

Duck Planner

Optimized UO Student Class Scheduler

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Problem Statement

CURRENT MODEL











Problems:

- Complicated & Outdated
- Limited Filtering Options
- Difficult to Compare Schedules
- No option to see walking distances

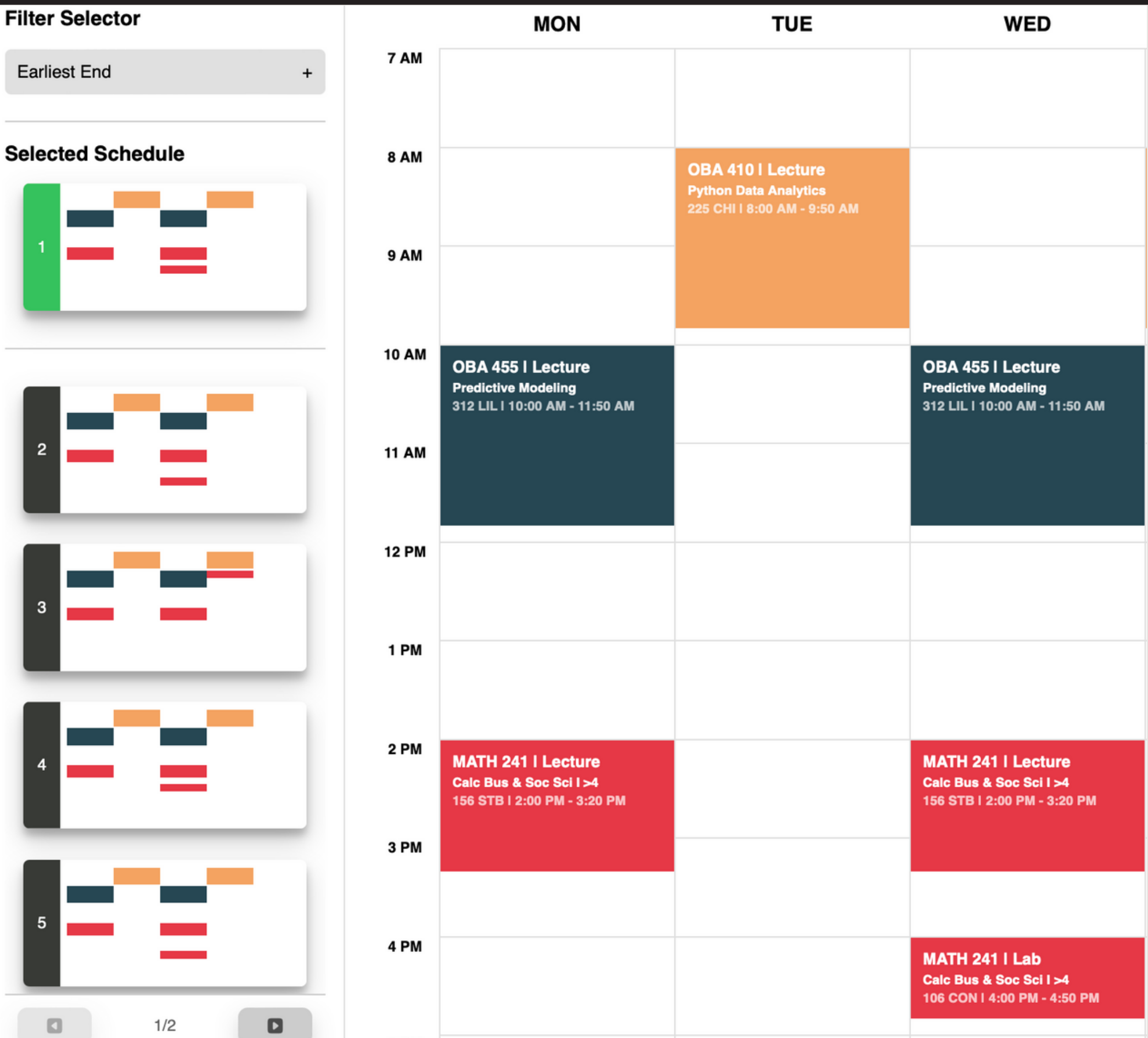
Schedules

 Generate Schedules

Generated 10 Schedules

View	1		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13096, 410-OBA-13973, 466-OBA-13976	
View	2		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13093, 410-OBA-13973, 466-OBA-13976	
View	3		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13092, 410-OBA-13973, 466-OBA-13976	
View	4		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13091, 410-OBA-13973, 466-OBA-13976	
View	5		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13090, 410-OBA-13973, 466-OBA-13976	
View	6		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13088, 410-OBA-13973, 466-OBA-13976	
View	7		<input type="checkbox"/>	241-MATH-13079, 241-MATH-13085, 410-OBA-13973, 466-OBA-13976	
