

**PROJECT: TEAM FORMATION**  
**SPRINT-4 Retrospective**

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**SPRINT-4 Schedule :**

**Sprint 4 Planning :** 4<sup>th</sup> Nov to 8<sup>th</sup> Nov

**Sprint 4 :** 11<sup>th</sup> Nov to 15<sup>th</sup> Nov

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**SPRINT-4 Goal :**

The primary objectives for this sprint are to complete the backend with thorough testing and to finalize the UI for all pages. Comprehensive testing will cover all workflows, ensuring robustness in both the backend and frontend. On the UI side, this sprint will focus on finalizing CSS for the entire site. While some basic styling, such as headers, has already been implemented, further work will enhance the overall UI/UX design and complete the visual consistency of all pages. In terms of backend development, the team encountered challenges in implementing certain scenarios, particularly around introducing randomness in team creation each time the “create team” function is triggered. After a dedicated discussion, the team aligned on an approach to address this requirement, and it will be implemented in this sprint. Additionally, any remaining minor tasks will be addressed to achieve end-to-end development of the project.

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**Team and Member Contributions :**

“Team formation” team consists of 8 members. The tabular representation shows the roles, efforts and fair share effort (%).

Team Member	Role	Tasks Completed	Story points (Effort)	Total no. of hours worked	Fair share percentage(%)
Uday M	Product Owner	1	1	2	12.5%
Raja Karthik V	Scrum Master	5	14	20	12.5%
Ramya G	Developer	3	12	12	12.5%
Hitha MV	Developer	3	10	16	12.5%
Sai Jaideep Reddy Mure	Developer	4	9	16	12.5%

Phani Jyothi K	Developer	5	16	20	12.5%
Rithika S	Developer	5	13	20	12.5%
Sahithi Duppati	Developer	5	16	20	12.5%

Name	Total points solved in all sprints
Raja Karthik V	31
Sai Jaideep Reddy Mure	30
Uday M	33
Ramya G	30
Hitha MV	30
Phani Jyothi K	30
Rithika S	30
Sahithi Duppati	30
<b>Total points solved by team</b>	<b>244</b>

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## **SPRINT-4 Achievements :**

### **Backend Development:**

- Successfully implemented the logic to introduce randomness in team creation, ensuring variability each time the “create team” function is triggered.
- Completed the end-to-end backend development, addressing all remaining minor tasks and scenarios for project completion.
- Robust testing of backend workflows ensured the reliability and robustness of all functionalities.

### **UI Development:**

- Finalized CSS styling across all pages, achieving visual consistency and enhancing the overall UI/UX design.
- Enhanced specific UI components such as:
  - **“Upload Students”**: Added clear guidelines, a sample sheet, and improved navigation for better user experience.
  - **“Preview Form”**: Improved formatting and corrected button routes.
- Completed all UI additions and improvements, ensuring alignment with functional requirements and project standards.

### **Specific Features Delivered:**

- **Populating Teams:**
  - Completed team population logic based on programming proficiency, gender, and ethnicity.
  - Made gender and ethnicity information mandatory to ensure accurate team assignments.
- **Form Access and Submission Enhancements:**
  - Restricted ineligible students from accessing forms with proper error notifications.
  - Allowed draft saving without completion, updated response submission redirection, and added a navigation button.
  - Ensured correct navigation and naming for the “Duplicate Form” action.
  - Checked access for students before displaying forms, preventing unauthorized viewing.
- **Error Handling and Navigation:**
  - Fixed unique index errors for UIN during bulk inserts.
  - Updated redirection logic and step definitions for error handling and view page access.

- **Response Page Updates:**

- Limited “View Responses” to display only submitted student responses.
- Enhanced the form response page for students to improve usability and clarity.

**Team Contributions:**

- All team members successfully completed their assigned user stories within the sprint timeline.
- Collaboratively addressed challenges and aligned on solutions, particularly for the randomness in team creation logic.

**Outcome:**

The sprint delivered a fully functional and thoroughly tested backend, finalized UI design, and comprehensive implementation of all features and stories. These accomplishments mark the successful completion of Sprint4, leaving the project ready for client review and final deployment.

