

# Course Recommender

“The better way to search for your courses”

## Group 4

## Assignment 4 Flask Application

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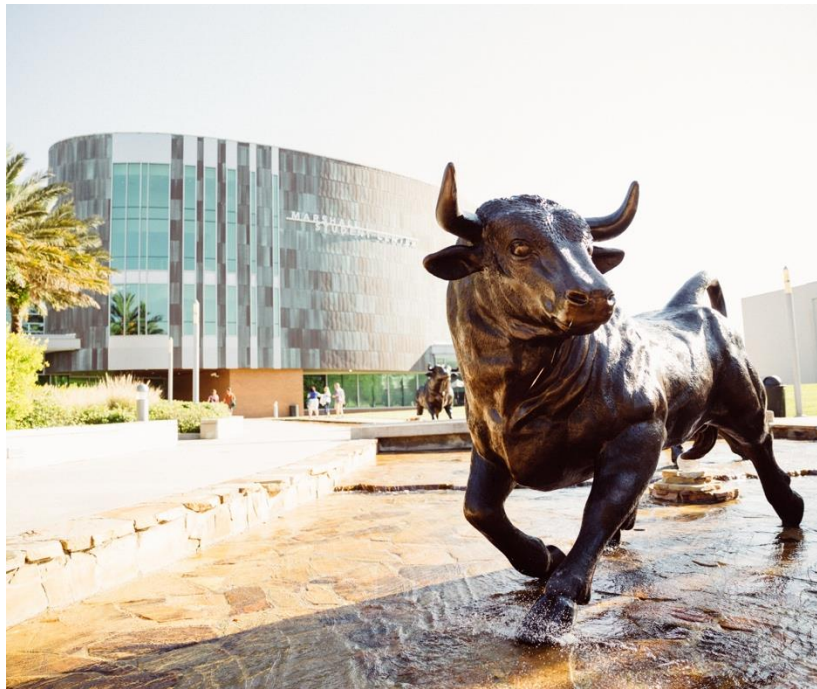
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Tuesday, November 29th, 2022

# Agenda



**Business Need**  
**Application Overview**  
**Delivery and Status**  
**Technical Demo**  
**Flask Framework**  
**Reflection**

# Business Need

- With a myriad of courses to select from, students struggle with selecting courses, particularly with electives
- User interface for Class Search in OASIS is not user-friendly
- Takes 9+ clicks to search for available courses
- Filter and search are on two different pages
- Class Search is not personalized to each student

# OASIS - Class Search

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**Personal Information** **Student** **Financial Aid**

Search

Go

## Main Menu

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### [Personal Information](#)

View and update addresses, phone numbers and email addresses. Request the level of privacy for your records. View immunization records.

### [Student](#)

Apply for Admission, Register, View your academic records.

### [Financial Aid](#)

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# OASIS - Class Search

Personal Information **Student** Financial Aid

Search

## Student

### Admissions

Apply for admission, view the status of your admission application and pay your admission deposit (for first time in college students only)

### DegreeWorks

Undergraduate academic advising, GPA calculator, What-If Major Change, and more...

### Registration

Check your registration status, registration holds, class schedule, and add or drop classes

### Buy Your Books

Buy books for your courses or visit your campus bookstore.

### Tuition & Fees

Pay by bank card, view charges and payments to student account, subscribe to eDeposit and view tax information(1098T). Please do not pay admissions deposit in this area.

### Student Records

View your transcript holds, grades and academic transcript.

### Graduation

Apply to Graduate

# OASIS - Class Search

[Personal Information](#) **[Student](#)** [Financial Aid](#)

Search

## Registration

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[Select Term](#)  
[Registration Status](#)  
[Register, Add or Drop Classes](#)  
[Change Class Options](#)  
[Class Schedule Search](#)  
[Active Registration](#)  
[Week at a Glance](#)  
[Student Detail Schedule](#)  
[Registration Fee Assessment](#)  
[Excess Hours Student Counter](#)  
[Withdrawal Information](#)  
[Contact the Office of the Registrar](#)

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# OASIS - Class Search

Personal Information **Student** Financial Aid

Search

Select Term or Date Range

***Search by Term:***

▼

# OASIS - Class Search

Personal Information **Student** Financial Aid

Search

 If you have specific subjects to search, you can use the Ctrl key to select individual subjects on a computer, or tap to select specific subjects on a mobile device. the most choices, it's helpful to keep your searches as open as possible.

To search course sections that only have seats available, be sure that box next to "Limit to Open Sections ONLY" is checked.

[Recommended textbooks and instructional materials](#)

[Course syllabi for general education sections](#)

[Distance learning and other course fees](#)

**Do you have a hold?** See [Holds Information](#) for how to resolve it.  
**Do you need a permit to register?** See [Course Permit](#) information to determine who to contact.