View	8		<div><div>M</div><div>T</div><div>W</div><div>Th</div><div>F</div></div> <div><div>8am</div><div>9am</div><div>10am</div><div>11am</div><div>12pm</div><div>1pm</div><div>2pm</div><div>3pm</div><div>4pm</div><div>5pm</div></div>	-13083, 410-OBA-13973, 466-OBA-13976	
View	9			-13082, 410-OBA-13973, 466-OBA-13976	
View	10			-13081, 410-OBA-13973, 466-OBA-13976	

Problem Statement



NEW MODEL

Features:

- Simplified & Dynamic
- Easier to Find Preferred Schedule
- Filtering Options
- Campus Map to See Class Locations

Sign Up

User Sign Up



Log in

Welcome Back



Don't have an account? [Sign Up](#)

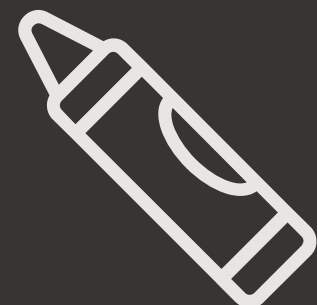
Class Search & Selection



Implements Fuzzy Search



See Course Description, Professor, & Time



Change Course Color

Class Search

MATH 241

Calc Bus & Soc Sci I >4
4 Credits



OBA 410

Python Data Analytics
4 Credits



OBA 455

Predictive Modeling
4 Credits



Pendem P

Section 1 | 312 LIL
Lecture: MW (1000-1150)

