

**MICHIGAN STATE**  
**UNIVERSITY**

# Project Plan

## ARIN Application Launcher

The Capstone Experience

Team Principal AAL

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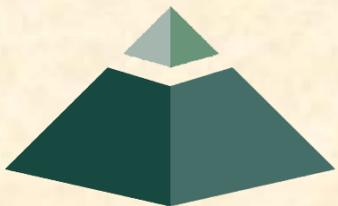
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*From Students...*  
*...to Professionals*

# Functional Specifications

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- Unified interface to view, edit, and create applications
- Manage access to applications
- Single-sign on access to applications



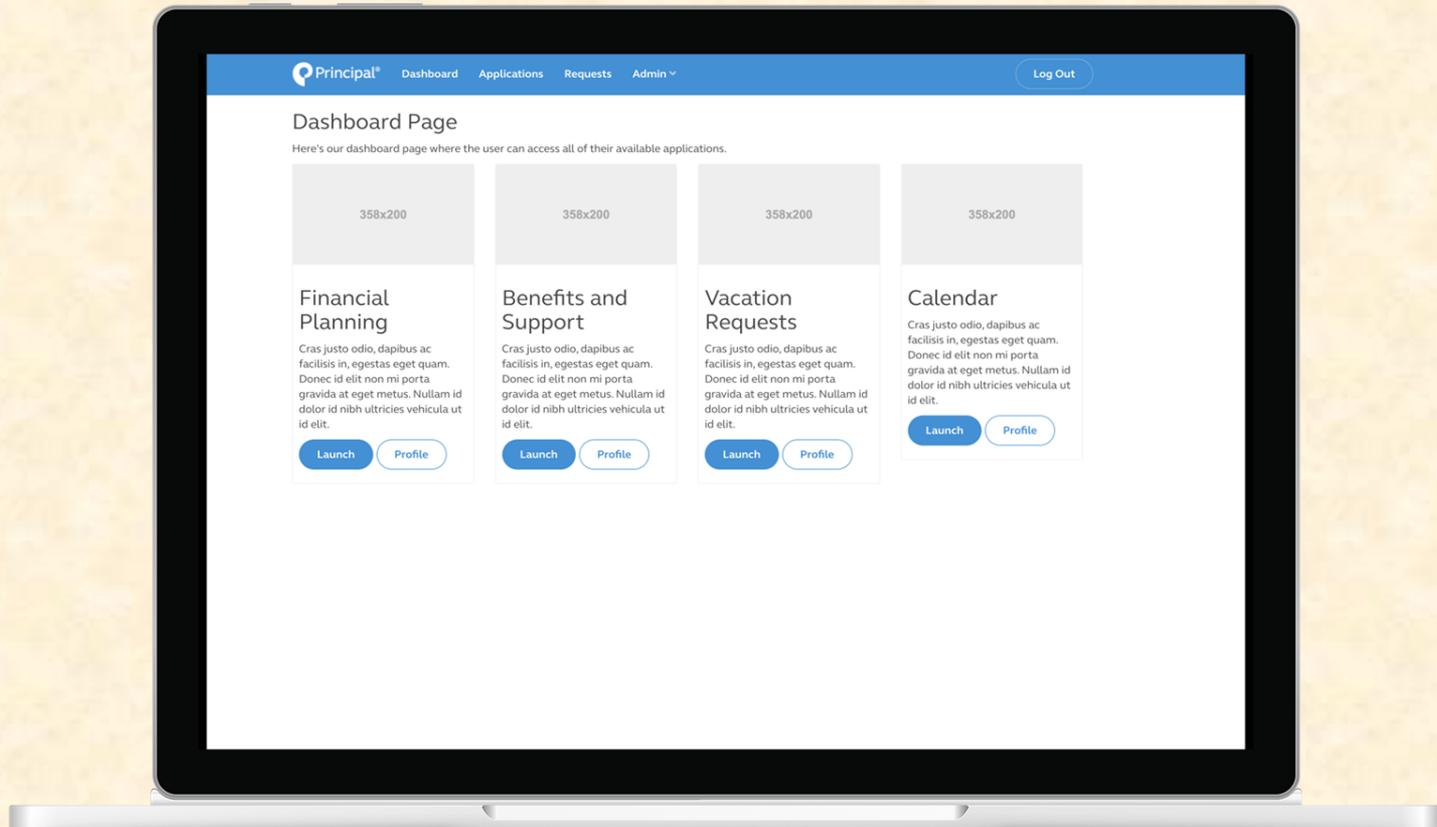
# Design Specifications

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- A navigation bar that uses routing to display every page to the user.
- Display a portfolio of applications that users can access.
- Display tools to administrators that allows them to easily edit permissions and create new applications.



# Screen Mockup: User Dashboard



# Screen Mockup: Applications

**Principal** Dashboard Applications Requests Admin ▾ Log Out

## Applications Page

Here's our applications page where a user will be able to see a listing of all available applications, with a short description and a link to launch it, or request access to it. An admin will also be able to create a new application from here.

358x200

### Subscription Management

This application allows a user to view which company newsletters the user has subscriptions for.

[Request](#) [Profile](#)

358x200

### Employee Review

This application allows an employee to rate another employee on their performance.

[Request](#) [Profile](#)

358x200

### Employee Hours

This application allows employees to clock in their hours worked per day.

[Request](#) [Profile](#)

358x200

### Employee Vacation Requests

This application allows an employee to formally submit and track requests for vacation days while also tracking how many days they have used and how many are remaining.

[Request](#) [Profile](#)



# Screen Mockup: Requests

Principal® Dashboard Applications Requests Admin ▾ Log Out

## Requests Page

Here's the requests page where a user can see the status of their pending requests and an admin can approve or deny them.

