

Sprint 3 Retrospective

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Team Roles

Product Owner: Colby Endres

Scrum Master: Navya Priya Nandimandalam

Dates of Sprint

21st October 2024 - 3rd November 2024

Information about Team and Contributions

Team Member	Points	Role	Contribution
Colby Endres	3	Product Owner	Colby allowed for the viewing of schedules in a more intuitive manner from the landing page and also modified the algorithm to account for overlapping time slots. He also worked directly with the client to set up meetings, set agendas, and ensure that client needs were met.
Navya Priya Nandimandalam	2	Scrum Master	Navya coordinated with the team and the product owner and ensured the developers were clear on the evolving requirements. She also took care of documenting the efforts and conducting sprint ceremonies. Additionally, she worked with Wahib to develop the predefined courses feature.
Navya Unnikrishnan	3	Developer	Navya worked on parsing the Instructor preferences data from the csv, ensuring that preferences are linked to each instructor and course. She also worked on redesigning the UI and allowing for more fluid navigation by setting up back buttons across several pages. She also ensured all the test cases passed.
Pavithra Gopalakrishnan	3	Developer	Pavithra worked on fixing a bug within the filtering system for the Time Slot Page and also worked on allowing for the blocking of times and rooms. She also followed the TDD and BDD approach to develop the feature.
Yuqi Fan	2	Developer	Yuqi worked on trying out various algorithms for the constraint optimization

			algorithm. He did PoCs on them and collaborated with Colby to identify the optimal algorithm for our use case.
Wahib Sabir Kapdi	3	Developer	Wahib allowed for editing of a preexisting schedule by allowing for a new csv upload, documented code deployment process, allowing for viewing of time slot matrix and predefined courses. He also made sure to cover all test cases and meet the acceptance criteria.
Abel Gizaw	2	Developer	Abel worked on trying to integrate our various soft constraints for the constraint optimization algorithm. Additionally, he assisted in writing steps for cucumber tests.

Sprint Goal

Our sprint goal was to run the Constraint Optimization Algorithm on the actual data provided by the client and alongside this implementation, also look into running the algorithm to satisfy soft constraints like the instructor's preferences. Additionally, we are working on completing the remaining skeleton UIs and fixing some bugs identified in the previous sprint. This involved fleshing out the pre-existing courses page as well as the schedule view. The feature for adding the instructor preference was also added.

Sprint Achievements

- Course View was created
A schedule room/time slot matrix for visualizing the allotment was developed
- The ability to add predefined courses to ensure no other class can get scheduled at the same time was implemented.
- Instructor preferences data was parsed to try the algorithm on soft constraints
- Filtering of time slots bug was fixed in the time slot view

