CS 422: Software Methodology

Duck Planner

Optimized UO Student Class Scheduler

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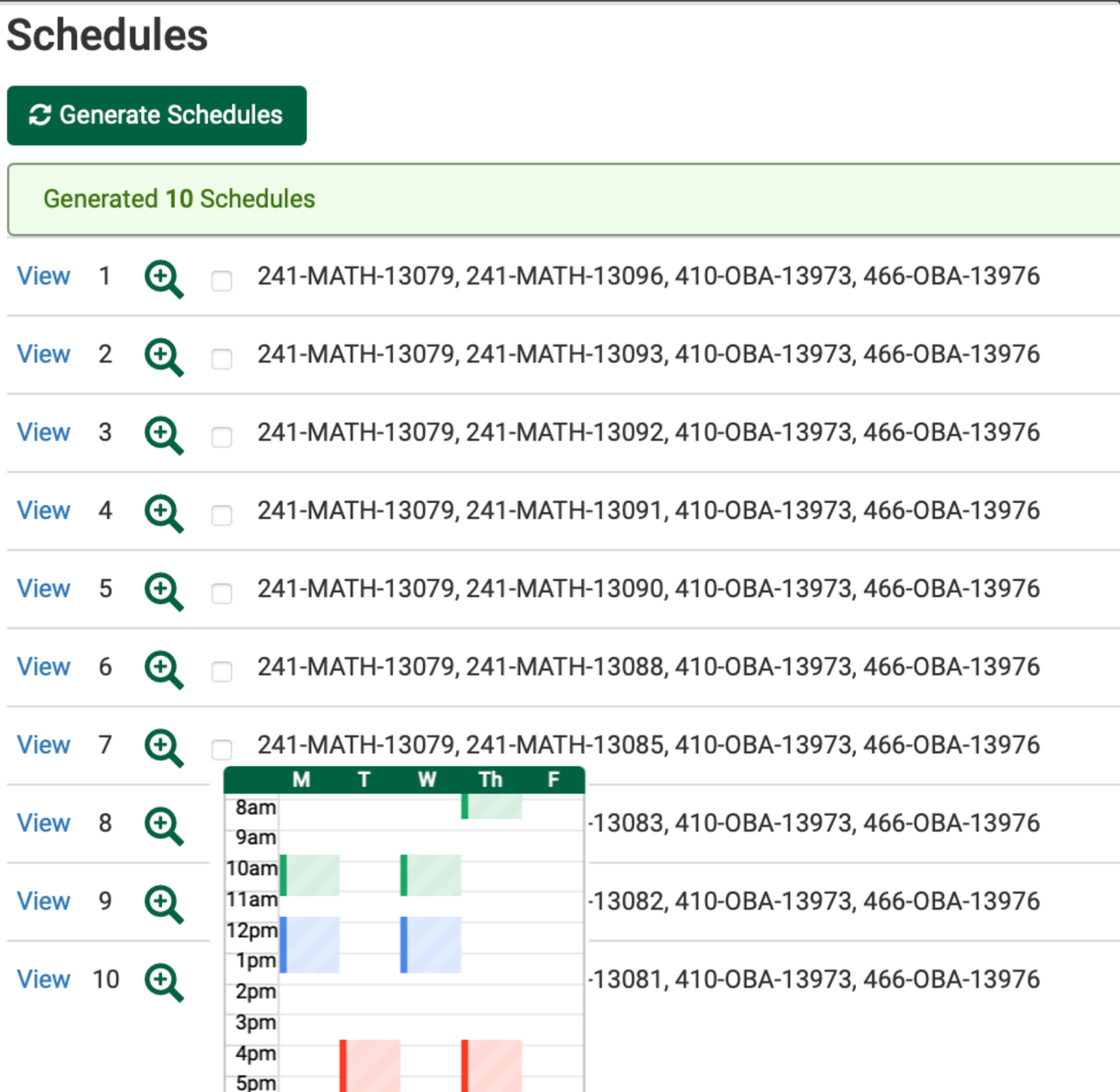
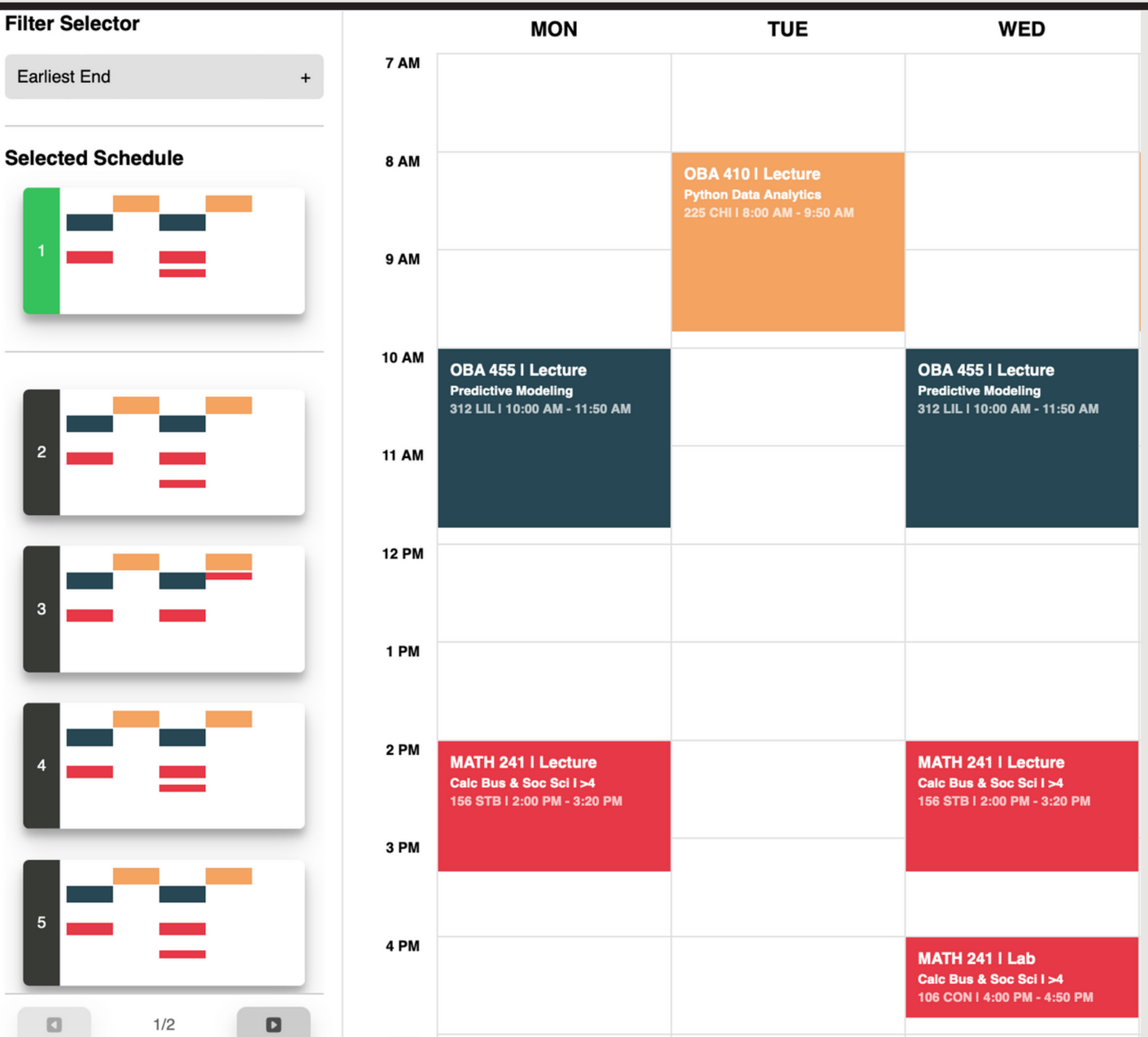
CURRENT MODEL