CS 422

CS 422

Software Method I
4 Credits



EC 422

Economic Forecasting
4 Credits



System Overview

Filters & Preview

Filter Selector

Earliest End

+

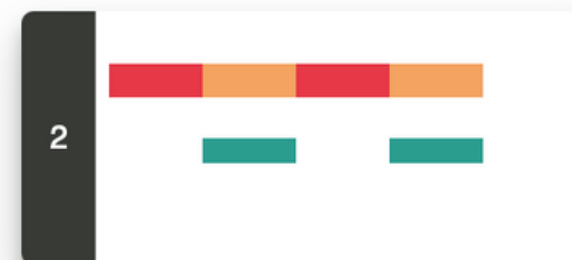
Most Compact

Latest Start

Earliest End

Prioritize ASYNC

Selected Schedule



MON

TUE

WED

THU

7 AM

8 AM

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

OBA 410 | Lecture

Python Data Analytics

225 CHI | 8:00 AM - 9:50 AM

OBA 455 | Lecture

Predictive Modeling

312 LIL | 10:00 AM - 11:50 AM

OBA 455 | Lecture

Predictive Modeling

312 LIL | 10:00 AM - 11:50 AM

CS 422 | Lecture

Software Method I

B040 PSC | 2:00 PM - 3:20 PM

CS 422 | Lecture

Software Method I

B040 PSC | 2:00 PM - 3:20 PM

System Overview - Find Classes on Campus Map

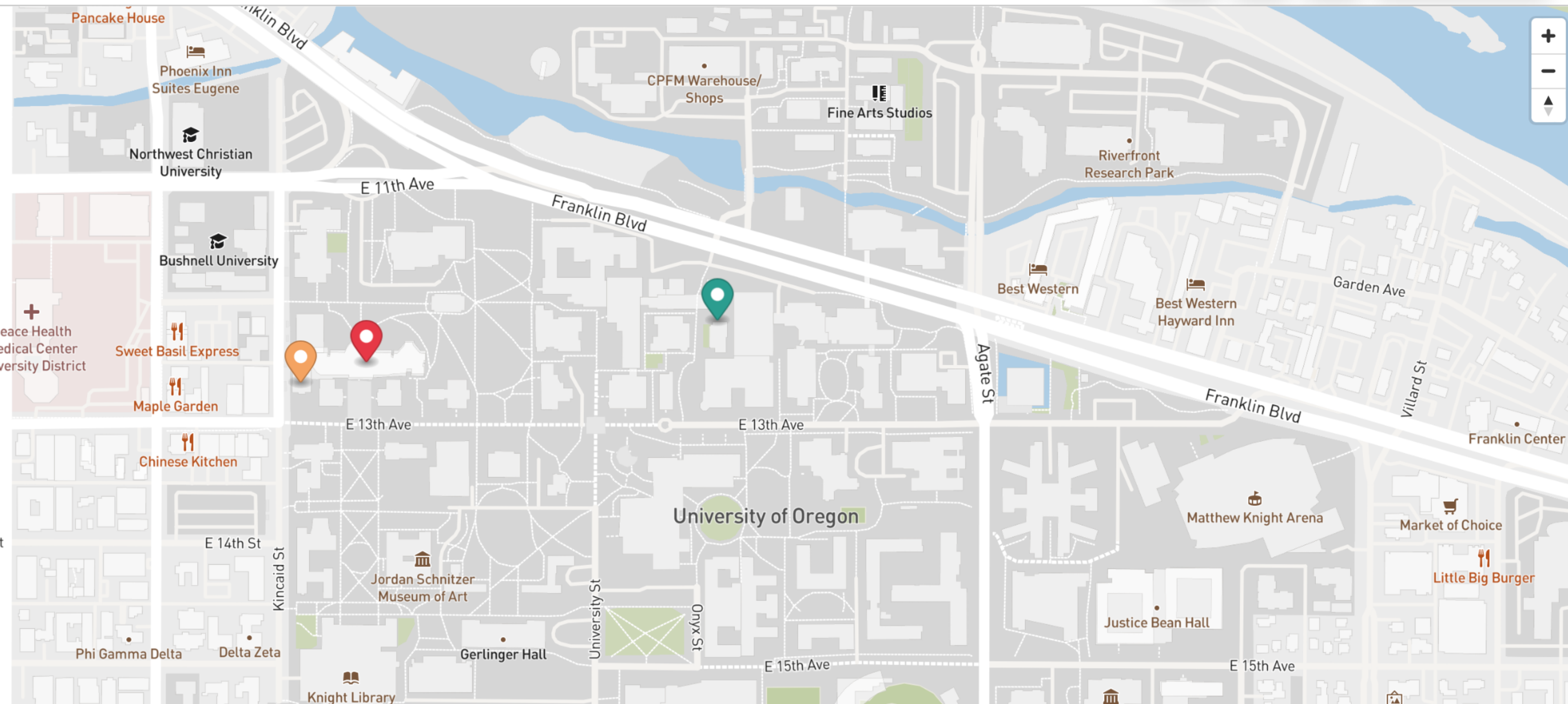
Scheduler

Map

Saved Schedules



Annika Huston



System Overview - View Saved Schedules

Saved Schedules

To remove a schedule, hover over the schedule number.

