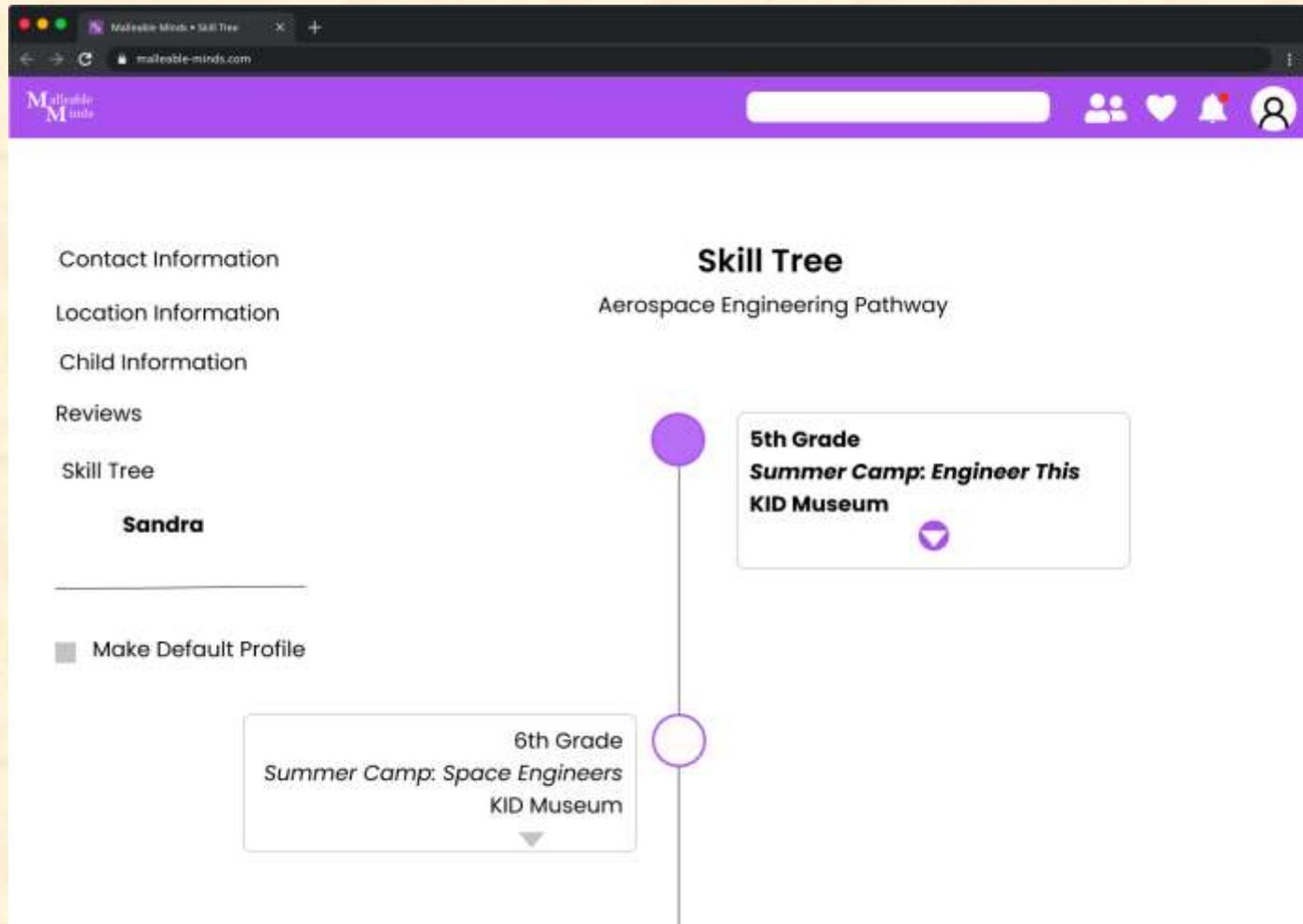
Screen Mockup: Home Page



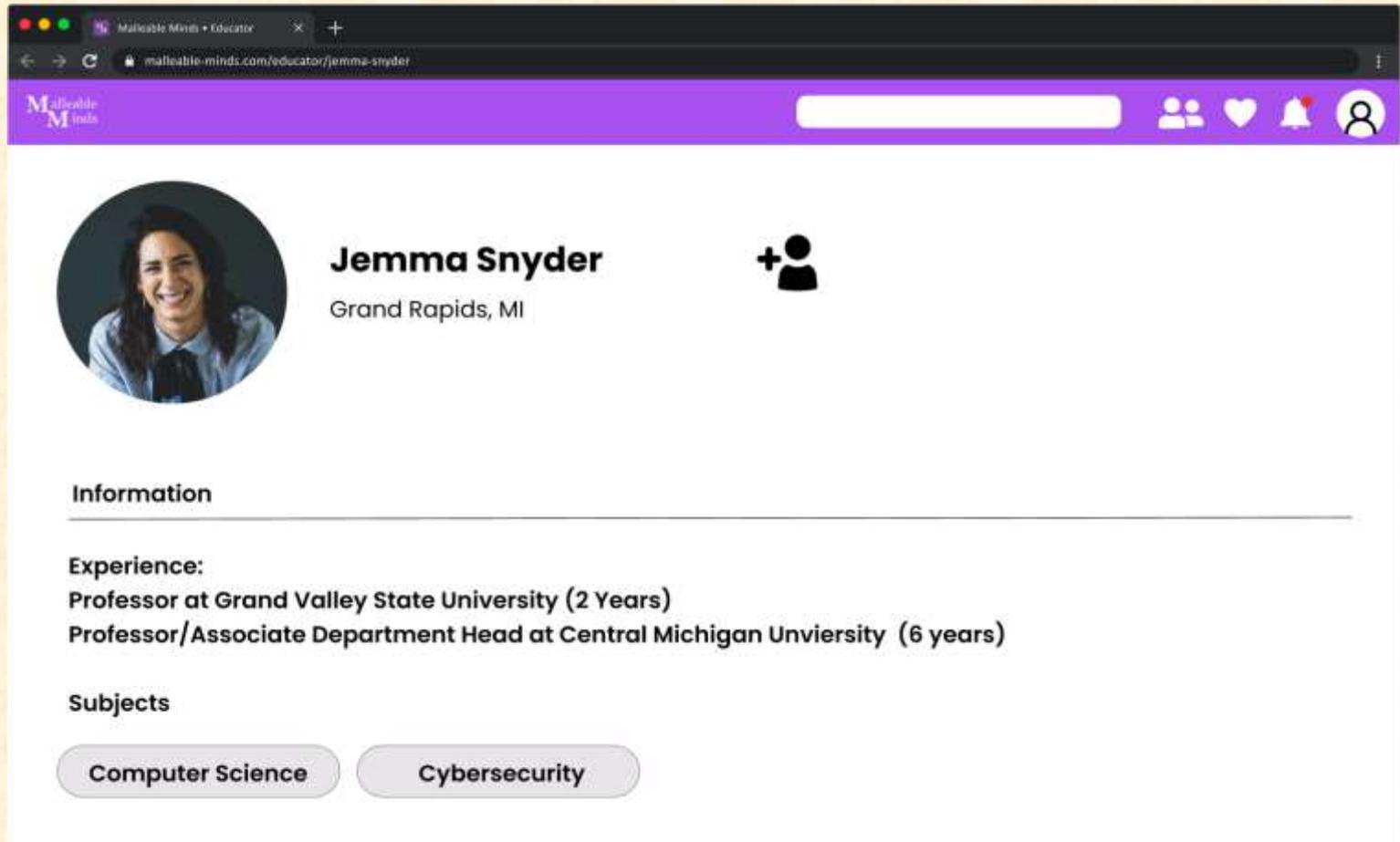
Screen Mockup: Subjects Page



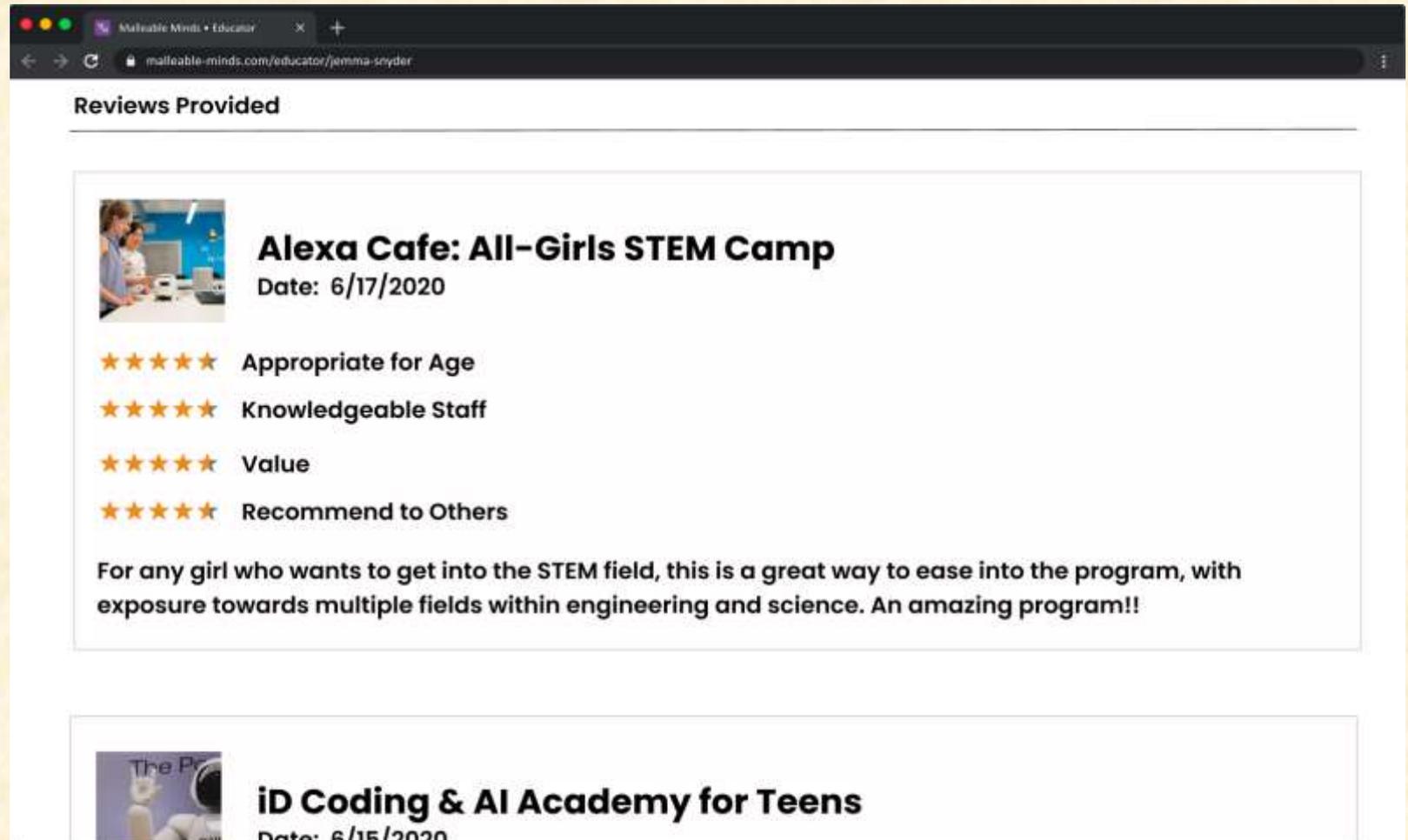
Screen Mockup: Skill Tree



Screen Mockup: Educator Profile



Screen Mockup: Educator Profile



The screenshot shows a web browser window with the address bar displaying "malleable-minds.com/educator/jemma-snyder". The page title is "Reviews Provided". Below this, there are two review cards. The first card is for "Alexa Cafe: All-Girls STEM Camp" dated 6/17/2020. It features a 5-star rating for four categories: "Appropriate for Age", "Knowledgeable Staff", "Value", and "Recommend to Others". The review text states: "For any girl who wants to get into the STEM field, this is a great way to ease into the program, with exposure towards multiple fields within engineering and science. An amazing program!!". The second card is partially visible, showing "iD Coding & AI Academy for Teens" dated 6/15/2020.

Reviews Provided

**Alexa Cafe: All-Girls STEM Camp**
Date: 6/17/2020

- ★★★★★ Appropriate for Age
- ★★★★★ Knowledgeable Staff
- ★★★★★ Value
- ★★★★★ Recommend to Others

For any girl who wants to get into the STEM field, this is a great way to ease into the program, with exposure towards multiple fields within engineering and science. An amazing program!!