Problems:

- Complicated & Outdated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



Problem Statement



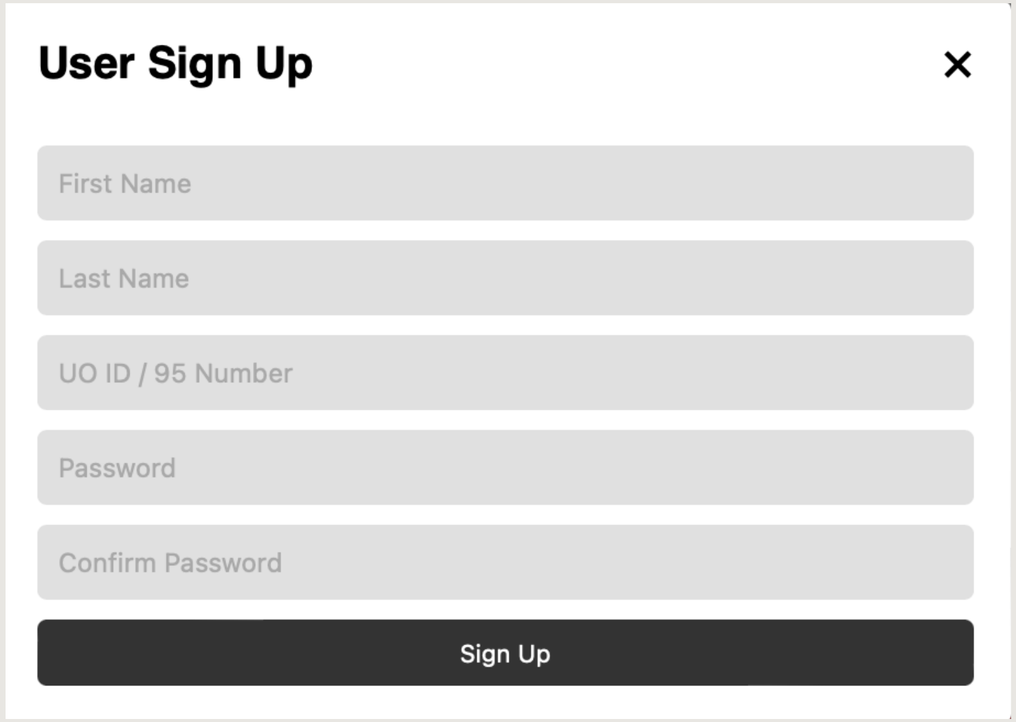
NEW MODEL

Features:

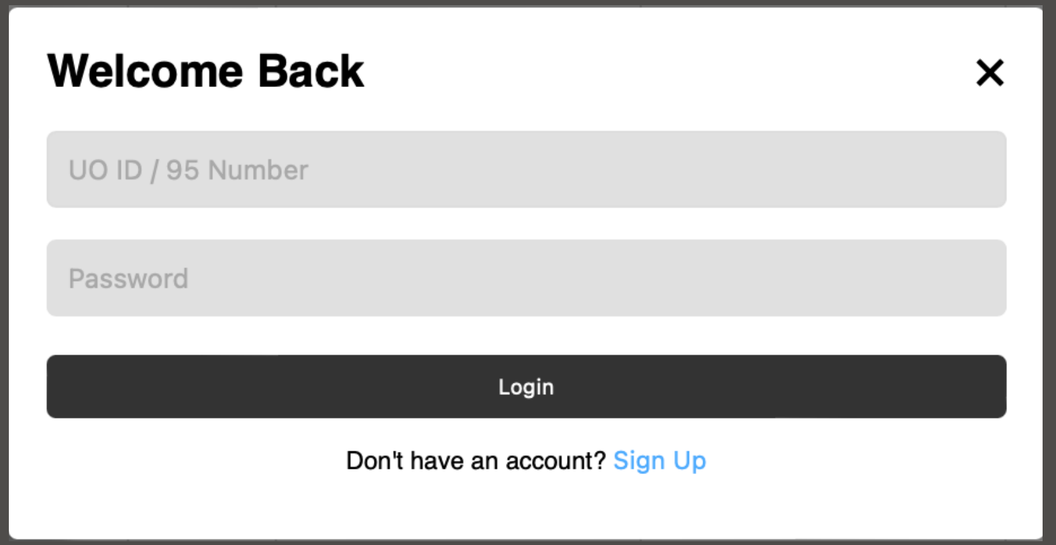
- Simplified & Dynamic
- Easier to Find Preferred Schedule
- Filtering Options
- Campus Map to See Class Locations

