

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Project Plan

## Degree Navigator

### The Capstone Experience

Team Michigan State University ITS

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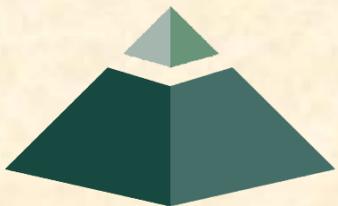
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Michigan State University

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

# Functional Specifications

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- Current process for checking degree requirements is outdated and not intuitive
- Update the process with a modern UI
  - Check degree requirements
  - Plan schedules
  - Search for courses
  - Access helpful information
- Develop applications for iOS, Android, and web



# Design Specifications

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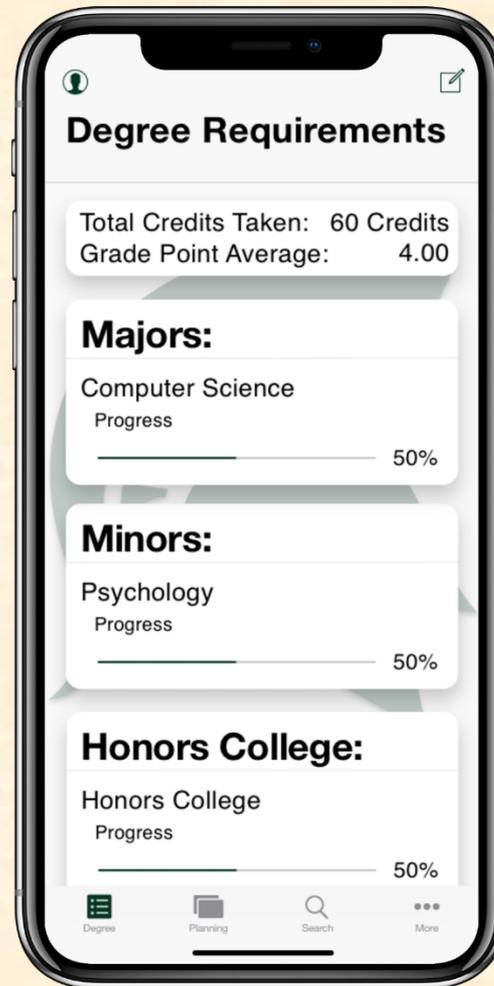
- Design Process
  - Surveyed 206 students to collect pain points and desired features
  - Use pain points for a design workshop to discuss design and features
  - Iterate over design multiple times
- UI
  - Easy to use & understandable
  - Similar flow on web & mobile



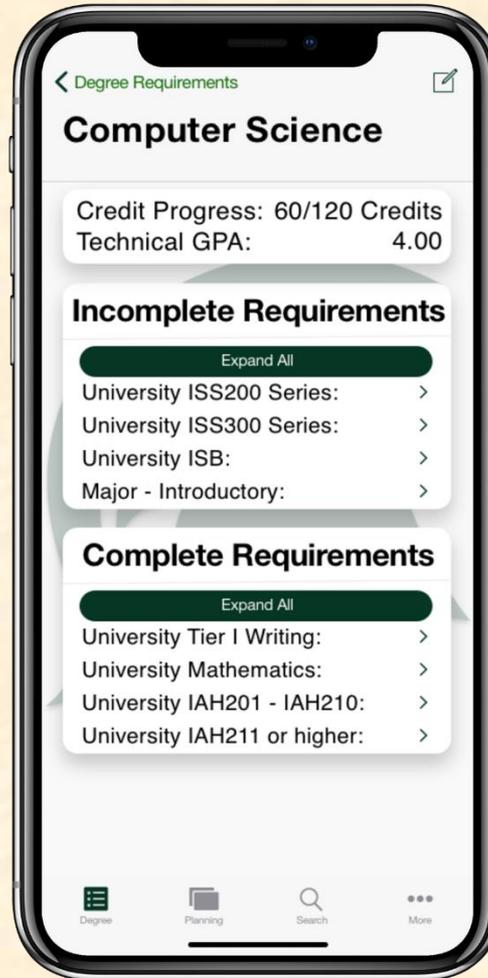
# Screen Mockup: Profile



# Screen Mockup: Degree Requirements



# Screen Mockup: Program Information



# Screen Mockup: Degree Requirements on Web

**Degree Requirements** John Doe  
Honors College  
Overall GPA: 4.00

[Degree Requirements](#) [Degree Planning](#) [Search for Courses](#) [More](#)