**iD Coding & AI Academy for Teens**
Date: 6/15/2020

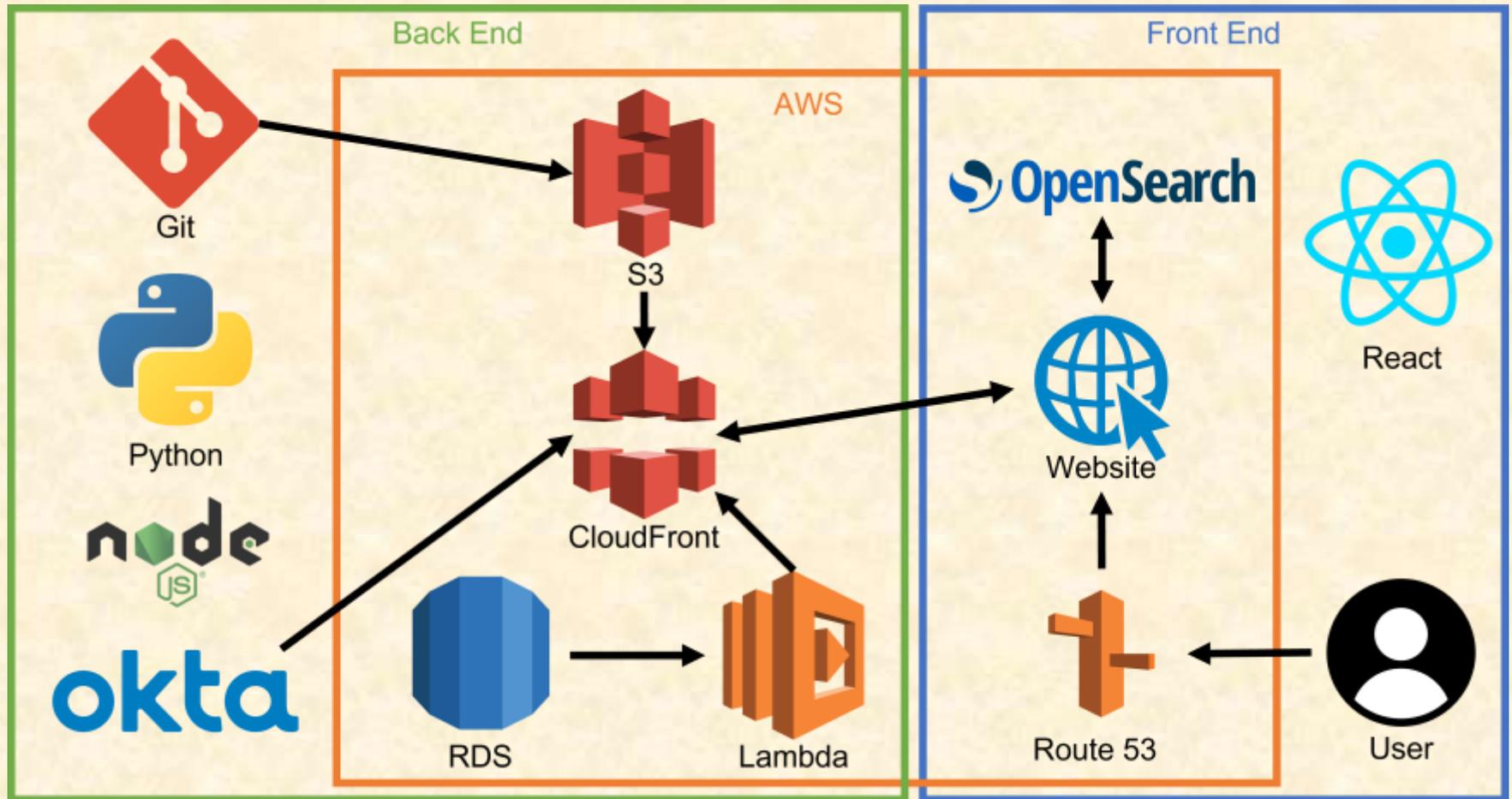


Technical Specifications

- Front end website uses React
- Static front end hosted on AWS S3 and served using AWS CloudFront
- Back end built in Python
- Back end uses AWS Lambda for serverless computing
- Okta used for user authentication and login



System Architecture



System Components

- Software Platforms / Technologies
 - Python
 - React
 - NodeJS
 - Git
 - Okta
 - Amazon Web Services:
 - S3, CloudFront, RDS, Lambda, Route 53, and OpenSearch



Risks

- Implementing and Testing AWS Lambdas
 - The site will be going serverless with AWS Lambdas.
 - Individual Research and meeting with client for demo on AWS Lambda structure.
- User-Friendly Application for a Wide Variety of Users
 - The site must be easy to use for all our users and all their different needs on the application.
 - Sectioning homepage by user, beta testing and user feedback.
- Working with Existing Code
 - We must make sure that this code is running, tested, and lacks any redundancy before we can add much of our own.
 - Client has provided guided documents to start off debugging.



Questions?

?

?

?

?

?

?

?

?

?