#	First Name	Last Name	Username
1	Mark	Otto	@mdo
2	Jacob	Thornton	@fat
3	Larry	the Bird	@twitter



# Screen Mockup: Administrator Tools

Principal® Dashboard Applications Requests Admin ▾ Log Out

## New Application Page

Here's the page where the admin create a new application.

Application Name:

URL:

Description:

Role1:

Role2:

Role3:

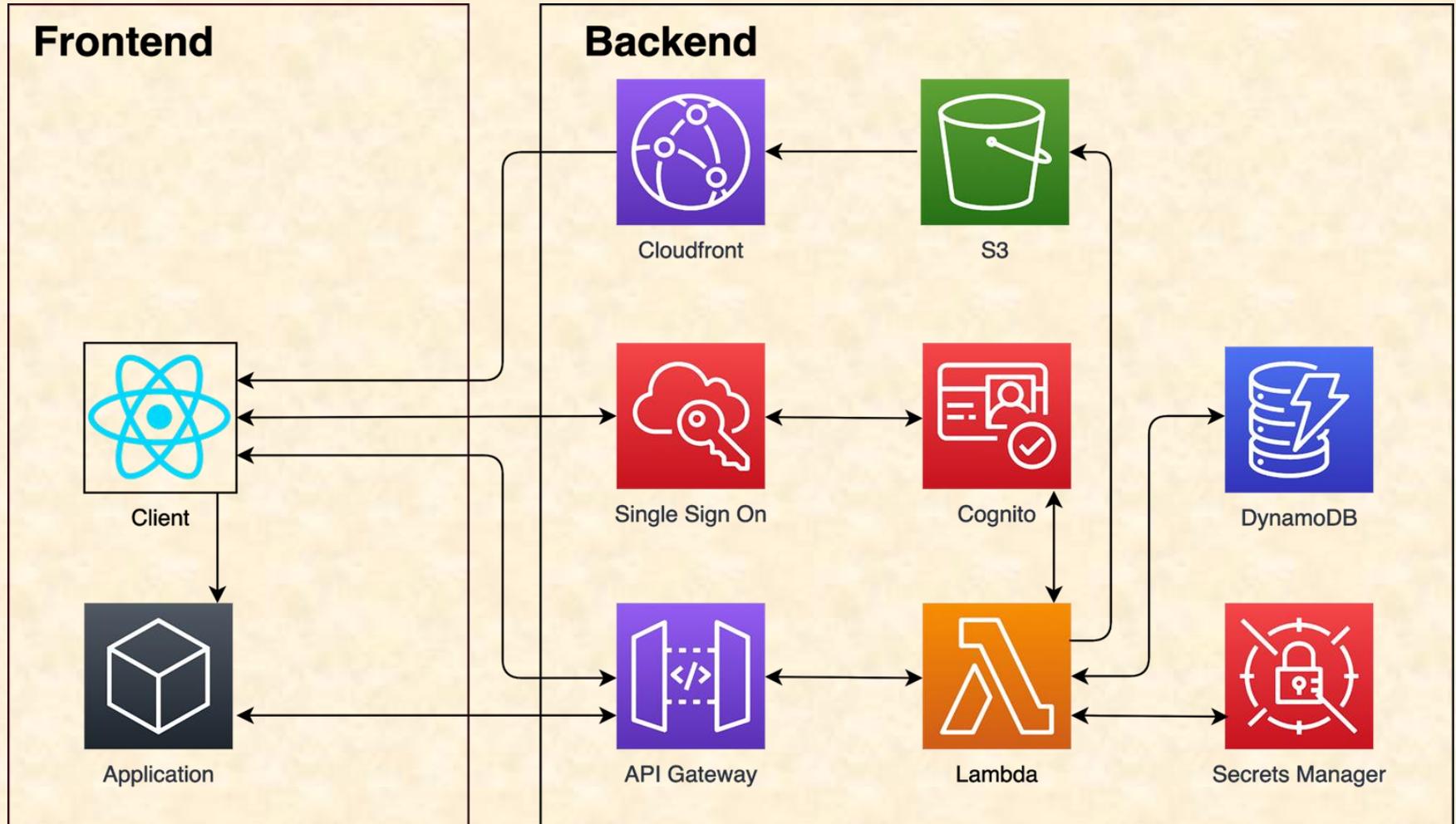


# Technical Specifications

- Frontend: React and Flask
  - React - JavaScript library for user interface building
  - Flask - Python web app framework for local testing
- Backend: Amazon Web Services
  - Cognito for login/oauth
  - S3 bucket for file storage
  - DynamoDB for databases
  - Amazon API Gateway for API development
  - Lambda for hosting and running code
  - Cloudfront for cloud services



# System Architecture



# System Components

- Hardware
  - Accessed via internet browser; available on any device that has one
- Software
  - Frontend: React and Flask
  - Backend: Amazon Web Services
    - Cognito, DynamoDB, Amazon API Gateway, Cloudfront, Lambda, S3



# Risks

- Serverless Architecture
  - Difficulty: Medium. Importance: Medium.
  - No team member has worked with serverless architecture
  - Online tutorials and sample projects.
- Login with Safety
  - Difficulty: Medium. Importance: High.
  - Login through Cognito and define the correct user pool
  - Draw diagrams to divide groups and use template data to test login
- API Gateway
  - Difficulty: Medium. Importance: High.
  - Hard to define files and functions with different authentication
  - Draw UML diagram to define every input, output and method
- App Module
  - Difficulty: Medium. Importance: Medium.
  - Design of apps' data used for creating, display, and else.
  - Ask client for previous data and comprehensive them with new data



# Questions?

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