Team Project, Team 02 - Rumble Realm

Members of Team 02

March 6, 2024

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1 Notable Changes

Although none of the features themselves have changed, post-M1, we unanimously agreed as a team that we will now switch our focus away from a **general tournament hosting platform**, to an **Overwatch-specific** one. For clarity, Overwatch is a specific video game with a distinctly prominent E-sports scene - especially here in the University of Birmingham. We felt that we will not beat a general tournament hosting platform, but no bespoke Overwatch-only platform exists (at least with our planned feature-set). We also feel that we will be able to **specialise** a lot more into Overwatch-specific features, and thus build a better product. There is an active set of users who actively play competitive Overwatch in the university, and we plan to use them as testers and for feedback.

We also chose a name for our application: **Rumble Realm**.

2 S2 Ranking

Following feedback we received for our ranking process in S1, we have adapted our method. We used this Google Sheet. We followed every criteria in the S2 Ranking Guide given to us by the course, and each person ranked every team member's work in all categories (1 being the highest, 7 being the lowest, with the possibility of ties). We then averaged all the ranks and produced a final list. We then also had a team meeting where we agreed upon all the justifications for the ranking, and provided details:

1. **Mark**: Mark was ranked 1st for M2, for contributing the highest quality work across the board. His tech report on Angular followed the agreed format well, alongside providing accurate explanations on how the entire application's frontend works. His UML diagram was coherent and time estimates on Kanban cards were regarded as best. That being said, he could do better by referring to specific people's work (tech reports, for example) in his own Kanban cards, and spend more time expanding their content so that other developers may pick them up more easily. Also, project-specific Angular examples would be better than generic ones.

2. **Haiwei**: Haiwei's S2 is ranked 2nd in the team in general as his Kanban cards set him apart, his UML diagram and tech report's overall quality were better than average. His Kanban cards scored highest overall as it was most detailed with useful references to resources, but his time estimates were underestimates. His UML diagram were well formatted and coherent, but he did have entities that could've been mock entities. His tech report was highest quality and one of the most beneficial ones, but he lost scores in independence as other members covered some layers of Spring Boot too.

3. **Rhys**: Rhys' Tech Report was written well and explained how API requests are handled, along with an example from the template website. The report isn't as useful as a lot of the API code is generated for us, but is still good to know. The Class Diagram contains all the needed entities, and links to the necessary mock entities. The Kanban cards can be improved by having more detailed titles and could be broken down into steps more specific to the tech stack. Overall Rhys got ranked 3rd as the submission is presented well but the information could be more detailed.

4. **Garance**: Her Kanban feature cards were a good level of detail, the cards had appropriate links and parent cards, they could've included time estimates for the smaller subtasks. Her UML diagram was ranked as the most relevant. It was also coherent, and specific to the feature, but included data types that aren't used in JDL. Her tech report followed the agreed format and had good benefit by explaining the repository, but could've been more specific on the topic of JPA instead of the entire repository layer. In most sections Garance was ranked as 3rd/4th leading to being ranked 4th.

5. **Samuel**: Samuel's S2 submission went well in terms of the benefit of his report, the topic of JDL was essential in getting everyone to understand the basic syntax and use of JDL, so that everyone was able to generate their UML diagrams based on their features. In terms of improvement, Samuel could have put more detail into the Kanban cards, perhaps referencing issues that may be related to another's teammates issue. Also the tech report he could have used a more aesthetically pleasing format, which potentially could make the report easier to follow. Samuel was ranked 5th overall for these reasons.

6. **Talha**: Talha's Kanban cards scored highly for time estimates and practicalities due to his correct time estimates for given tasks. Talha could improve on his detail and references by more clearly linking tasks to personas and mock-ups. Talha's UML diagrams scored well on conformance and formatting, but he could improve on his UML diagram's relevance and coherence since his diagram did not refer to the agreed entities. Talha scored well on specificity and benefit, since his report linked well to the project but his report did not utilise the agreed upon format. Due to these factors, he scored 6th overall.