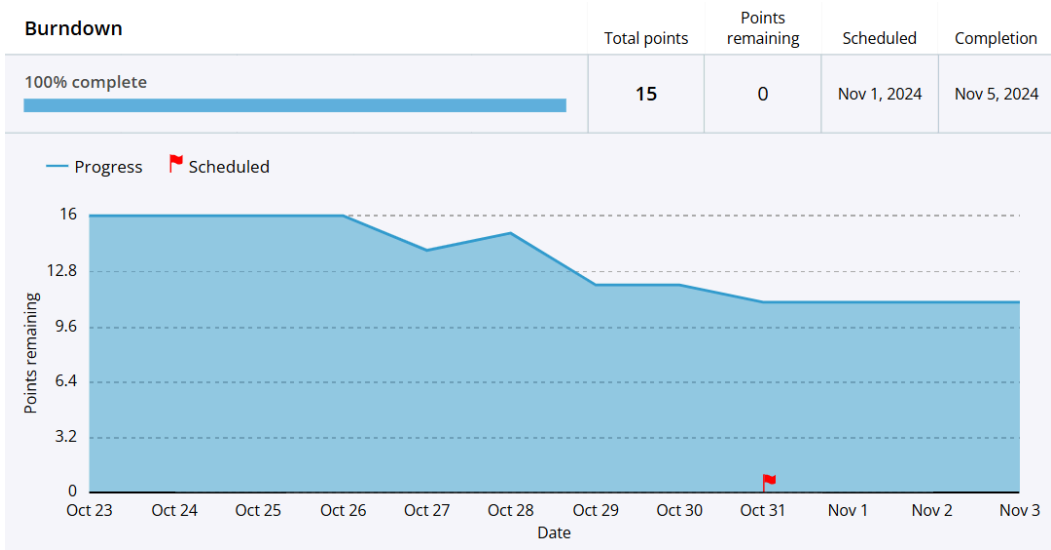
Sprint Backlog Items and Status

Change	Story/Bug	Status
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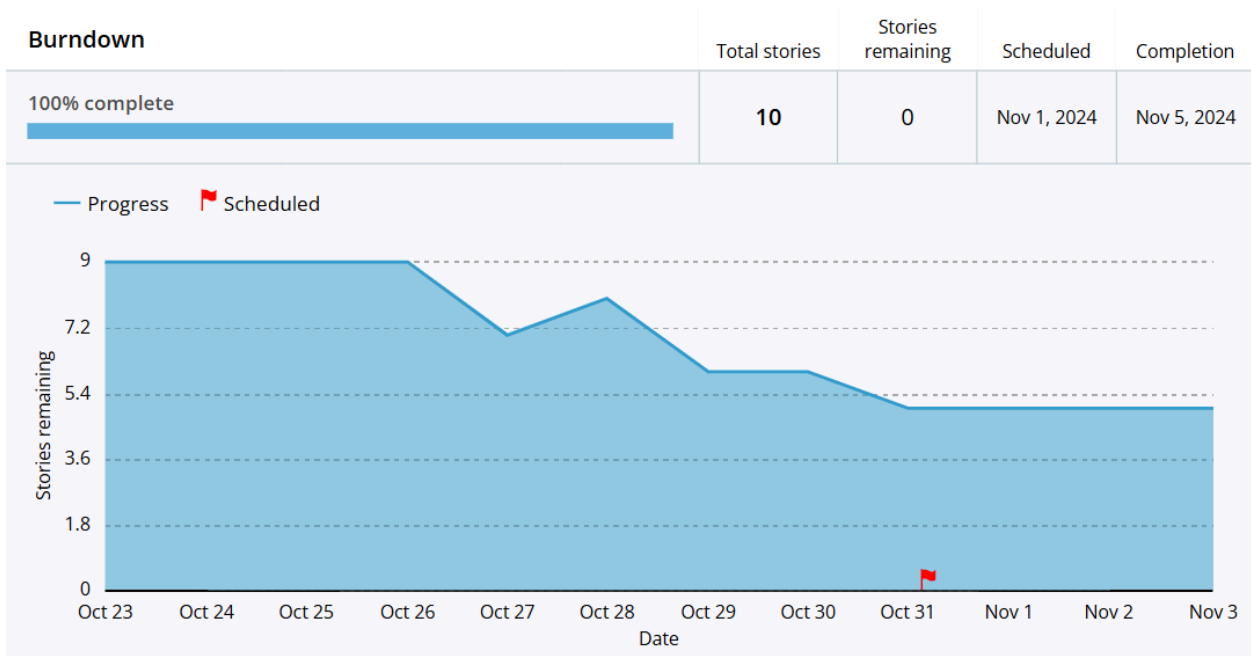
+	User should be able to edit the added rooms in a schedule by uploading a new csv	Completed
+	User should be able to see the Courses Constraints View	Completed
+	User should be able to view the Schedule Room/ Time Slot Matrix	Completed
+	User should be able to add Predefined Courses and Instructors	Completed
+	User should be able to navigate to the previous pages using Back Buttons	Completed
+	Instructor Preference - Parse data and populate table	Completed
	User should be able to parse instructor preferences and view them	Completed
+	User should be able to generate schedule by uploading data	Completed
-	Users should be able to block time slots	Rolled Over
-	PoC - Soft constraints with the algorithm	Rolled Over

Burndown and Burnup Chart

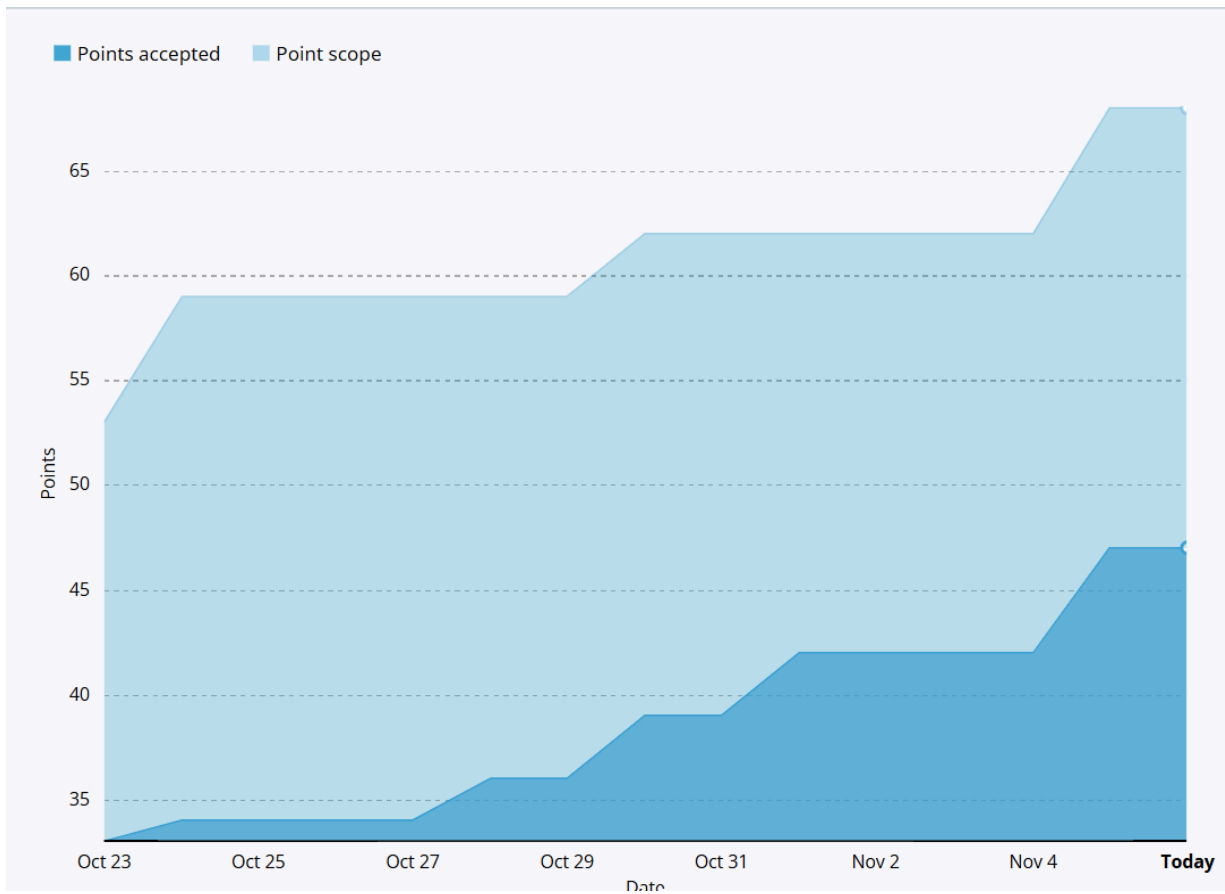
Point-based burndown chart for this sprint