Subject: 

Course Number:

Title:



# OASIS - Class Search

Personal Information **Student** Financial Aid

Search  Go

[RETURN TO MENU](#) [SITE MAP](#) [HELP](#) [EXIT](#)

## Look Up Classes

 In the Status column, "C" means closed; there may be a waitlist option. "NR" means no registration available (ignore these). "SR" means that there is some reason why you personally can't register. Could be that you're missing a [registration time](#), have [holds blocking your registration](#), or do not currently have an [academic standing](#) or [enrollment status](#) that allows for registration. To find out more information, log in to Student OASIS in [myUSF](#).

To view the course requisites, restrictions and descriptions, start by clicking on the applicable CRN.

If you want to register for an open section, note the course reference number (CRN) for quick entry on the **Add Class Worksheet** on the **Add or Drop Classes** page in Student OASIS. To perform this action, you must first be logged-in to [myUSF](#).

Alternatively, if you are already logged-in to Student OASIS and wish to register for classes one at a time, you may check the status box for the section that you'd like to register and click the Submit button to add it to your schedule.

**Do you need a permit to register?** See [Course Permit](#) information to determine who to contact.

### Sections Found

#### Information Systems Mgmt

Select	CRN	Subj	Crs	Sec	Cred	Title	Instructional Method	Permit Req	Term Dates	Days	Time	Seats Cap	Seats Avail	Waitlist Cap	Waitlist Avail	Instructor	Campus	Location	Attribute
<input type="checkbox"/>	<a href="#">23080</a>	ISM	3011	020	3.000	Info Systems in Organizations	All Online		01/09-05/04	N/A	N/A	545	182	0	0	Barbara Warner (P)	Off-campus - Tampa	OFFT OFF	Funding: UG Tampa
<input type="checkbox"/>	<a href="#">23081</a>	ISM	3011	021	3.000	Info Systems in Organizations	Hybrid Blend		01/09-05/04	R	06:30 pm	310	256	0	0	Barbara Warner (P)	Tampa	BSN 1100	Funding: UG Tampa
<input type="checkbox"/>	<a href="#">23246</a>	ISM	3011	691	3.000	Info Systems in Organizations	Classroom		01/09-05/04	W	06:30 pm	40	17	0	0	Rea K Burleson (P)	St. Petersburg	LPH 217	Funding: UG St Petersburg
<input type="checkbox"/>	<a href="#">20041</a>	ISM	3113	902	3.000	Systems Analysis and	Classroom		01/09-05/04	M	06:30 pm	47	38	0	0	Weimar Alexander	Tampa	CIS 3064	Funding: UG Tampa

# What is Course Recommender?

OASIS Class Search version 2.0

- Improve user experience by reducing number of clicks to search and provide a more personalized experience

# Application Overview

## Targeted Feature List

- Create algorithmic based search feature for the following:
- Search by Program – return classes related to a specific program (ex. BAIS MS)
- Search by Topic – return classes for selected topic of interest (ex. Machine learning)

# Delivery and Status

## Achieved

- ✓ Search by Program
- ✓ Search by Topic

## Not Achieved

- ☐ Recommendation algorithm was not implemented

# Technical Demo

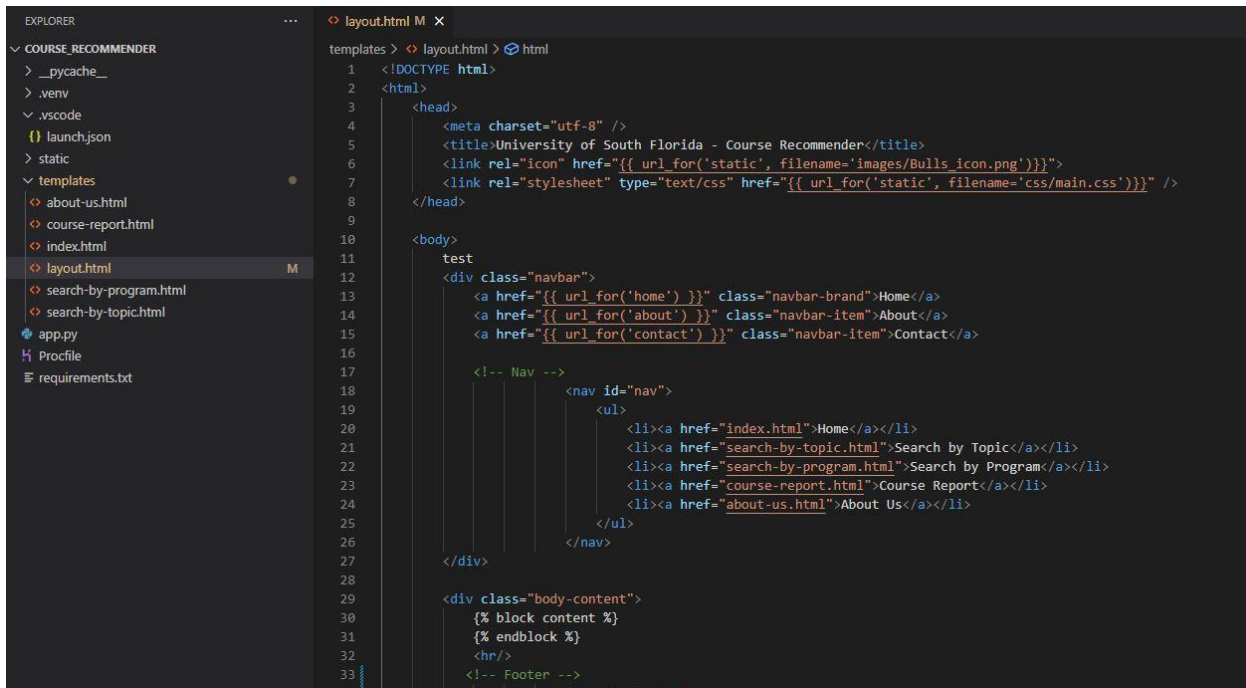
[Course Recommender Portal](#)