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**SPRINT-4 Backlog Items and Status:**

Sprint-4 Backlog Items	Status
UI Improvements	+
Backend logic for filling teams based on gender	+
Backend logic for filling teams based on ethnicity	+
Backend logic for filling teams based on skill level	+
Web pages flow adjustment	+
Restricting students from accessing forms they are not allowed to	+

#### Design Diagrams for SPRINT-4 :

Student Details Form Submission

Edit Submission

First name :

Middle name:

Last name:

UIN :

Email:

list of pref.

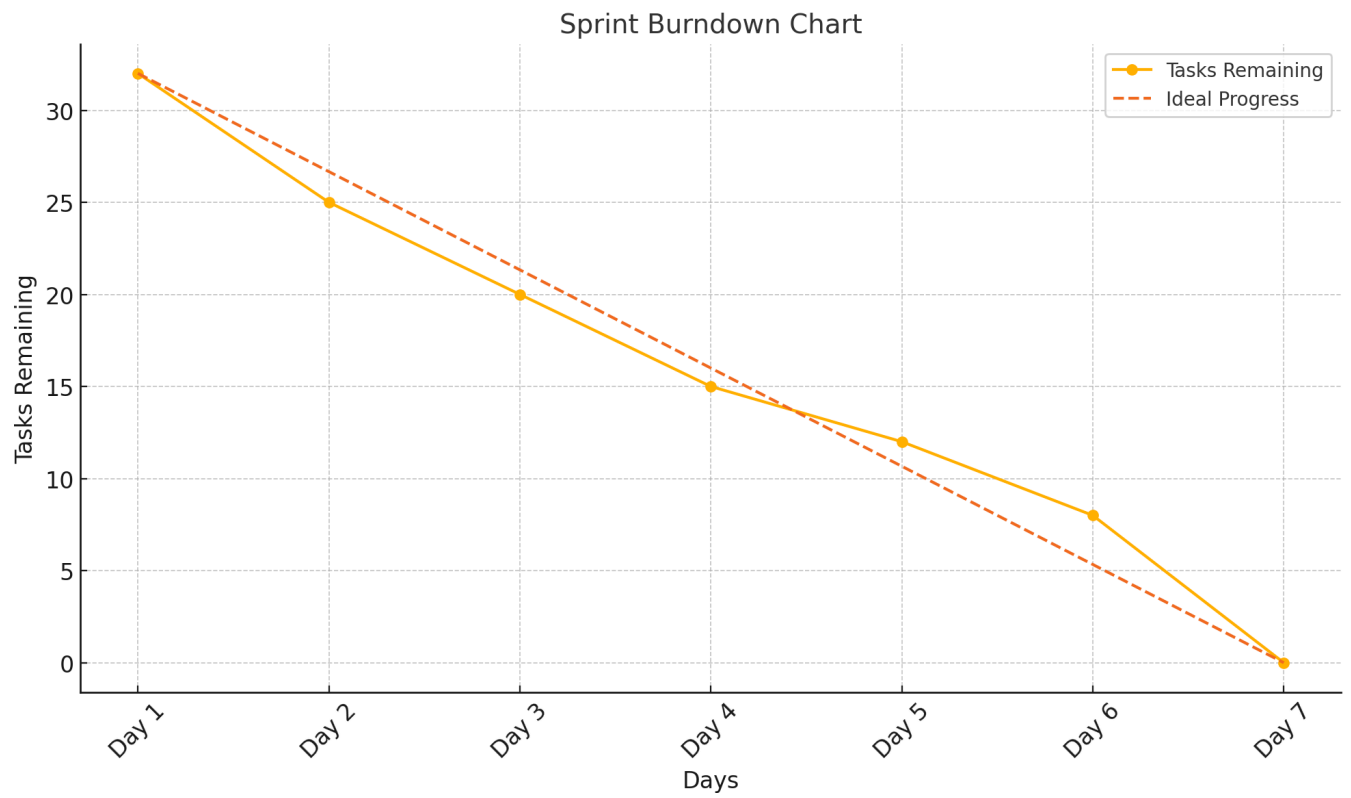
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Submit