Story based burndown chart for this sprint



Sprint burnup chart



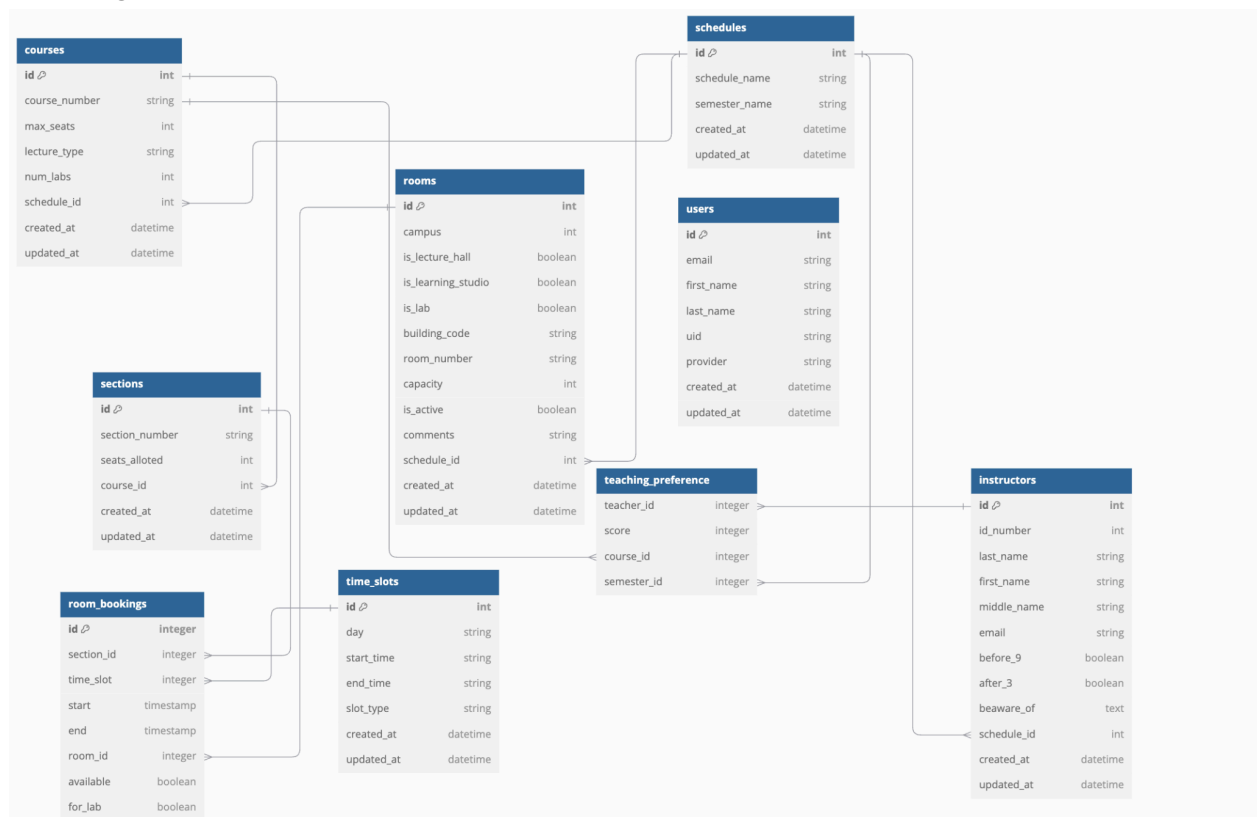
Design Diagram

UI Design

- No changes were made
- <https://www.figma.com/design/CRRqUd8c0q8BnKWkPIY1pS/AggieAssign?node-id=1-2377&node-type=frame>

DB Design

- No changes were made



Documentation of changes

DB Design

- There was no update.

Mock-ups and storyboards

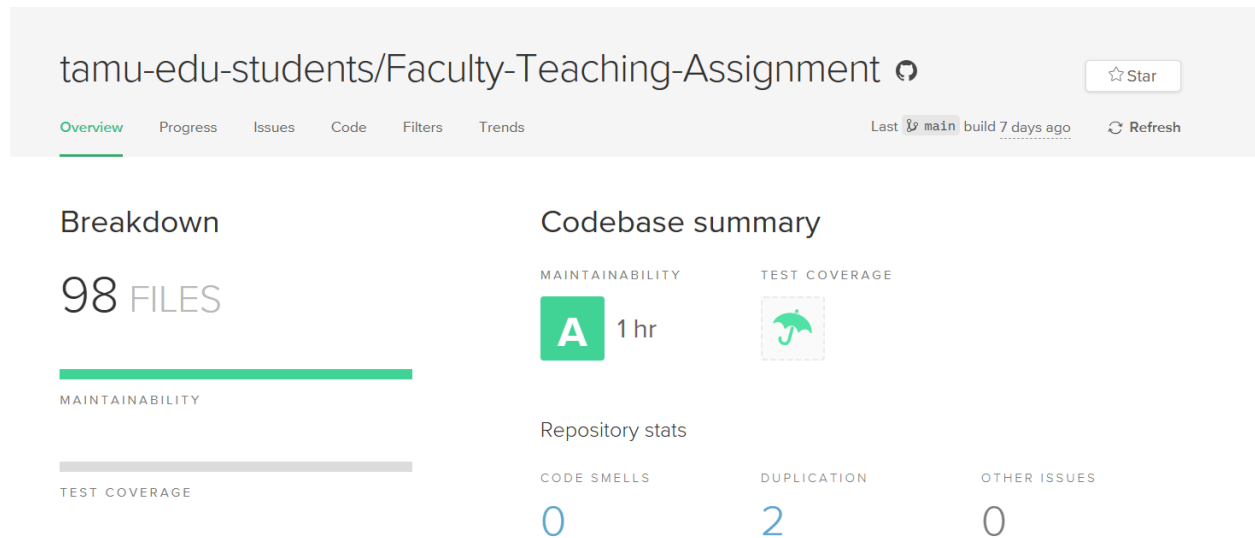
- There was no update.

Team working agreement Updates

- Finish work by Wednesday of the sprint deadline to allow for testing and merge conflict resolution
- Ask for help!!