1

2

7 AM

8 AM

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

MON

TUE

WED

THU

CS 211 | Lecture
Computer Science II >4
182 LIL | 10:00 AM - 11:20 AM

HPHY 381 I + Lab
Biomechanics
052 GRX | 10:00 AM - 11:50 AM

CS 211 | Lecture
Computer Science II >4
182 LIL | 10:00 AM - 11:20 AM

HPHY 381 | Lecture
Biomechanics
145 STB | 2:00 PM - 3:20 PM

HPHY 381 | Lecture
Biomechanics
145 STB | 2:00 PM - 3:20 PM

Establishing System Requirements and Design

01 Current Schedule Planner

Learned what functionality worked well and what needed alteration in current system

02 Various Universities' Schedule Planners

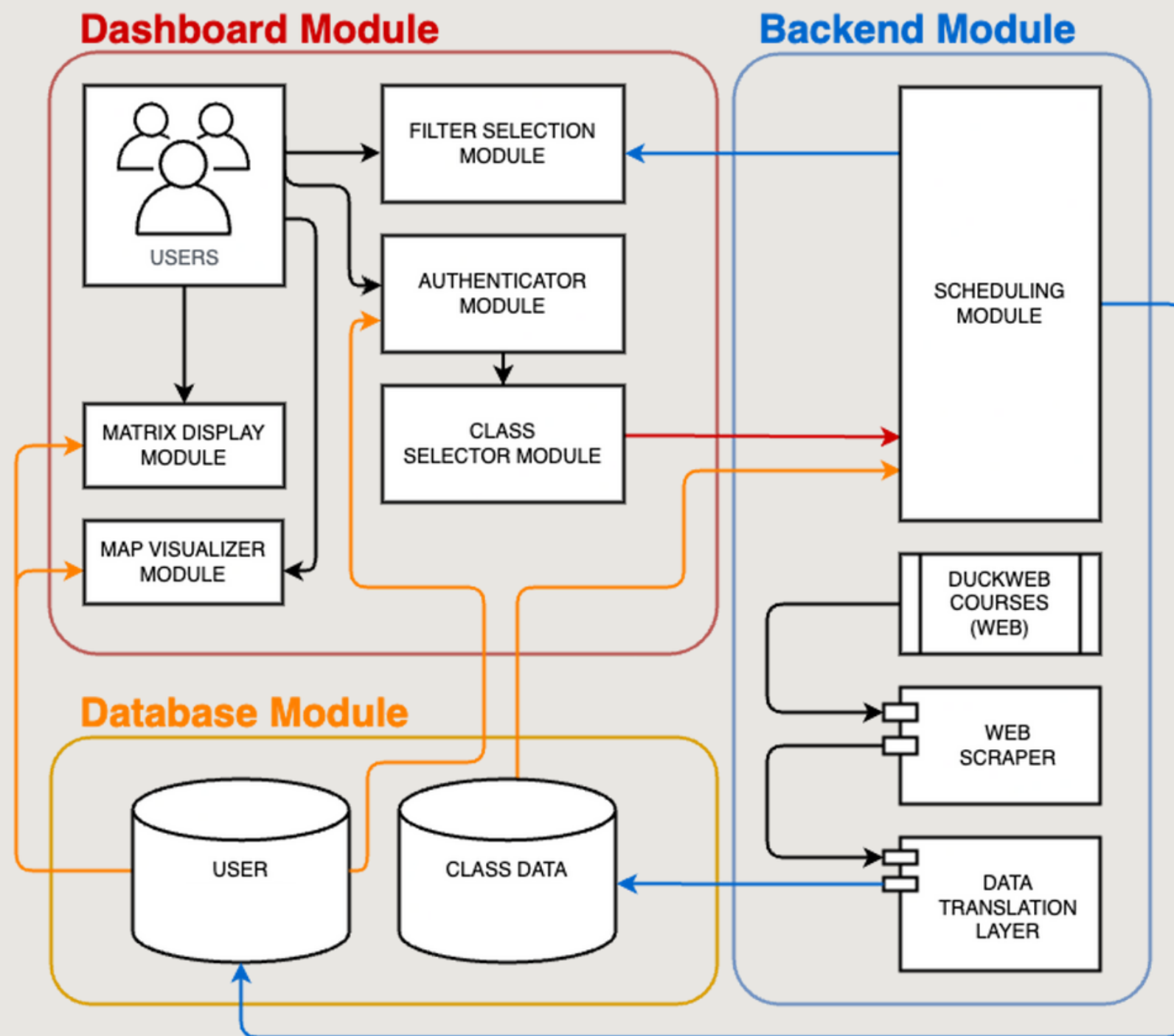
Evaluated how other universities' schedule builders operate