System Overview

Sign Up



Log in

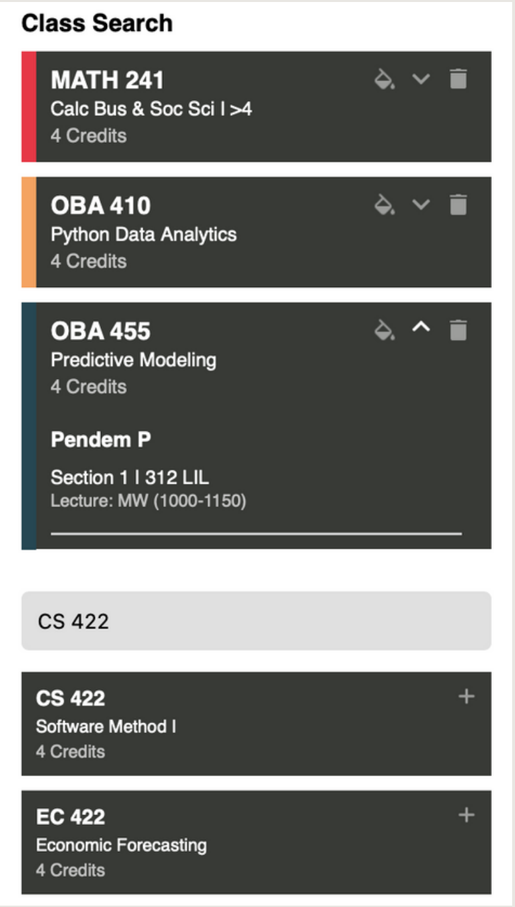


Class Search & Selection

Implements Fuzzy Search

See Course Description, Professor, & Time

Change Course Color



Filters & Preview

Filter Selector

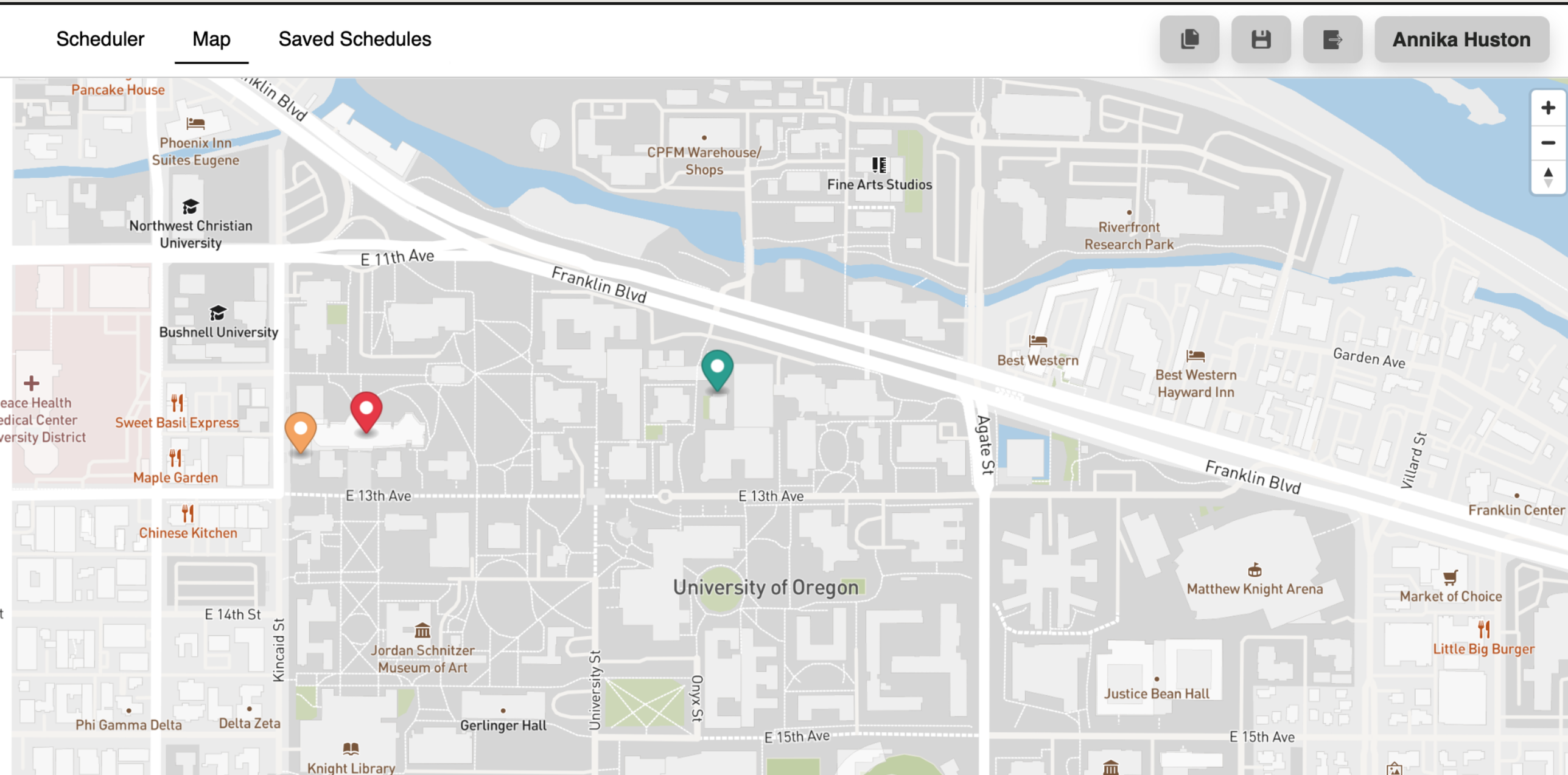
Earliest End +

- **Most Compact**
- **Latest Start**
- **Earliest End**
- **Prioritize ASYNC**

Selected Schedule

	MON	TUE	WED	THU
7 AM				
8 AM		OBA 410 I Lecture Python Data Analytics 225 CHI I 8:00 AM - 9:50 AM		OBA 410 I Lecture Python Data Analytics 225 CHI I 8:00 AM - 9:50 AM
9 AM				
10 AM	OBA 455 I Lecture Predictive Modeling 312 LIL I 10:00 AM - 11:50 AM		OBA 455 I Lecture Predictive Modeling 312 LIL I 10:00 AM - 11:50 AM	
11 AM				
12 PM				
1 PM				
2 PM		CS 422 I Lecture Software Method I B040 PSC I 2:00 PM - 3:20 PM		CS 422 I Lecture Software Method I B040 PSC I 2:00 PM - 3:20 PM
3 PM				

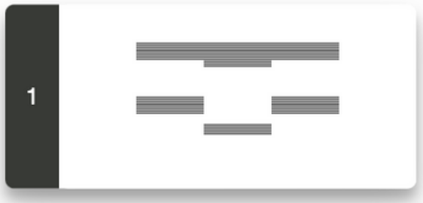
System Overview - **Find Classes on Campus Map**



System Overview - **View Saved Schedules**

Saved Schedules

To remove a schedule, hover over the schedule number.



