## UniNavigate

### Your Personal Campus Diary



By Mohit Doshi

**CSE 335** 

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## Problem Statement

- Campus can be confusing to navigate
- Students take notes for different classes electronically which can often get jumbled
- Data privacy breaches have become commonplace nowadays, personal data not safe online even on private accounts





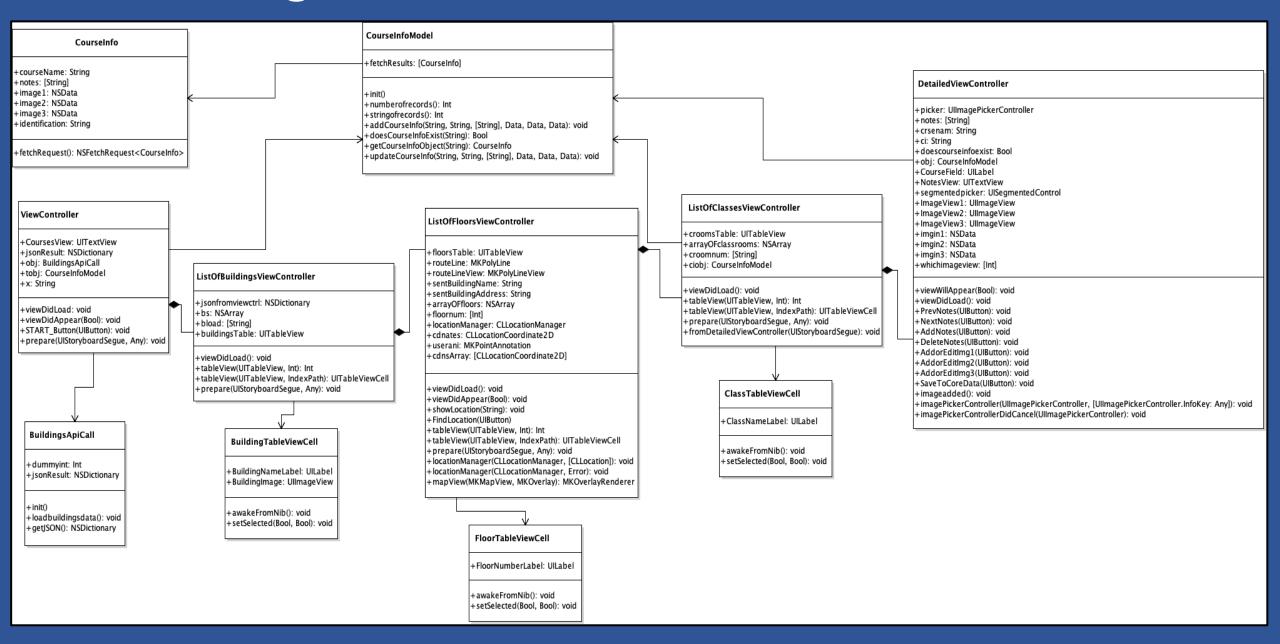


## Solution/Project Idea



- iOS Application which displays all buildings, floors, classrooms on the ASU campus
- Students can select a building → floor → classroom and add a course to it
- The Course associated with a classroom, can be customized with notes and images
- All user data is only stored on the user's device and loaded each time the application is launched
- Map feature which displays building location and user location on a map to make navigation easier

## Class Diagram



## MVC Diagram





#### **Notifies User Actions:**

Whenever a button, or cell in a table, is clicked

View TableView Cells for Buildings, Floors, Classrooms

When the map is clicked

When a photo is picked or clicked

- photo
- Displays list of floors

- · Displays notes and images
- Shows the map in the List of Floors View

#### Controller

- Retrieves JSON Data as a Dictionary
- Retrieves List of Courses being tracked
- Parses JSON object to get Buildings list and locations, Floors list, Classrooms list
- Calls TableView, imagePickerController, locationManager mapView delegate methods
- Updates Table Views, Image Views, Text
- **Computes User Location**

**Update:** 

Text View displaying tracked courses

Table View listing Buildings

**Table View listing Floors** 

Map View displaying building

location, user location

**Table View listing Classrooms** 

Updates Classroom information -

Course name, notes, images

added by user

Fetches Course Information for a Classroom

#### **Update:**

Creation of a new CourseInfo Object

Send course name for Modification of a CourseInfo object - edits in notes or images

List of tracked courses

#### **Notifies:**

Changes in JSON Data (Building details, floor details, Classrooms details)

Change in course information for a classroom

New CourseInfo Object created (new course added)

#### Model

- Calls the API and returns JSON data
- Stores Course Information in Core Data
- · Functions to add, retrieve, and edit CourseInfo objects from Core Data
- Returns a list of courses being tracked

#### View

- · Displays home screen, text view of tracked
- Displays list of buildings with names and a
- Displays list of classrooms
- Displays course information
- Controller

## Capabilities and Limitations

- Displays Buildings, Floors, Classrooms on campus
- Location-based Map features
- Allows users to add or edit notes and images for a course in a classroom, saves information to Core Data
- Lists names of courses being tracked

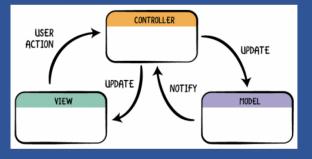
- Doesn't account for the case where two or more courses can be held in the same classroom
- Data cannot be migrated to another device
- Cannot automatically load courses if given a schedule
- Application only runs on iOS supported devices

## Lessons Learned

- Learnt to create and deploy my own API on AWS Lambda
- Core Data storage, particularly for images
- MVC Architecture principles
- Sound understanding of delegate methods
- Smart UI considerations









## Suggestions for improvements for the class/project

- Making CSE 310 a prerequisite
- Having more assignments focusing on core data
- Potential collaboration with Apple to directly bring developer benefits to students, releasing apps on the App Store
- Connections with industry, guest talks, WWDC information

# THANKYOU

https://youtu.be/DmBeYYh6HU0