7. **Taziba**: Taziba's S2 submission was poor based on the rankings of the team. His Kanban cards did not meet the requirements as well as the others and his time estimates were the least realistic which he should work on. He could also work on his level of detail and subject of them. His UML diagram followed the agreed format and was coherent with the rest of the team. His tech report on docker scored very low as it failed in areas of specificity and general report requirements. Taziba was ranked 7th (last) overall for the reasons stated above.

3 Walking Skeleton

For the walking skeleton, we decided to implement a minimum-viable-product version of the **Team Creation** feature.

The feature is accessible from: this link

In order to access the feature, you must login using an **admin-privileged** account (only currently, not an intended feature for the finished product). Use these details:

1. **Username**: `mje248`
2. **Password**: `248mje`

We had to first generate our solution architecture. For this, we used JHipster's generator and JDL. Refer to the Complete UML Diagram section.

Our chosen feature was the smallest and simplest to implement. However, it also adheres to our mockups.

The MVP website has all the entities needed to host teams and tournaments for Overwatch Esports players, so that they can easily meet other players by joining teams, and improve their skills by playing in tournaments. The MVP has been designed to follow the same style as the mock-ups, and has the navigation bar fully complete. An University Overwatch Esports player has given us the feedback that *"the general look of the website is good, and appeals to the Esports audience. However it does look somewhat bland, and could be improved by adding images to fill in blank spaces"*. This feedback is from an Overwatch player with the BattleNet username of Bearbear41.

To accomplish this feature technically, we had to:

1. Write some custom binding logic between database entities.
2. Modify generated DTOs and write new backend code to manage team creation.
3. Modify and create a baseline frontend UI theme.
4. Modify existing Angular code to include new navbar buttons.
5. Modify existing Angular code to declare new routing to new feature pages.
6. Write the frontend UI templates and logic for the team creation page, and link it to the backend with API requests.

It should be clear that team creation is blazing fast, which aligns with our personas' desires for "minimal hassle".

3.1 Team Creation Feature Walkthrough

In case it is unclear on how to exactly go through the process of creating a team in our MVP, here is an illustrated step-by-step walkthrough:

1. Go on the site. (Landing on Site)
2. Log in with the login credentials in item 1. (Logging in)
3. Click *"Create Team"* on the navigation bar. (Navigating to Team Creation Page)
4. Enter dummy information for the team name, optionally team description, and access status. (Creating Team)
5. Click *"Create"*.
6. On success, you should be redirected to the Team Entity viewing page, with a green success message. (Creation Success)