Total Credits Taken: 60 Credits  
Overall GPA: 4.00

**Majors:**  
Computer Science  
Progress 50%

**Minors:**  
Psychology  
Progress 50%

**Honors College:**  
Honors College  
Progress 50%

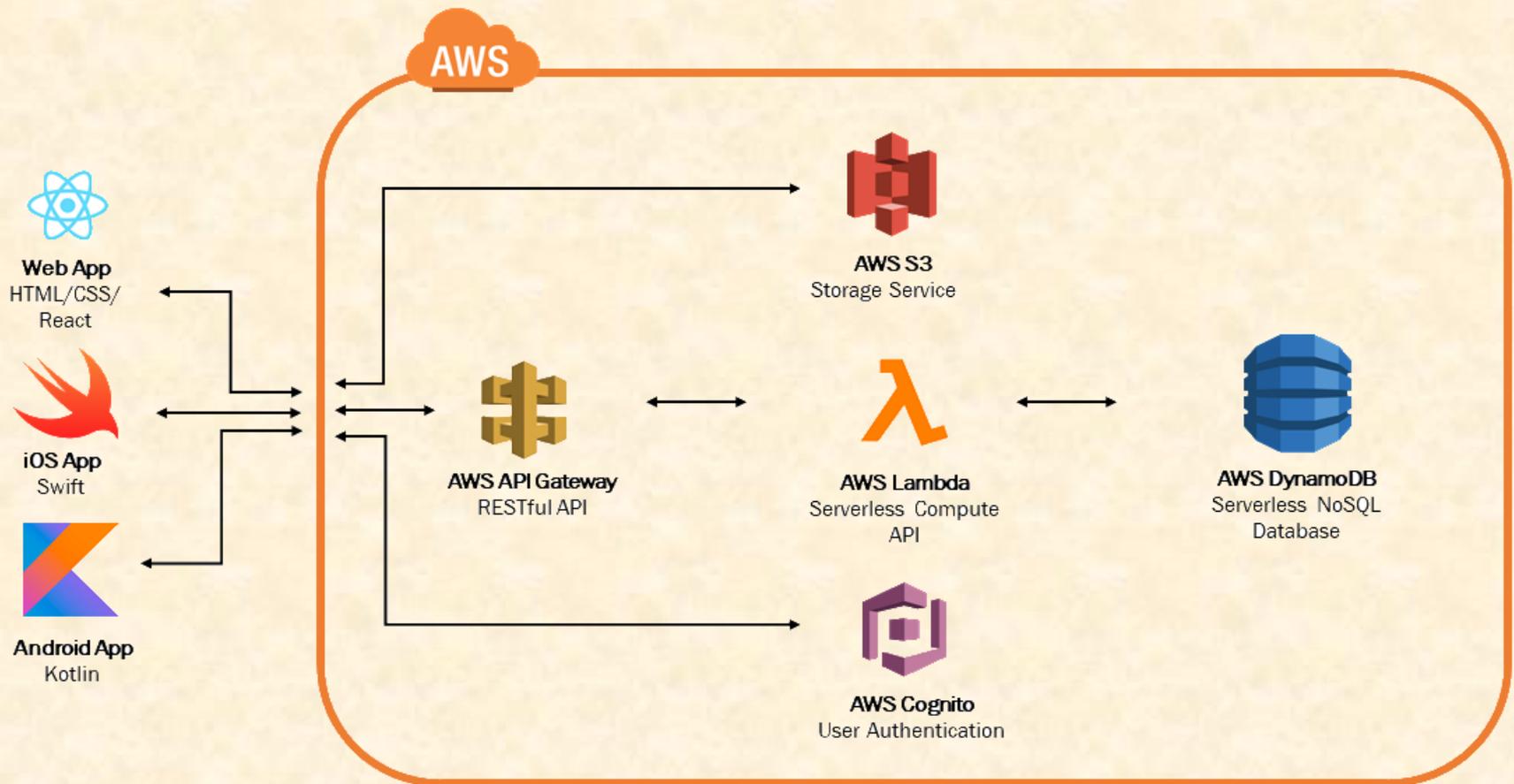


# Technical Specifications

- Serverless Framework
  - AWS Components
    - API Gateway
    - Lambda Functions
    - DynamoDB
    - S3
    - Cognito
  - Front-end Components
    - HTML/CSS/React for Web
    - Kotlin for Android
    - Swift for iOS



# System Architecture



# System Components

- Hardware Platforms
  - iMacs in Capstone Lab
  - Personal Android phones
  - Personal iPhones
- Software Platforms / Technologies
  - Xcode, Android Studio, WebStorm for front-end development
  - AWS SDK & Serverless Framework packages for AWS development
  - Postman for API testing



# Risks

- Ensuring Degree Navigator Works on Mobile
  - The application must be easy to understand and navigate
  - **Mitigation:** Continue to refine the UI through multiple iterations of user feedback
  - **Importance:** Very High, **Difficulty:** High
- Handling Edge Cases
  - The app needs additional features for students with dual majors, minors, and honors options
  - **Mitigation:** Implemented edge case functionality in the early design stages
  - **Importance:** High, **Difficulty:** Moderate
- Coordinating with Existing MSU Systems
  - The app should store user information similarly to how other MSU technologies do
  - **Mitigation:** Maintain frequent communication with our clients about mock data and our schemas.
  - **Importance:** Low, **Difficulty:** Moderate



# Questions?

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