# Flask Framework - App

```
app.py > course_report
5
6 # Replace the existing home function with the one below
7 @app.route("/")
8 def home():
9     return render_template("index.html")
10
11 # New functions
12 @app.route("/about/")
13 def about():
14     return render_template("about-us.html")
15
16 @app.route("/search-by-program/")
17 def search_by_program():
18     return render_template("search-by-program.html")
19
20 @app.route("/search-by-topic/")
21 def search_by_topic():
22     return render_template("search-by-topic.html")
23
24 @app.route("/course-report/")
25 def course_report():
26     return render_template("course-report.html")
```

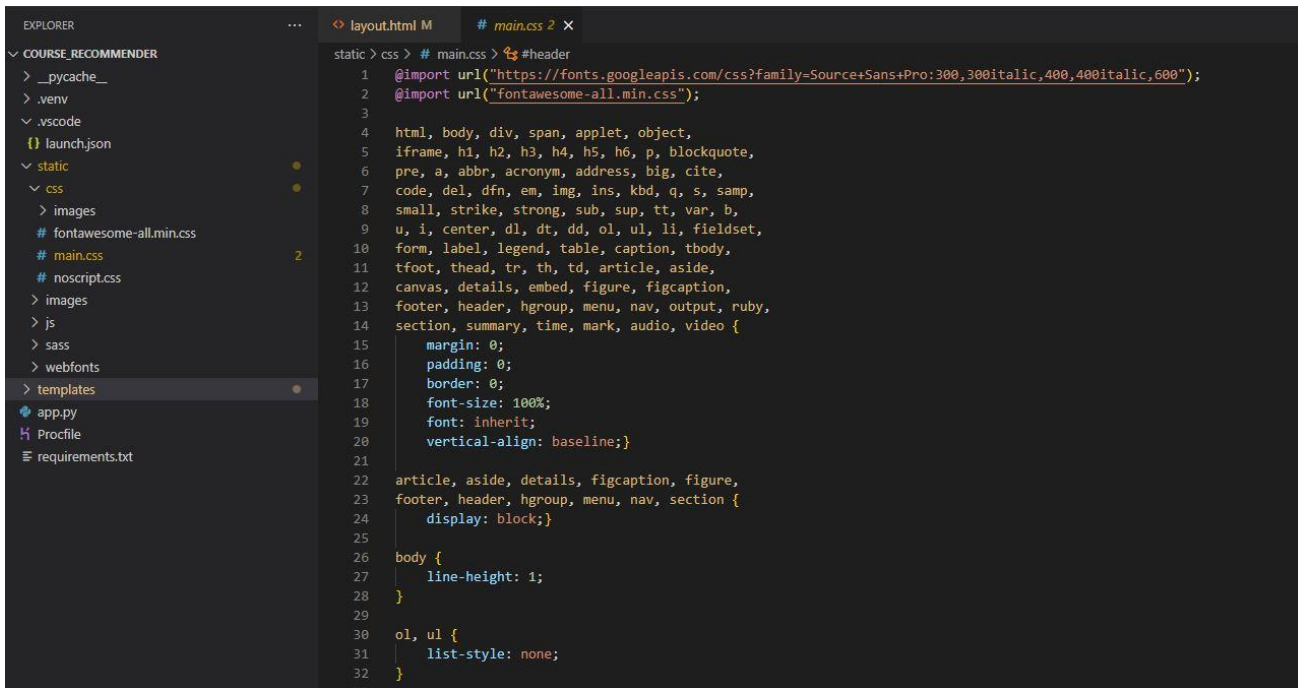
# Flask Framework - Templates



The image shows a code editor with a dark theme. On the left, the 'EXPLORER' sidebar displays a file tree for a project named 'COURSE\_RECOMMENDER'. The tree includes files like \_\_pycache\_\_, .env, .vscode, launch.json, static, templates, about-us.html, course-report.html, index.html, layout.html (selected), search-by-program.html, search-by-topic.html, app.py, Profile, and requirements.txt. The main editor area shows the content of 'layout.html', which is a Jinja2 template. The template includes a DOCTYPE declaration, a head section with meta charset, title, and links for an icon and a stylesheet, and a body section with a test block, a navbar, and a body-content block. The navbar uses Jinja2's {{ url\_for('home') }} syntax to generate links. The body-content block contains a placeholder for block content and a footer comment.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8" />
5     <title>University of South Florida - Course Recommender</title>
6     <link rel="icon" href="{{ url_for('static', filename='images/Bulls_icon.png')}}">
7     <link rel="stylesheet" type="text/css" href="{{ url_for('static', filename='css/main.css')}}" />
8   </head>
9
10  <body>
11    <test>
12      <div class="navbar">
13        <a href="{{ url_for('home') }}" class="navbar-brand">Home</a>
14        <a href="{{ url_for('about') }}" class="navbar-item">About</a>
15        <a href="{{ url_for('contact') }}" class="navbar-item">Contact</a>
16
17        <!-- Nav -->
18        <nav id="nav">
19          <ul>
20            <li><a href="index.html">Home</a></li>
21            <li><a href="search-by-topic.html">Search by Topic</a></li>
22            <li><a href="search-by-program.html">Search by Program</a></li>
23            <li><a href="course-report.html">Course Report</a></li>