Evaluation of code and test quality

Code climate



Rubocop

```
128 files inspected, 26 offenses detected

Tip: Based on detected gems, the following RuboCop extension libraries might be helpful:
* rubocop-capybara (https://rubygems.org/gems/rubocop-capybara)
* rubocop-factory_bot (https://rubygems.org/gems/rubocop-factory_bot)
* rubocop-rspec (https://rubygems.org/gems/rubocop-rspec)
* rubocop-rspec_rails (https://rubygems.org/gems/rubocop-rspec_rails)

The following RuboCop extension libraries are installed but not loaded in config:
* rubocop-rails

You can opt out of this message by adding the following to your config (see https://docs.rubocop.org/rubocop/extensions.html#extension-suggestions for more options):
AllCops:
  SuggestExtensions: false
```

Coverage

Unit Tests (rspec)

```
SuggestExtensions: false
pgopal719@PavithraLenovo:~/CSCE606/Faculty-Teaching-Assignment$ bundle exec rspec
.....

Finished in 3.56 seconds (files took 7 seconds to load)
97 examples, 0 failures

Coverage report generated for RSpec to /home/pgopal719/CSCE606/Faculty-Teaching-Assignment/coverage.
Line Coverage: 96.92% (378 / 390)
pgopal719@PavithraLenovo:~/CSCE606/Faculty-Teaching-Assignment$
```

Integration Tests (cucumber)

```
Share your Cucumber Report with your team at https://reports.cucumber.io

Command line option:  --publish
Environment variable:  CUCUMBER_PUBLISH_ENABLED=true
cucumber.yml:         default: --publish

More information at https://cucumber.io/docs/cucumber/environment-variables/

To disable this message, specify CUCUMBER_PUBLISH_QUIET=true or use the
--publish-quiet option. You can also add this to your cucumber.yml:
default: --publish-quiet

Coverage report generated for Cucumber Features, RSpec to /home/pgopal719/CSCE606/Faculty-Teaching-Assignment/coverage.
Line Coverage: 97.18% (379 / 390)
```