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#### Burndown Chart :



## Evaluations of Code & Test Quality :

karthikvobugari/Documents/softwareeng/ff/team-formation/coverage/index.html#\_AllFiles

All Files ( 98.76% ) Generated 8 minutes ago

All File ( 98.76% covered at 168.85 hits/line )

28 files in total.  
886 relevant lines, 875 lines covered and 11 lines missed. ( 98.76% )

Search:

File	% covered ▲	Lines	Relevant Lines	Lines covered	Lines missed	Avg. Hits / Line
app/services/forms/duplication_service.rb	92.31 %	48	26	24	2	3.15
app/controllers/concerns/form_uploading.rb	93.85 %	113	65	61	4	6.42
app/controllers/form_responses_controller.rb	96.61 %	140	59	57	2	3.66
app/controllers/forms_controller.rb	97.06 %	163	68	66	2	5.40
app/controllers/concerns/team_gender_balance.rb	98.88 %	197	89	88	1	62.04
app/controllers/application_controller.rb	100.00 %	37	13	13	0	80.38
app/controllers/attributes_controller.rb	100.00 %	127	58	58	0	8.48
app/controllers/concerns/attribute_helpers.rb	100.00 %	24	13	13	0	6.00
app/controllers/concerns/export_teams.rb	100.00 %	45	25	25	0	2.28
app/controllers/concerns/form_publishing.rb	100.00 %	46	22	22	0	4.82
app/controllers/concerns/generate_teams.rb	100.00 %	58	33	33	0	6.58
app/controllers/concerns/team_calculation.rb	100.00 %	198	95	95	0	300.24
app/controllers/concerns/team_distribution_helpers.rb	100.00 %	106	54	54	0	1813.93
app/controllers/concerns/team_ethnicity_balance.rb	100.00 %	208	80	80	0	126.03
app/controllers/concerns/team_skill_balance.rb	100.00 %	122	53	53	0	54.17
app/controllers/sessions_controller.rb	100.00 %	27	16	16	0	5.38
app/controllers/students_controller.rb	100.00 %	47	26	26	0	3.65
app/controllers/users_controller.rb	100.00 %	12	3	3	0	10.67
app/controllers/welcome_controller.rb	100.00 %	16	0	0	0	7.44

Code Cimate: <https://codeclimate.com/github/phaniyothi11-tamu/team-formation>

## Rubocop:

```
Inspecting 135 files
.....
135 files inspected, no offenses detected
rajakarthikvobugari@Rajas-MacBook-Pro team-formation %
```

## bdd & tdd

cucumber scenarios and rspec examples cover all features developed in this iteration.

## Rspec:

```
Finished in 3.53 seconds (files took 1.69 seconds to load)
247 examples, 0 failures
```

```
Coverage report generated for Cucumber, RSpec to /Users/rajakarthikvobugari/Documents/softwareeng/tf/team-formation/coverage.
Line Coverage: 98.76% (875 / 886)
```

```
rajakarthikvobugari@Rajas-MacBook-Pro team-formation %
```

## cucumber:

```
Background: # features/weight_adjustment.feature:5
  Given I am logged in as a professor # features/step_definitions/createform_steps.rb:2
  And I have created a form # features/step_definitions/form_attribute_steps.rb:2
  And I visit the edit page for the form # features/step_definitions/form_attribute_steps.rb:7

Scenario: Adding gender attribute without weightage # features/weight_adjustment.feature:10
  When I enter "Gender" as the attribute name # features/step_definitions/form_attribute_steps.rb:17
  And I select "Text" as the attribute type # features/step_definitions/form_attribute_steps.rb:22
  And I submit the new attribute # features/step_definitions/form_attribute_steps.rb:41
  Then I should see "Gender" listed as an attribute on the form # features/step_definitions/form_attribute_steps.rb:46
  And I should not see a weightage input field for the "Gender" attribute # features/step_definitions/form_attribute_steps.rb:115
  And the "Gender" attribute should be saved without a weightage value # features/step_definitions/form_attribute_steps.rb:119

Scenario: Adding ethnicity attribute without weightage # features/weight_adjustment.feature:18
  When I enter "Ethnicity" as the attribute name # features/step_definitions/form_attribute_steps.rb:17
  And I select "Text" as the attribute type # features/step_definitions/form_attribute_steps.rb:22
  And I submit the new attribute # features/step_definitions/form_attribute_steps.rb:41
  Then I should see "Ethnicity" listed as an attribute on the form # features/step_definitions/form_attribute_steps.rb:46
  And I should not see a weightage input field for the "Ethnicity" attribute # features/step_definitions/form_attribute_steps.rb:115
```