	MON	TUE	WED	THU
7 AM				
8 AM				
9 AM				
10 AM		**CS 211 I Lecture** Computer Science II >4 182 LIL I 10:00 AM - 11:20 AM	**HPHY 381 I + Lab** Biomechanics 052 GRX I 10:00 AM - 11:50 AM	**CS 211 I Lecture** Computer Science II >4 182 LIL I 10:00 AM - 11:20 AM
11 AM				
12 PM				
1 PM				
2 PM		**HPHY 381 I Lecture** Biomechanics 145 STB I 2:00 PM - 3:20 PM		**HPHY 381 I Lecture** Biomechanics 145 STB I 2:00 PM - 3:20 PM
3 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

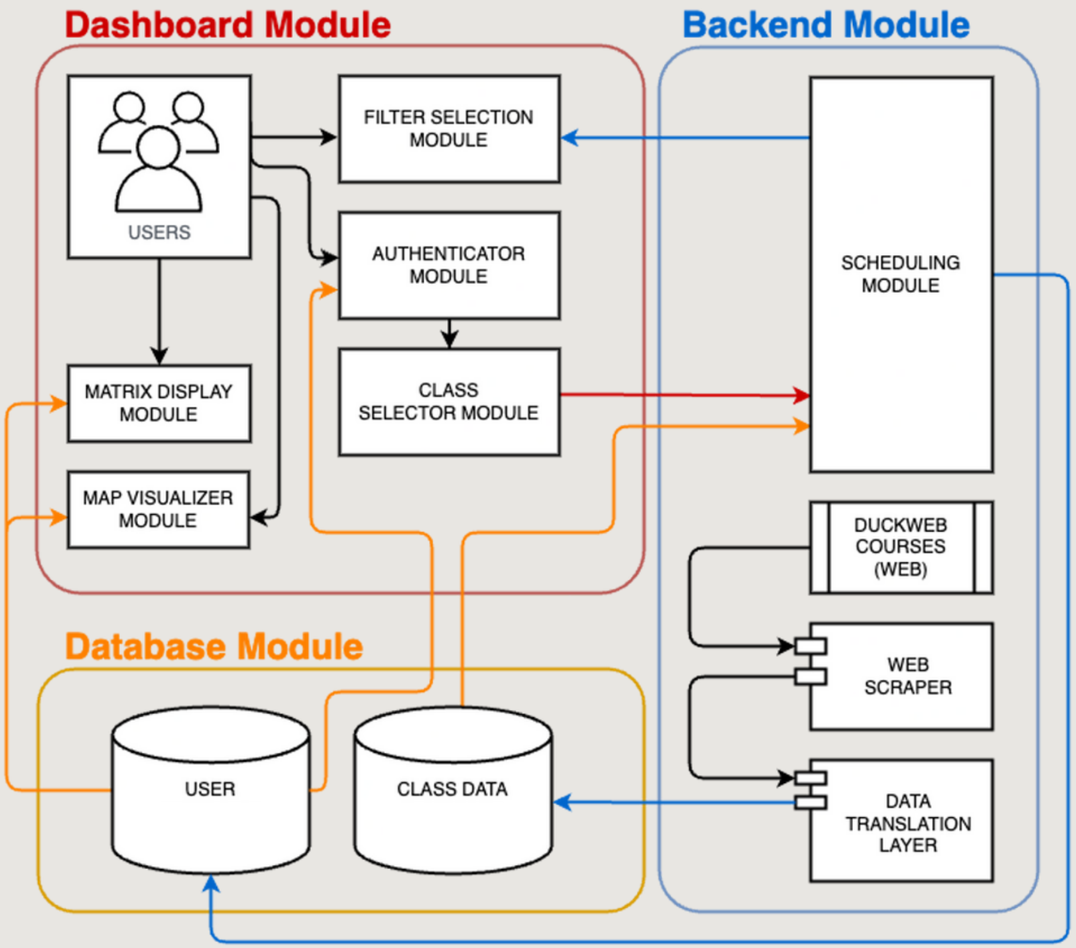
Evaluated how other universities' schedule builders operate