Tests Covered as part of Sprint 3

Cucumber test cases:

```
pgopal719@Pavithralenovo:~/CSCE606/Faculty-Teaching-Assignment$ bundle exec rspec
.....

Finished in 3.56 seconds (files took 7 seconds to load)
97 examples, 0 failures

Coverage report generated for RSpec to /home/pgopal719/CSCE606/Faculty-Teaching-Assignment/coverage.
Line Coverage: 96.92% (378 / 390)
pgopal719@Pavithralenovo:~/CSCE606/Faculty-Teaching-Assignment$ bundle exec cucumber
Using the default profile...
Feature: Google OAuth Authentication and Authorization

  Scenario: User logs in with Google OAuth successfully # features/OAuth.feature:3
    Given I am on the welcome page # features/step_definitions/OAuth.Authorization_steps.rb:3
    When I click the button "Sign in with Google" # features/step_definitions/OAuth.Authorization_steps.rb:12
    And I authorize access from Google # features/step_definitions/OAuth.Authorization_steps.rb:16
    Then I should be on my schedules page # features/step_definitions/OAuth.Authorization_steps.rb:25
    And I should see "You are logged in" # features/step_definitions/common_steps.rb:7

  Scenario: User logs out successfully # features/OAuth.feature:10
    Given I am logged in as a user # features/step_definitions/OAuth.Authorization_steps.rb:34
    When I click "Logout" # features/step_definitions/common_steps.rb:11
    Then I should be on the welcome page # features/step_definitions/OAuth.Authorization_steps.rb:39
    And I should see "You are logged out" # features/step_definitions/common_steps.rb:7

Feature: Courses Page
  As a scheduler
  I should be able to upload courses and view them
  So that I can review the courses and sections used to generate the schedule

  Scenario: User should not be able to reach an invalid schedule's courses page # features/courses.feature:6
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    When I visit the courses page for id "9a9a9a9" # features/step_definitions/courses_steps.rb:40
    Then I should see "Schedule not found." # features/step_definitions/common_steps.rb:7

  Scenario: User should be able to see course view with an appropriate message even if there is no data # features/courses.feature:12
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    When I visit the courses page for "Sched 1" # features/step_definitions/courses_steps.rb:8
    Then I should see "No courses added to this schedule!" # features/step_definitions/common_steps.rb:7

  Scenario: User should be able to see uploaded courses and details # features/courses.feature:18
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    And the following courses exist for that schedule: # features/step_definitions/courses_steps.rb:21
      | course_number | max_seats | lecture_type | num_labs |
      | 110            | 96        | F2F          | 4         |
      | 110            | 96        | F2F          | 4         |
      | 111            | 96        | F2F          | 4         |

      | 111/708 (86/10) | 96        | F2F          | 5         |
      | 120            | 96        | F2F          | 4         |
      | 120            | 96        | F2F          | 4         |
      | 120            | 96        | F2F          | 4         |
      | 120            | 96        | F2F          | 4         |
      | 120            | 96        | F2F          | 4         |
      | 435/735/735D   | 135       | F2F          | 2         |

    When I visit the courses page for "Sched 1" # features/step_definitions/courses_steps.rb:8
    Then I should see "Course Number" # features/step_definitions/common_steps.rb:7
    And I should see "Max Seats" # features/step_definitions/common_steps.rb:7
    And I should see "Lecture Type" # features/step_definitions/common_steps.rb:7
    And I should see "Number of Labs" # features/step_definitions/common_steps.rb:7
    And I should see "Sections" # features/step_definitions/common_steps.rb:7
    When I click "Course Number" # features/step_definitions/common_steps.rb:11
    Then I should see "435/735/735D" first # features/step_definitions/courses_steps.rb:12

  Scenario: User should be able to upload a valid course file # features/courses.feature:44
    Given a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And I am on the details page for "Sched 1" # features/step_definitions/instructors_steps.rb:55
    When I attach a valid "course_file" with path "spec/fixtures/courses/Course_list_valid.csv" # features/step_definitions/instructors_steps.rb:59
    And I click the "Upload Course Data" button # features/step_definitions/common_steps.rb:3
    Then I should see "Courses successfully uploaded." # features/step_definitions/common_steps.rb:7

  Scenario: User should see an appropriate message if click on upload without attaching a file # features/courses.feature:52
    Given a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And I am on the details page for "Sched 1" # features/step_definitions/instructors_steps.rb:55
    When I click the "Upload Course Data" button # features/step_definitions/common_steps.rb:3
    Then I should see "Please upload a CSV file." # features/step_definitions/common_steps.rb:7

Feature: Instructors Page
  As a scheduler
  I want to view the list of instructors and their preferences
  So that I can review instructor details that are being used to generate the schedule

  Background: courses in database # features/instructors.feature:6
    Given the following schedules exist: # features/step_definitions/schedules_steps.rb:3
      | schedule_name | semester_name |
      | Sched 1       | Fall 2024     |
    Given the following courses exist: # features/step_definitions/instructors_steps.rb:3
      | course_id |
      | 120       |
      | 465D/765D |

  Scenario: User should not be able to reach an invalid schedule instructor page # features/instructors.feature:17
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    When I visit the instructor page for id "9a9a9a9" # features/step_definitions/instructors_steps.rb:42
    Then I should see "Schedule not found." # features/step_definitions/common_steps.rb:7
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Scenario: User should be able to see all the instructors for a schedule # features/instructors.feature:23
And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And the following instructors exist: # features/step_definitions/instructors_steps.rb:10
  | id_number | first_name | last_name | middle_name | email | before_9 | after_3 | beware_of |
  | 1001 | John | Doe | A | john@example.com | true | false | test |
  | 1002 | Jane | Smith | B | jane@example.com | false | false | |
When I visit the instructors page for "Sched 1" # features/step_definitions/instructors_steps.rb:37
Then I should see "John A Doe" # features/step_definitions/common_steps.rb:7
And I should see "Jane B Smith" # features/step_definitions/common_steps.rb:7
And I should see the value "test" for "John A Doe" # features/step_definitions/instructors_steps.rb:63
And I should not see the value "test" for "Jane B Smith" # features/step_definitions/instructors_steps.rb:68
And I should see the value "Yes No" for "John A Doe" # features/step_definitions/instructors_steps.rb:63