### Undefined Scenarios:

```
cucumber features/form_responses_database.feature:6 # Scenario: Store student responses in the database table
```

```
55 scenarios (1 undefined, 54 passed)
380 steps (2 skipped, 2 undefined, 376 passed)
0m1.181s
```

You can implement step definitions for undefined steps with these snippets:

```
Given('I have uploaded a list of eligible students for the form') do
  pending # Write code here that turns the phrase above into concrete actions
end
```

```
When('an eligible student submits their responses') do |table|
  # table is a Cucumber::MultilineArgument::DataTable
  pending # Write code here that turns the phrase above into concrete actions
end
```

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, RSpec to /Users/rajakarthikvobugari/Documents/softwareeng/tf/team-formation/coverage.
Line Coverage: 98.76% (875 / 886)
```

```
Stopped processing SimpleCov as a previous error not related to SimpleCov has been detected
```

```
rajakarthikvobugari@Rajas-MacBook-Pro team-formation %
```



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## Documentation of changes :

The application is deployed in heroku and can be accessed using this link:

<https://teamformation-c5eaebc1d53b.herokuapp.com/>

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## SPRINT-4 MVP Demo Summary:

- Date: 25 November 2024
- Time: 1:00 PM
- Place: ZACH 424

## DISCUSSION POINTS:

### Feature Demonstrations:

Presented and demonstrated the following functionalities:

- Group by Ethnicity: Logic implemented and tested with a pool of 50 students, including edge cases.
- Skill Balance: Demonstrated as an individual feature and integrated into the team formation algorithm with a pool of 75 students.
- UI Enhancements: Showcased improvements made to enhance usability and accessibility.
- Team Formation Flow: Presented the complete logic for team formation and its practical application.

### Backend Logic Explanation:

Provided a detailed explanation of the backend logic for:

- Group by Ethnicity: Highlighted edge case handling and validation processes.
- Skill Balance: Explained the algorithm's integration into the team formation flow.
- Team Formation Logic: Outlined the end-to-end process and data handling.

**Client Approval:** The client approved the backend logic and expressed confidence in the approach.

### Priority Stories and App Enhancements for Sprint 4:

Presented the prioritized stories and proposed improvements for Sprint 4, including:

- Enhancements to team formation logic.
- Refinements to UI features based on client data feedback.

**Client Feedback:** The client appreciated the prioritization of stories and plans for Sprint 4. They committed to reviewing proposed app enhancements and providing further feedback.

## NEXT STEPS:

1. **Client Review:** The client conveyed strong satisfaction with the demonstrated features, emphasizing their alignment with the project's objectives and overall vision. Moving forward, the immediate next steps will focus on enhancing the project's documentation to ensure clarity and maintainability. This will include creating comprehensive documentation for the entire application, detailing its functionality, workflows, and technical implementation. Additionally, planning for the development of a Software Requirements Specification (SRS) document will be initiated to formally capture all functional and non-functional requirements, providing a solid foundation for future development and scalability.

2. **Next Meeting:** Scheduled for Monday at 4:15 PM in ZACH 424.
  3. **Meeting Link:** <https://meet.google.com/rue-uyno-swr>
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### **Project Resources :**

**Heroku :** <https://teamformation-c5eaebc1d53b.herokuapp.com/>

**GitHub Repo :** <https://github.com/phanijyothi11-tamu/team-formation>

**Project Management page :** <https://github.com/users/phanijyothi11-tamu/projects/1>

**Slack workspace :** <https://app.slack.com/client/T07PN8XD8D7/C07P6NWELCD>