03 Informational Interviews

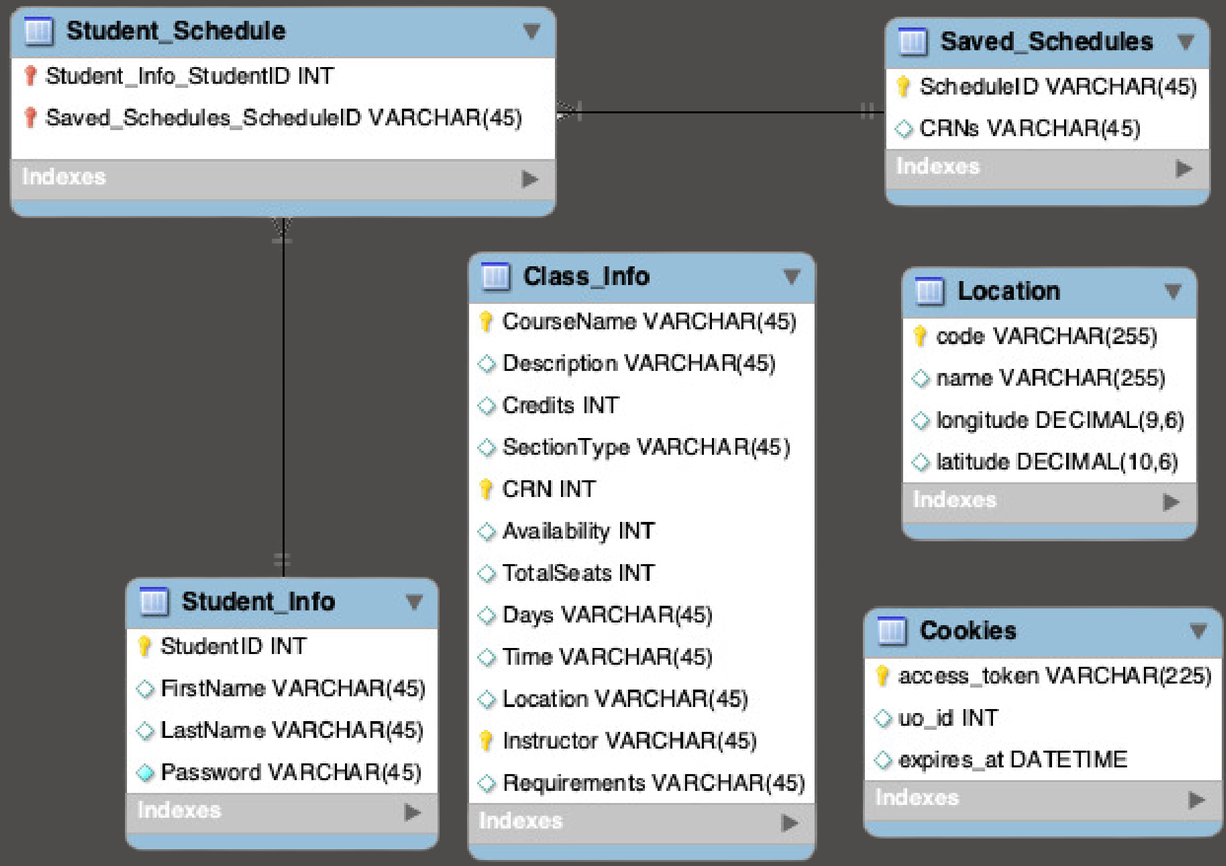
Gathered insights from:

- Classmates
- Professors

ARCHITECTURAL DESIGN



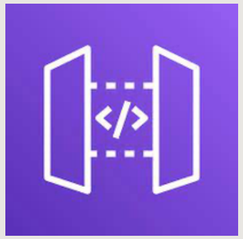
DATABASE DESIGN



Technology Used

CloudFront

S3 Buckets



Route 53

API Gateway

Lambda

VS Code

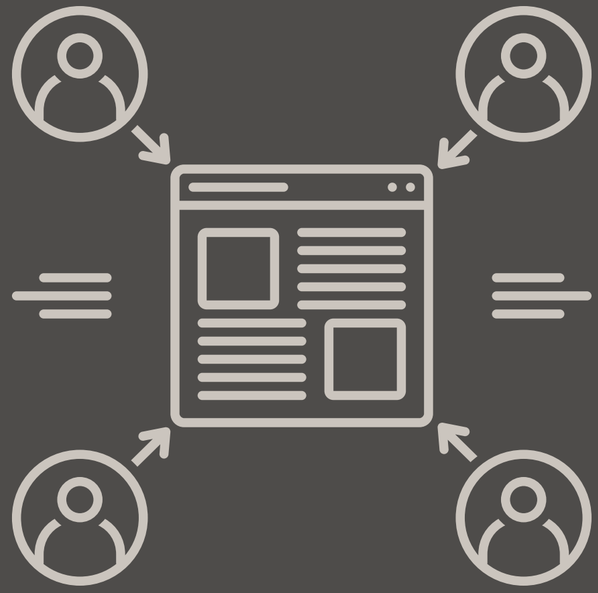
MySQL Workbench

Testing

BACKEND

Unit Testing

FRONTEND

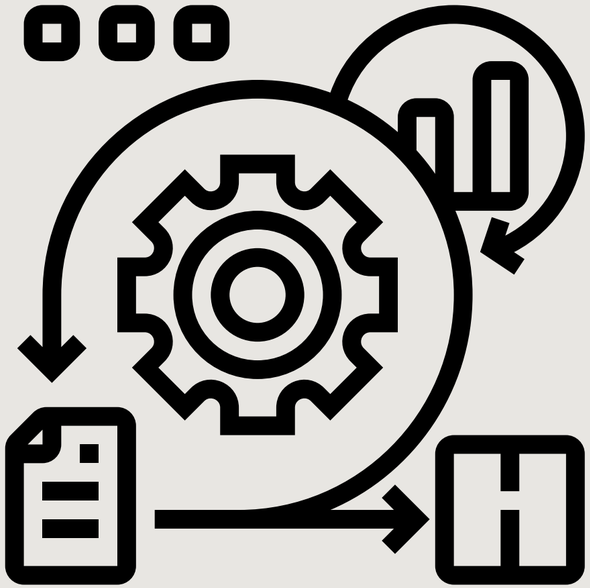


User Testing

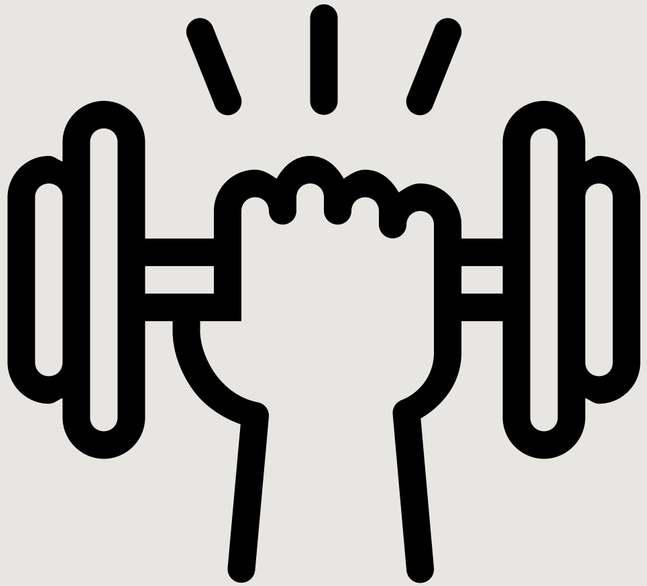
Team Management

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