And I should see the value "No No" for "Jane B Smith" # features/step_definitions/instructors_steps.rb:63

Scenario: User should be able to upload a valid instructor preferences file # features/instructors.feature:37
And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And I am on the details page for "Sched 1" # features/step_definitions/instructors_steps.rb:55
When I attach a valid "instructor_file" with path "spec/fixtures/instructors/instructors_valid.csv" # features/step_definitions/instructors_steps.rb:59
And I click the "Upload Instructor Data" button # features/step_definitions/common_steps.rb:3
Then I should see "Instructors and Preferences successfully uploaded." # features/step_definitions/common_steps.rb:7

Scenario: User should see the preferences for an instructor # features/instructors.feature:44
And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And the following instructors exist: # features/step_definitions/instructors_steps.rb:10
  | id_number | first_name | last_name | middle_name | email | before_9 | after_3 | beware_of |
  | 1001 | John | Doe | A | john@example.com | true | false | test |
  | 1002 | Jane | Smith | B | jane@example.com | false | false | |
And the following preferences exist for "John Doe": # features/step_definitions/instructors_steps.rb:27
  | course | preference_level |
  | 120 | 2 |
  | 465D/765D | 1 |
When I visit the instructors page for "Sched 1" # features/step_definitions/instructors_steps.rb:37
And I click on the "View Preferences" button for "John" in the instructor table # features/step_definitions/instructors_steps.rb:73
Then I should see "120" with the value "2" # features/step_definitions/instructors_steps.rb:80
And I should see "465D/765D" with the value "1" # features/step_definitions/instructors_steps.rb:80

Scenario: User should see an error message if they upload an invalid instructor file # features/instructors.feature:59
And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And I am on the details page for "Sched 1" # features/step_definitions/instructors_steps.rb:55
When I attach a valid "instructor_file" with path "spec/fixtures/instructors/instructors_missing_headers.csv" # features/step_definitions/instructors_steps.rb:59
And I click the "Upload Instructor Data" button # features/step_definitions/common_steps.rb:3
Then I should see "Missing required headers:" # features/step_definitions/common_steps.rb:7

Feature: Rooms Page

Scenario: User should be able to see their room bookings # features/room_bookings.feature:3
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16

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| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true             |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true             |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true             |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
Then I should see "View Data" # features/step_definitions/common_steps.rb:7
And I should see "09:00 - 10:00" # features/step_definitions/common_steps.rb:7
And I should see "BLDG1 101" # features/step_definitions/common_steps.rb:7

Scenario: User should be able to switch tabs between timeslots # features/room_bookings.feature:20
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true             |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true             |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true             |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
And I click "MW" # features/step_definitions/common_steps.rb:11
Then I should see "View Data" # features/step_definitions/common_steps.rb:7
And I should see "08:00 - 10:00" # features/step_definitions/common_steps.rb:7
And I should not see "09:00 - 10:00" # features/step_definitions/common_steps.rb:15
And I should see "BLDG1 101" # features/step_definitions/common_steps.rb:7

Scenario: User should see an appropriate message if no rooms exist # features/room_bookings.feature:39
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
Then I should see "View Data" # features/step_definitions/common_steps.rb:7
And I should not see "Generate Remaining" # features/step_definitions/common_steps.rb:15
And I should see "No rooms added to this schedule, click on View Data to Add Rooms!" # features/step_definitions/common_steps.rb:7

Scenario: User should be able to go back to the schedules page # features/room_bookings.feature:47
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
Then I should see "Back to Schedules" # features/step_definitions/common_steps.rb:7
When I click "Back to Schedules" # features/step_definitions/common_steps.rb:11
Then I should be on the schedules page # features/step_definitions/common_steps.rb:23

Scenario: User should be able to create a room booking # features/room_bookings.feature:55
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3

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```

Scenario: User should be able to create a room booking # features/room_bookings.feature:55
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true             |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true             |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true             |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
And the following courses and their sections exist: # features/step_definitions/room_bookings_steps.rb:8
| course_number | max_seats | lecture_type | num_labs | sections |
| 110           | 96        | F2F          | 4         | 100,101 |
| 110           | 96        | F2F          | 4         | 100      |
| 111           | 96        | F2F          | 4         | 100      |
| 435/735/735D | 135       | F2F          | 2         | 100      |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
And I book room "BLDG1" "101" in "MW" for "09:00 - 10:00" with "100" for "110" # features/step_definitions/room_bookings_steps.rb:74
Then I should see "Unlocked" # features/step_definitions/common_steps.rb:7

Scenario: User should be able to delete a room booking # features/room_bookings.feature:77
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true             |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true             |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true             |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
And the following courses and their sections exist: # features/step_definitions/room_bookings_steps.rb:8
| course_number | max_seats | lecture_type | num_labs | sections |
| 110           | 96        | F2F          | 4         | 100,101 |
| 110           | 96        | F2F          | 4         | 100      |
| 111           | 96        | F2F          | 4         | 100      |
| 435/735/735D | 135       | F2F          | 2         | 100      |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
And I book room "BLDG1" "101" in "MW" for "09:00 - 10:00" with "100" for "110" # features/step_definitions/room_bookings_steps.rb:74
And I click "Delete" # features/step_definitions/common_steps.rb:11
Then I should not see "Unlocked" # features/step_definitions/common_steps.rb:15

Scenario: User should be able to lock a room booking # features/room_bookings.feature:100
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16