03 Informational Interviews

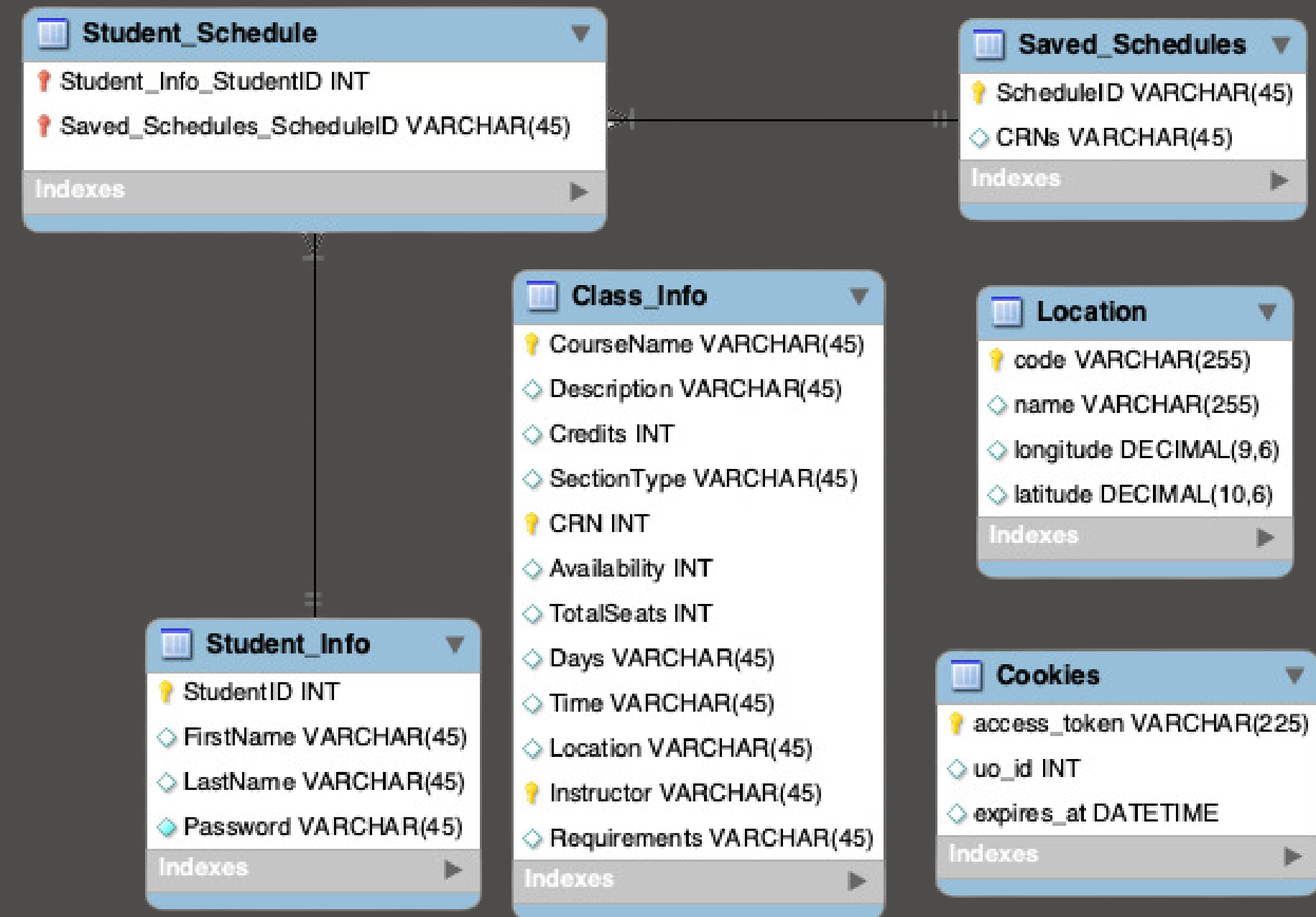
Gathered insights from:

- Classmates
- Professors

ARCHITECTURAL DESIGN



DATABASE DESIGN



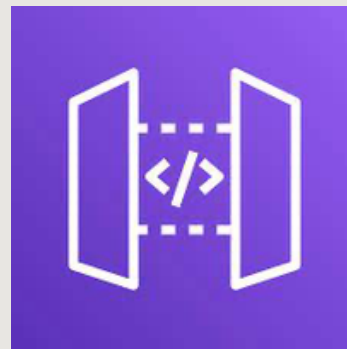
Technology Used



CloudFront



S3 Buckets



Route 53



API Gateway



Lambda

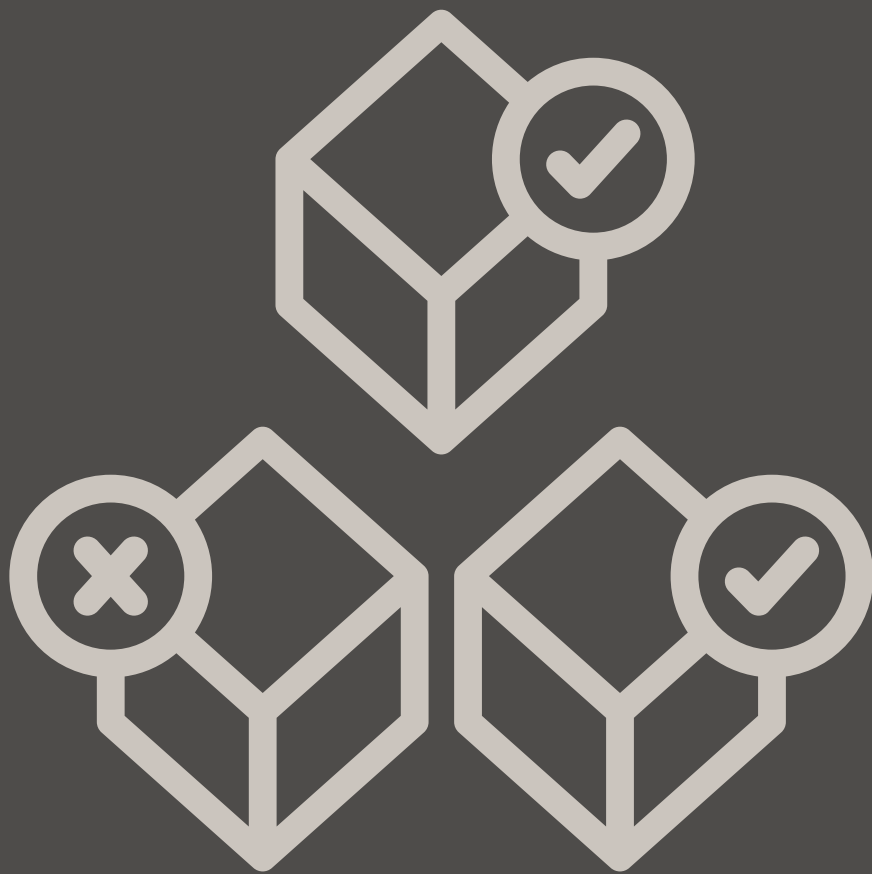


VS Code



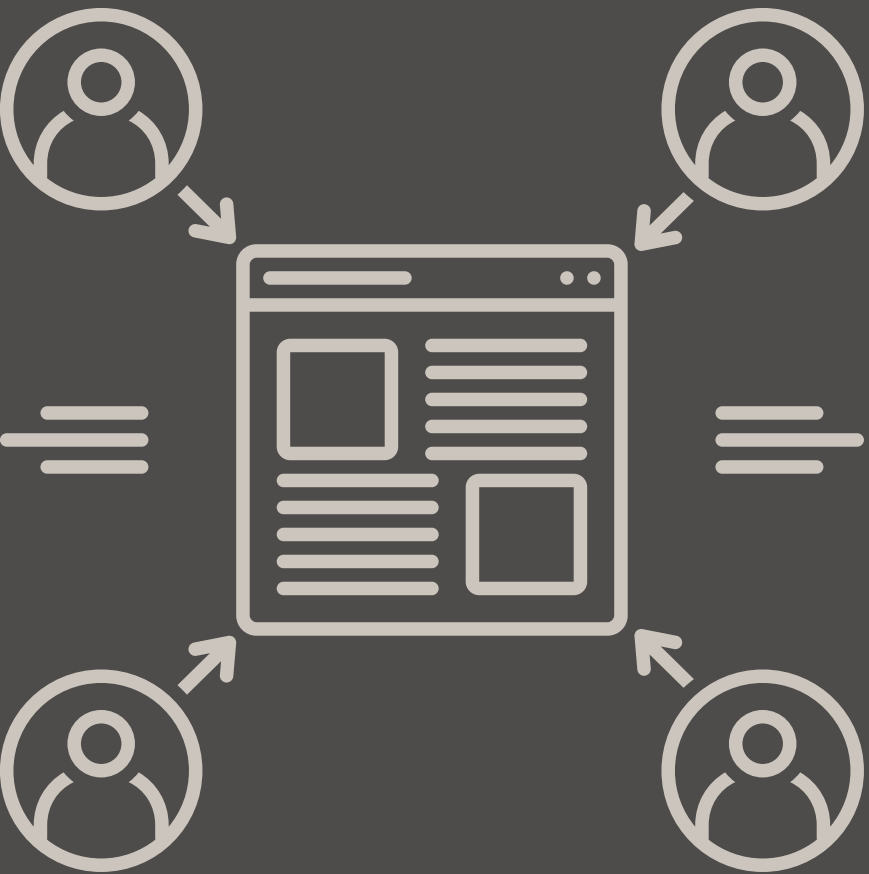
MySQL Workbench

BACKEND



Unit Testing

FRONTEND



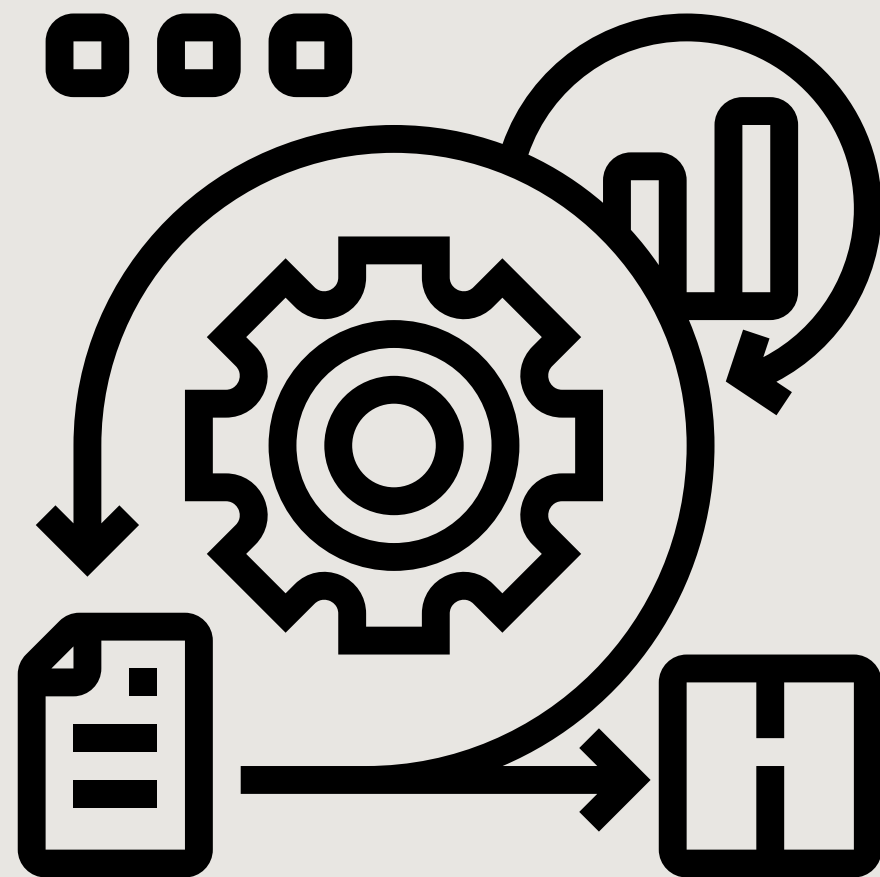
User Testing