3.1.1 Walkthrough Illustration

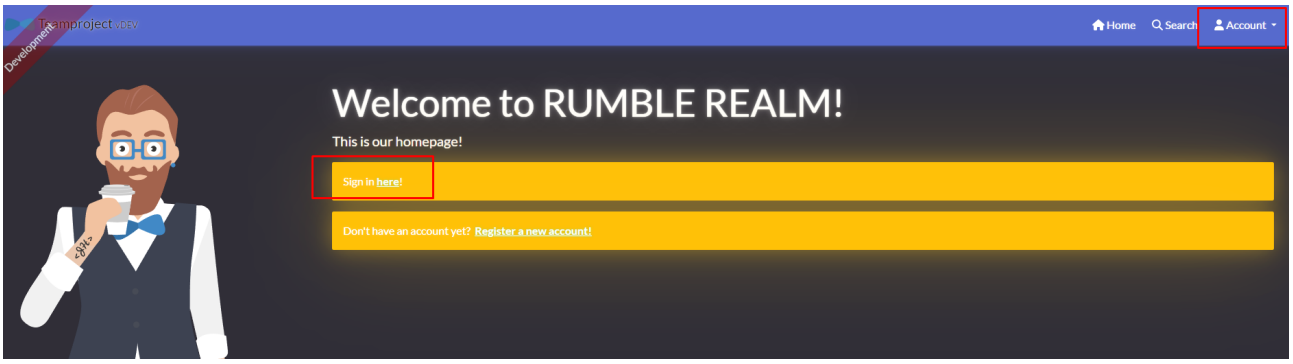

Figure 1: Landing on Site

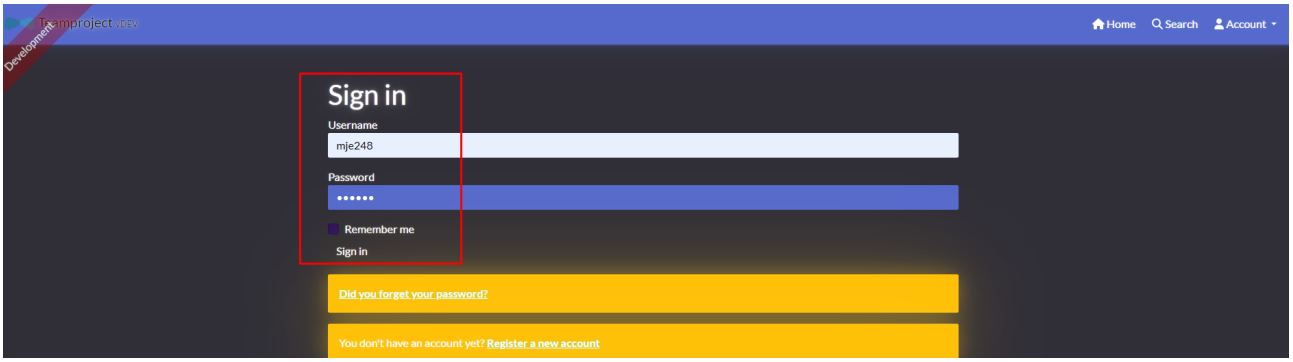

Figure 2: Logging in

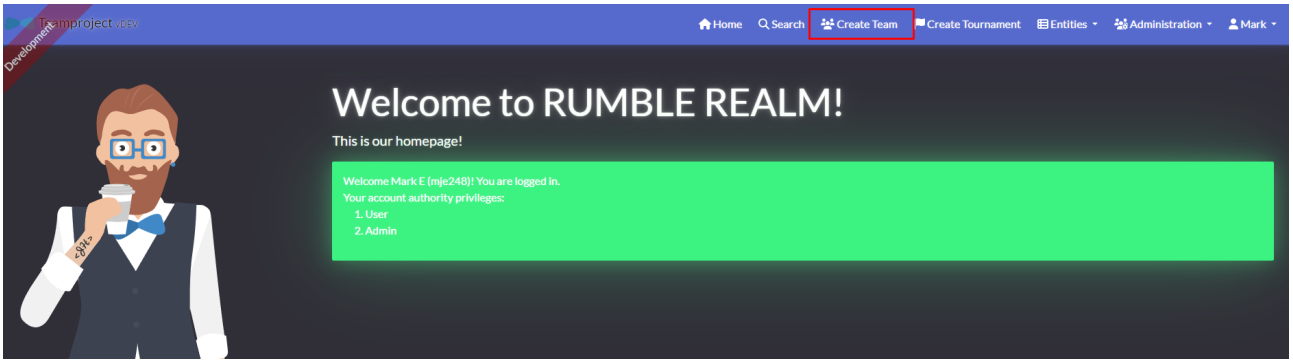

Figure 3: Navigating to Team Creation Page

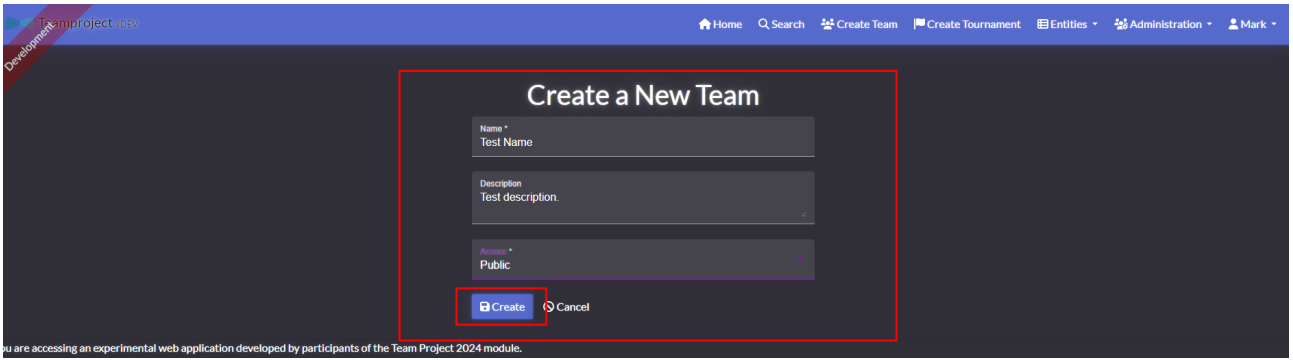

Figure 4: Creating Team

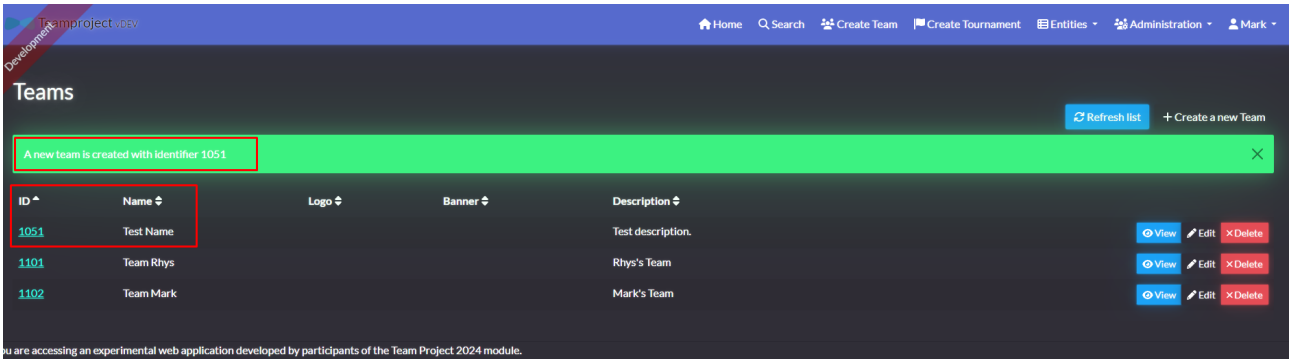

Figure 5: Creation Success

4 Complete UML Diagram

After a gruelling 3 hour session of precisely combining together our individually-made JDL files, we produced the following JDL for the project:

```
enum TournamentBracketType {
    SINGLE_ELIMINATION
    DOUBLE_ELIMINATION
}
enum AccessStatus {
    PUBLIC
    PRIVATE
    CLOSED
}
enum TeamRole {
    LEADER
    COACH
    PLAYER
    SUBSTITUTE
}
enum VenueAccessibilities {
    ACCESSIBLE_PARKING
    RAMPS
    LIFTS
}
enum MapMode {
    CONTROL
    ESCORT
```

```
    HYBRID
    PUSH
    FLASHPOINT
}
enum PlayerLanguage {
    ENGLISH
    SPANISH
    FRENCH
    OTHER
}
enum PlayerDevice {
    DESKTOP
    CONSOLE
}
enum TournamentSetting {
    IN_PERSON
    ONLINE
    MIXED
}
enum GameTeam {
    TEAM_ONE
    TEAM_TWO
}
entity Tournament{
    name String required unique minlength(3) maxlength(40)
    description String maxlength(5000)
    prizePool Float
    entryFee Float
    startTime ZonedDateTime required