```

```

Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true            |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true            |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true            |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
And the following courses and their sections exist: # features/step_definitions/room_bookings_steps.rb:8
| course_number | max_seats | lecture_type | num_labs | sections |
| 110           | 96        | F2F          | 4         | 100,101  |
| 110           | 96        | F2F          | 4         | 100       |
| 111           | 96        | F2F          | 4         | 100       |
| 435/735/735D | 135       | F2F          | 2         | 100       |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
And I book room "BLDG1" "101" in "MW" for "09:00 - 10:00" with "100" for "110" # features/step_definitions/room_bookings_steps.rb:74
And I click "Unlocked" # features/step_definitions/common_steps.rb:11
Then I should not see "Unlocked" # features/step_definitions/common_steps.rb:15
And I should see "Locked" # features/step_definitions/common_steps.rb:7

Scenario: User should be able to assign instructors to a room booking # features/room_bookings.feature:124
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true            |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true            |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true            |
And the following time slots exist for that schedule: # features/step_definitions/room_bookings_steps.rb:37
| day | start_time | end_time | slot_type |
| MW  | 09:00      | 10:00    | "LEC"     |
| MW  | 08:00      | 10:00    | "LEC"     |
And the following courses and their sections exist: # features/step_definitions/room_bookings_steps.rb:8
| course_number | max_seats | lecture_type | num_labs | sections |
| 110           | 96        | F2F          | 4         | 100,101  |
| 110           | 96        | F2F          | 4         | 100       |
| 111           | 96        | F2F          | 4         | 100       |
| 435/735/735D | 135       | F2F          | 2         | 100       |
And the following instructors exist: # features/step_definitions/instructors_steps.rb:10
| id_number | first_name | last_name | middle_name | email | before_9 | after_3 | beware_of |
| 1001      | John       | Doe       | A           | john@example.com | true     | false   | test      |
| 1002      | Jane       | Smith    | B           | jane@example.com | false    | false   |           |
When I visit the room bookings page for "Sched 1" # features/step_definitions/room_bookings_steps.rb:32
And I book room "BLDG1" "101" in "MW" for "09:00 - 10:00" with "100" for "110" # features/step_definitions/room_bookings_steps.rb:74
Then I should see "Unlocked" # features/step_definitions/common_steps.rb:7

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feature: Rooms Page

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Feature: Rooms Page
  As a scheduler
    I should be able to view and filter the rooms I have uploaded
    So that I can review room details that are used to generate the schedule

Scenario: User should not be able to reach an invalid schedule room # features/rooms.feature:6
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
When I visit the rooms page for id "9a9a9a9" # features/step_definitions/rooms_steps.rb:42
Then I should see "Schedule not found." # features/step_definitions/common_steps.rb:7

Scenario: User should be able to see room view # features/rooms.feature:12
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true            |
| GV      | BLDG2         | 102         | 50        | true      | true   | true               | true            |
| CS      | BLDG3         | 102         | 50        | false     | true   | true               | true            |
When I visit the rooms page for "Sched 1" # features/step_definitions/rooms_steps.rb:8
Then I should see "Campus" # features/step_definitions/common_steps.rb:7
And I should see "Building Code" # features/step_definitions/common_steps.rb:7
And I should see "Show Active Rooms" # features/step_definitions/common_steps.rb:7

Scenario: User should be able to filter only the active rooms # features/rooms.feature:25
Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And the following rooms exist for that schedule: # features/step_definitions/rooms_steps.rb:16
| campus | building_code | room_number | capacity | is_active | is_lab | is_learning_studio | is_lecture_hall |
| CS      | BLDG1         | 101         | 30        | true      | true   | true               | true            |
| GV      | BLDG2         | 102         | 50        | true      | false  | true               | true            |
| CS      | BLDG3         | 102         | 50        | false     | false  | true               | true            |
When I visit the rooms page for "Sched 1" # features/step_definitions/rooms_steps.rb:8
And I click "Show Active Rooms" # features/step_definitions/common_steps.rb:11
Then I should see the following rooms: # features/step_definitions/rooms_steps.rb:36
| Building Code | Room Number | Capacity |
| BLDG1         | 101         | 30       |
| BLDG2         | 102         | 50       |
And I should not see "BLDG3" # features/step_definitions/common_steps.rb:15

Scenario: User should be able to upload a valid rooms file # features/rooms.feature:41
Given a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
And I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
And I am on the details page for "Sched 1" # features/step_definitions/instructors_steps.rb:55
When I attach a valid "room_file" with path "spec/fixtures/rooms/rooms_valid.csv" # features/step_definitions/instructors_steps.rb:59
And I click the "Upload Room Data" button # features/step_definitions/common_steps.rb:3
Then I should see "Rooms successfully uploaded." # features/step_definitions/common_steps.rb:7

Scenario: User can go back to the schedules page by clicking on Back to schedules # features/rooms.feature:49

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    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/step_definitions/rooms_steps.rb:12
    When I visit the rooms page for "Sched 1" # features/step_definitions/rooms_steps.rb:8
    And I click "Back to Schedules" # features/step_definitions/common_steps.rb:11
    Then I should be on the schedules page # features/step_definitions/common_steps.rb:23

Feature: Create a new schedule
  As a user
  I want to create a new schedule
  So that I can assign teachers to courses efficiently

  Scenario: User should be able to create a schedule # features/schedule_create.feature:6
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And I am on the new schedule page # features/step_definitions/schedules_steps.rb:18
    When I fill in "Schedule name" with "Fall 2024 Schedule" # features/step_definitions/common_steps.rb:19
    And I fill in "Semester name" with "Fall 2024" # features/step_definitions/common_steps.rb:19
    And I click the "Save Schedule" button # features/step_definitions/common_steps.rb:3
    Then I should see "Schedule was successfully created" # features/step_definitions/common_steps.rb:7
    And I should see "Fall 2024 Schedule" # features/step_definitions/common_steps.rb:7
    And I should see "Fall 2024" # features/step_definitions/common_steps.rb:7

Feature: Delete a schedule
  As a user
  I want to delete a schedule I don't want
  So that I can remove it from the system

  Scenario: User should be able to delete an existing schedule # features/schedule_delete.feature:6
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    And I have created a schedule called "Fall 2024 Schedule" # features/step_definitions/schedules_steps.rb:26
    And I am on the schedules index page # features/step_definitions/schedules_steps.rb:22
    When I click the "Delete" button for "Fall 2024 Schedule" # features/step_definitions/schedules_steps.rb:30
    Then I should see "Schedule was successfully deleted" # features/step_definitions/common_steps.rb:7
    And I should not see "Fall 2024 Schedule" # features/step_definitions/common_steps.rb:15

Feature: Schedules page
  As a scheduler
  So that I can see the schedules I have worked on
  I want to see the list of my schedules on the landing page and be able to search them

  Background: schedules in database # features/schedules.feature:6
    Given the following schedules exist: # features/step_definitions/schedules_steps.rb:3
      | schedule_name | semester_name |
      | Test Schedule 1 | Fall 2024 |
      | Another Schedule | Spring 2024 |

  Scenario: User sees landing page with generated schedules # features/schedules.feature:13
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    Then I should see "Test Schedule 1" # features/step_definitions/common_steps.rb:7
    And I should see "Another Schedule" # features/step_definitions/common_steps.rb:7

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  Scenario: User should be able to see each schedule's details # features/schedules.feature:19
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    And I click on the card for "Test Schedule 1" # features/step_definitions/schedules_steps.rb:12
    Then I should see "Schedule Name: Test Schedule 1" # features/step_definitions/common_steps.rb:7
    And I should see "Semester: Fall 2024" # features/step_definitions/common_steps.rb:7
    But I should not see "Another Schedule" # features/step_definitions/common_steps.rb:15

  Scenario: User should be able to search for existing schedules # features/schedules.feature:27
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    When I search for "Test Schedule" # features/step_definitions/schedules_steps.rb:37
    Then I should see "Test Schedule 1" # features/step_definitions/common_steps.rb:7
    But I should not see "Another Schedule" # features/step_definitions/common_steps.rb:15

  Scenario: Search for a non-existing schedule # features/schedules.feature:34
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    When I search for "ABCD" # features/step_definitions/schedules_steps.rb:37
    Then I should not see "Test Schedule 1" # features/step_definitions/common_steps.rb:15
    And I should not see "Another Schedule" # features/step_definitions/common_steps.rb:15

  Scenario: User can upload room CSV # features/schedules.feature:41
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    And I click on the card for "Test Schedule 1" # features/step_definitions/schedules_steps.rb:12
    Then I should see "Select Room Data (CSV)" # features/step_definitions/common_steps.rb:7
    When I upload a valid room file # features/step_definitions/schedules_steps.rb:50
    And I click the "Upload Room Data" button # features/step_definitions/common_steps.rb:3
    Then I should see "Rooms successfully uploaded" # features/step_definitions/common_steps.rb:7

  Scenario: User can upload instructor CSV only if courses are uploaded # features/schedules.feature:50
    Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
    When I visit the schedules index page # features/step_definitions/schedules_steps.rb:8
    And I click on the card for "Test Schedule 1" # features/step_definitions/schedules_steps.rb:12
    Then I should see "Select Instructor Data (CSV)" # features/step_definitions/common_steps.rb:7
    And I should see the "Upload Instructor Data" button is disabled # features/step_definitions/schedules_steps.rb:58
    # Step to upload courses
    When I attach a valid "course_file" with path "spec/fixtures/courses/Course_list_valid.csv" # features/step_definitions/instructors_steps.rb:59
    And I click the "Upload Course Data" button # features/step_definitions/common_steps.rb:3
    Then I should see "Courses successfully uploaded" # features/step_definitions/common_steps.rb:7
    # Now instructor upload should be enabled
    When I attach a valid "instructor_file" with path "spec/fixtures/instructors/instructors_valid.csv" # features/step_definitions/instructors_steps.rb:59
    And I click the "Upload Instructor Data" button # features/step_definitions/common_steps.rb:3
    Then I should see "Instructors and Preferences successfully uploaded" # features/step_definitions/common_steps.rb:7

Feature: Time Slots Page
  As a user
  I want to view time slots for a schedule