24            <li><a href="about-us.html">About Us</a></li>
25          </ul>
26        </nav>
27      </div>
28
29      <div class="body-content">
30        {% block content %}
31        {% endblock %}
32      </div>
33
34    <!-- Footer -->
```

# Flask Framework - CSS/Javascript



The image shows a screenshot of a Visual Studio Code editor. On the left, the Explorer sidebar displays a project structure for 'COURSE\_RECOMMENDER'. The files listed include `__pycache__`, `.venv`, `.vscode`, `launch.json`, `static` (which contains `css`, `images`, `fontawesome-all.min.css`, `main.css`, and `noscript.css`), `images`, `js`, `sass`, `webfonts`, `templates`, `app.py`, `Profile`, and `requirements.txt`. The `main.css` file is selected and open in the editor. The code in `main.css` includes imports for Google Fonts and Font Awesome, followed by a `body` selector with various styling properties like `margin: 0`, `padding: 0`, `border: 0`, `font-size: 100%`, `font: inherit`, and `vertical-align: baseline`. There are also rules for `ol` and `ul` elements.

```
static > css > # main.css > #header
1  @import url("https://fonts.googleapis.com/css?family=Source+Sans+Pro:300,300italic,400,400italic,600");
2  @import url("fontawesome-all.min.css");
3
4  html, body, div, span, applet, object,
5  iframe, h1, h2, h3, h4, h5, h6, p, blockquote,
6  pre, a, abbr, acronym, address, big, cite,
7  code, del, dfn, em, img, ins, kbd, q, s, samp,
8  small, strike, strong, sub, sup, tt, var, b,
9  u, i, center, dl, dt, dd, ol, ul, li, fieldset,
10 form, label, legend, table, caption, tbody,
11 tfoot, thead, tr, th, td, article, aside,
12 canvas, details, embed, figure, figcaption,
13 footer, header, hgroup, menu, nav, output, ruby,
14 section, summary, time, mark, audio, video {
15     margin: 0;
16     padding: 0;
17     border: 0;
18     font-size: 100%;
19     font: inherit;
20     vertical-align: baseline;}
21
22 article, aside, details, figcaption, figure,
23 footer, header, hgroup, menu, nav, section {
24     display: block;}
25
26 body {
27     line-height: 1;
28 }
29
30 ol, ul {
31     list-style: none;
32 }
```



# Reflection – Flask Framework

- Flexlayout made it easy to create new pages
- Reduce the amount of duplicated coded for header and footer

# Reflection - Limitation

- The number of the courses are still limited.
- Sign-in option not yet available.

# Next Iteration

1. Implement a dynamic recommender algorithm
2. Reduce amount of vertical scroll space

# Questions

# Thank You !!

11/29/2022