    endTime ZonedDateTime
    location String
    bracketFormat TournamentBracketType
    accessStatus AccessStatus required
    isLive Boolean required
    ended Boolean required
    banner ImageBlob maxbytes(8388608)
    gamesPerMatch Integer required
    maxParticipants Integer
    tournamentSetting TournamentSetting required
}
dto Tournament with mapstruct
entity Team{
    name String required unique
    logo ImageBlob
    banner ImageBlob
    description String
}
dto Team with mapstruct
entity Match{
    matchIndex Integer required
    winnerScore Integer min(0)
    loserScore Integer min(0)
    startTime Instant
    endTime Instant
        scoreSubmitted Boolean required
        scoreApproved Boolean required
```

```
}
dto Match with mapstruct
entity Game{
    order Integer required min(0)
    scoreOne Integer required
    scoreTwo Integer required
}
dto Game with mapstruct
entity PlayerData{
    name String required minlength(3) maxlength(50)
    overwatchUsername String minlength(3) maxlength(40)
    profile ImageBlob
    bio String maxlength(1000)
    primaryLanguage PlayerLanguage
    device PlayerDevice
    matchesPlayed Integer required min(0)
    tournamentsPlayed Integer required min(0)
    matchWins Integer required min(0)
    tournamentWins Integer required min(0)
    tournamentTop10s Integer min(0)