```



```

So that I can filter and find time slots by day and type

Background:
  Given a schedule exists with the schedule name "Sched 1" and semester name "Fall 2024" # features/time_slots.feature:6
  And I am logged in as a user with first name "Test" # features/step_definitions/rooms_steps.rb:12
  And the following time slots exist: # features/step_definitions/welcome.rb:3
    | day | start_time | end_time | slot_type |
    | MW  | 09:00      | 10:00    | LEC        |
    | MW  | 10:00      | 11:00    | LAB        |
    | TR  | 11:00      | 12:00    | LEC        |
    | F   | 13:00      | 14:00    | LEC        |
    # features/step_definitions/time_slots_steps.rb:3

Scenario: User should be able to view all time slots # features/time_slots.feature:16
  When I visit the time slots page for "Sched 1" # features/step_definitions/time_slots_steps.rb:14
  Then I should see a time slot for "MW" from "09:00" to "10:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:23
  And I should see a time slot for "MW" from "10:00" to "11:00" of type "LAB" # features/step_definitions/time_slots_steps.rb:23
  And I should see a time slot for "TR" from "11:00" to "12:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:23
  And I should see a time slot for "F" from "13:00" to "14:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:23

Scenario: User should be able to filter time slots by day # features/time_slots.feature:23
  When I visit the time slots page for "Sched 1" # features/step_definitions/time_slots_steps.rb:14
  And I select "MW" from the "Filter by Day" dropdown # features/step_definitions/time_slots_steps.rb:19
  And I click the "Filter" button # features/step_definitions/common_steps.rb:3
  Then I should see a time slot for "MW" from "09:00" to "10:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:23
  And I should not see a time slot for "MW" from "10:00" to "11:00" of type "LAB" # features/step_definitions/time_slots_steps.rb:29
  And I should not see a time slot for "TR" from "11:00" to "12:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:29

Scenario: User should be able to filter time slots by type # features/time_slots.feature:31
  When I visit the time slots page for "Sched 1" # features/step_definitions/time_slots_steps.rb:14
  And I select "LAB" from the "Filter by Type" dropdown # features/step_definitions/time_slots_steps.rb:19
  And I click the "Filter" button # features/step_definitions/common_steps.rb:3
  Then I should see a time slot for "MW" from "10:00" to "11:00" of type "LAB" # features/step_definitions/time_slots_steps.rb:23
  And I should not see a time slot for "MW" from "09:00" to "10:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:29
  And I should not see a time slot for "TR" from "11:00" to "12:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:29
  And I should not see a time slot for "F" from "13:00" to "14:00" of type "LEC" # features/step_definitions/time_slots_steps.rb:29

Feature: Welcome Page
  As a scheduler
  I should be redirected to my schedules page on login
  So that I can continue working on my schedules

Scenario: Logged-in user is redirected to their schedules page # features/welcome.feature:6
  Given I am logged in as a user with first name "Test" # features/step_definitions/welcome.rb:3
  When I visit the welcome page # features/step_definitions/welcome.rb:9
  Then I should be on my schedules page # features/step_definitions/OAuth_Authorization_steps.rb:25

37 scenarios (37 passed)
262 steps (262 passed)
0m3.481s

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Unit Test Cases Covered:

Instructors Controller

- incorrect schedule id: Checks the invalid case
- without added instructors: When no instructors are added to a schedule, display an appropriate message
- with added instructors: Happy case, when instructors are added to a schedule
- Fetches correct preferences for an instructor

Rooms Controller

- incorrect schedule id: Checks the invalid case
- without added rooms: When no rooms are added to a schedule
- with added rooms: Happy case, when rooms are added to a schedule
- without any filters or sorting: When no filters or sort order is chosen
- with active filter: When filters are added
- with sorting by building_code in ascending order: Test sort by building_code
- with sorting by capacity in descending order: Test sort by capacity

SchedulesController

- GET #index: populates an array of schedules
- GET #show: assigns the requested schedule and renders the template
- GET #new: assigns a new schedule
- POST #create: saves new schedule to DB
- DELETE #destroy: delete schedule from DB
- POST #upload_rooms: upload rooms for a particular schedule
- POST #upload_instructors: upload instructors for a particular schedule

TimeSlotsController

- assigns all time slots when no filters are applied: display all time slots
- filters time slots by day: filter by day
- filters time slots by type: filter by type
- filters time slots by day and type: filter by day and type

Room_booking_controller

- GET #index: verifies functionality for existing room booking
- POST #create: saves new schedule to DB
- DELETE #destroy: delete schedule from DB

Customer Meeting

- 1) 1:45 PM October 30, 2024
Place: PETR 102B

Customer Meeting Details and Feedback

Presented and showcased the constraint optimization algorithm using test data as well as the current UI skeleton and updated features. In addition, we clarified doubts related to time schedules and additional requirements pertaining to exotic courses and predetermination of certain aspects of the schedule.

Links

Deployed App: <https://faculty-teaching-assignment-31f5f9c405bc.herokuapp.com/>

GitHub Repository: <https://github.com/tamu-edu-students/Faculty-Teaching-Assignment>

Pivotal Tracker: <https://www.pivotaltracker.com/n/projects/2721604>

Slack: <https://tamu.slack.com/archives/C07PA043PA7>

Team Working agreement:

<https://github.com/tamu-edu-students/Faculty-TeachingAssignment/blob/documentation/documentation/Fall2024/Team%20Working%20Agreement.md>

Code Climate Report:

<https://codeclimate.com/github/tamu-edu-students/Faculty-TeachingAssignment>