Team Management

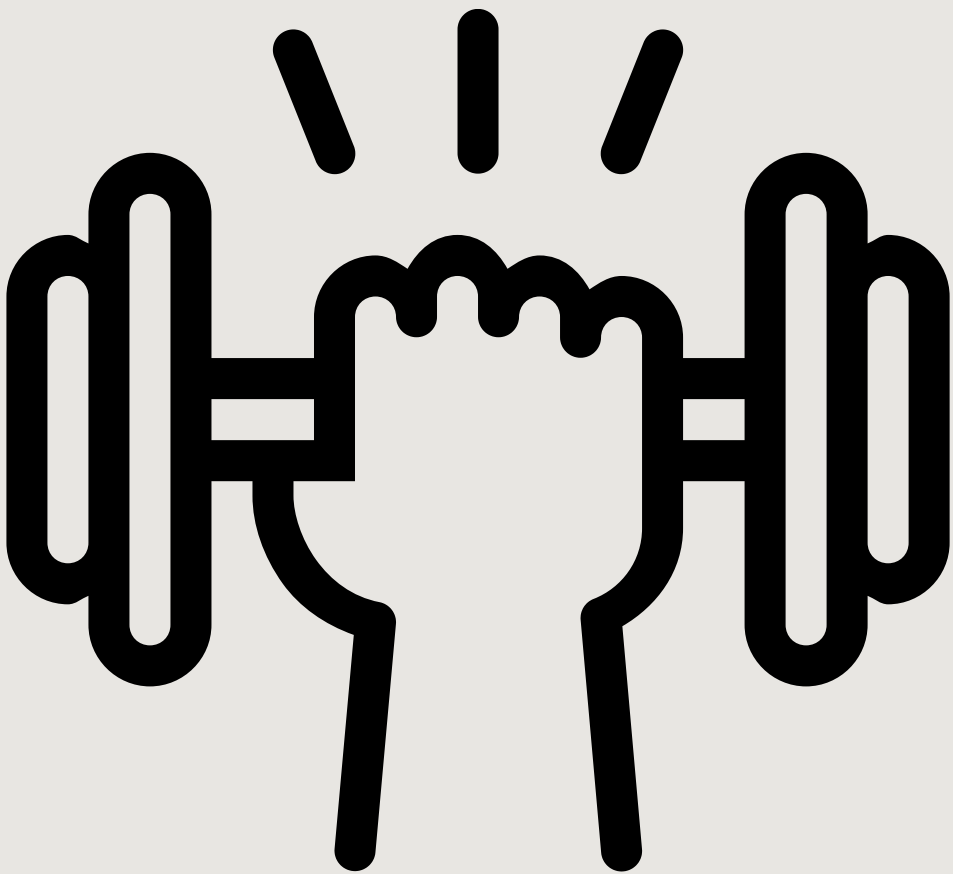
Communication



Agile Development
Structure



Played Off
Team Strengths



Future Implementation

Integration with University Systems

- Automate the enrollment process by linking the Duck Planner schedule directly to the official class registration system.

Multi-Campus Support

- Expand the tool to support scheduling for students in different campuses or universities, adapting to the unique scheduling needs and structures of various institutions.

Automatic Registration

- Ascyronously register for classes for students when their specific registration window is open

Transfer to React

- Implement react as the main JS framework for increased modularity and easier maintenance

DEMO

<https://duckplanner.org>