}
dto PlayerData with mapstruct
entity GamePlayer{
    team GameTeam required
}
dto GamePlayer with mapstruct
entity OverwatchMap{
    name String required
    mode MapMode required
}
dto OverwatchMap with mapstruct
entity Participant {
    signUpRank Integer required
}
dto Participant with mapstruct
entity TeamPlayer {
    role TeamRole required
}
dto TeamPlayer with mapstruct
entity TournamentAccessibility {
    accessibility VenueAccessibilities required
}
dto TournamentAccessibility with mapstruct
relationship OneToMany{
    Tournament to Match
    Team{teamOne} to Match{teamOne}
    Team{teamTwo} to Match{teamTwo}
        Match to Game
        Game to GamePlayer
        PlayerData to GamePlayer
    Tournament to TournamentAccessibility
    PlayerData{creator} to Tournament{creator}
    PlayerData{player} to TeamPlayer{player}
    Team{team} to TeamPlayer{team}
    Team to Participant
    Tournament to Participant
```

```
}
relationship OneToOne{
    Game to OverwatchMap
    PlayerData to User
}
```

Using the JDL code above and getting a unanimous agreement that this is the architecture we'll go with, we generated all the application code (which gave us a baseline codebase to work with in the Walking Skeleton). Additionally, the JDL diagram above renders into the UML diagram below:

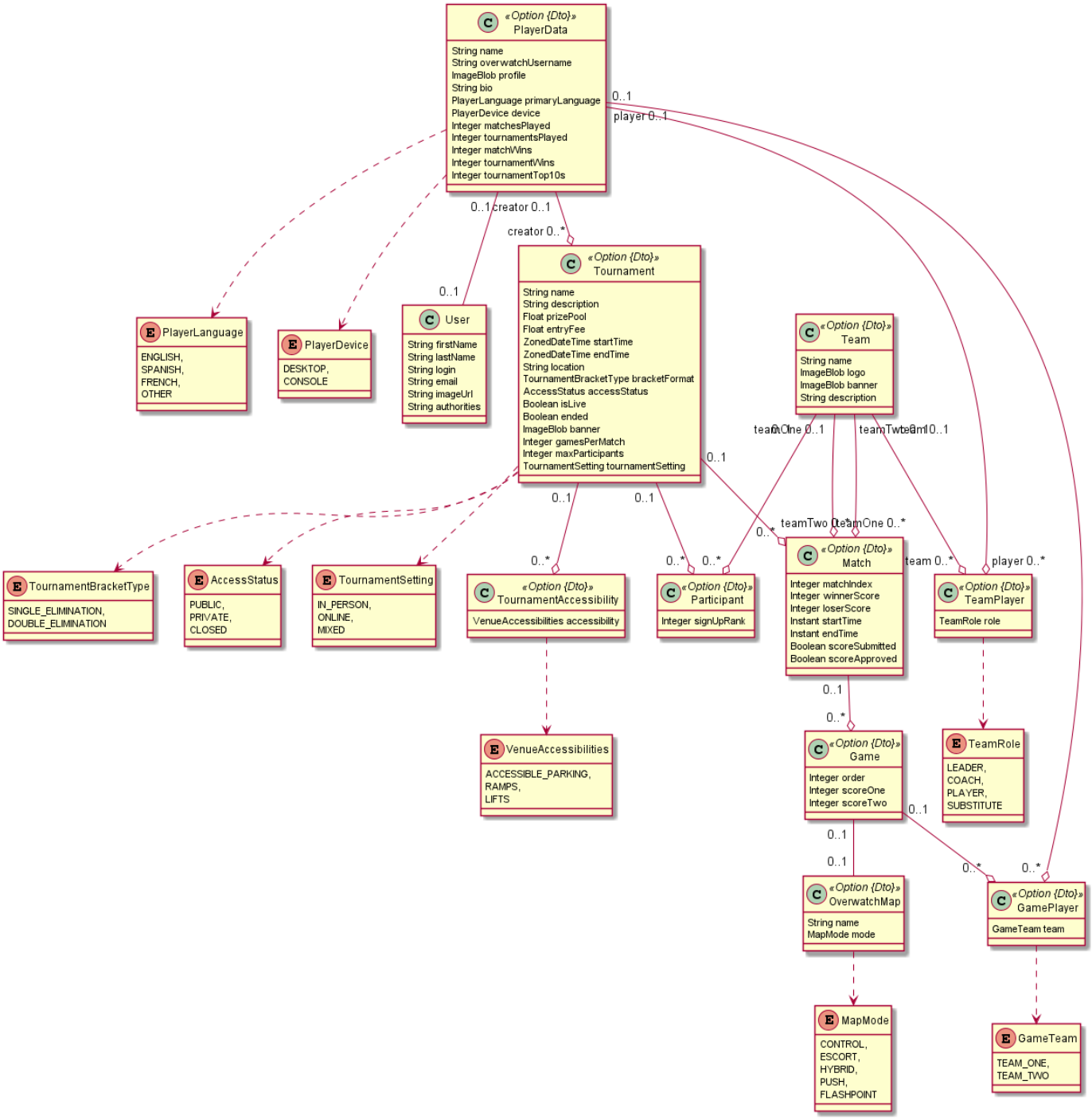

Figure 6: Project Structure as UML from JDL

5 Data Policies

5.1 GDPR Policy

Our GDPR policy is here.

5.2 DPIA Form

Our DPIA form is here. The DPIA form is submitted separately with the submission, but in-case that cannot be accessed, it is linked here.

6 Meeting Diary

Contrary to last time, we have now also logged all our unofficial meetings (meetings without our TA, Katie Potts). Below are only the meetings between M1 and now, alongside a few from before M1 that we forgot to log in the previous submission.

Table 1: Meeting 4: 75 minutes

Date:	2024-05-02 @ 14:00	**Location:**	T&L Building
Meeting Type:	Regular	**Ext. Attendees:**	N/A
Team Attendees:	6/7	**Apologies:**	Haiwei
Meeting Lead:	Samuel	**Note Taker:**	N/A
Agenda Items:	• Progress check on mock-ups and personas redesign • Discussion about Kanban cards	**Update on actions:**	• Mark, Garance, Rhys and Ogieltaziba completed s1 ranking justification • All completed mock-up and personas design • Rhys completed heading bar template heading bar mock-up
Actions & Owner:	• Mark tasked to compile m1 submission • All tasked to create Kanban feature development cards for s2	**Time sheets signed off / feedback:**	N/A
Next meeting date/time/location:	2024-02-06 @ 12:30 in T&L Building	**Next meeting lead/note taker:**	Samuel (lead), Haiwei (secretary)

Table 2: Meeting 5: 76 minutes

Date:	2024-02-06 @ 12:30	**Location:**	T&L Building
Meeting Type:	Additional	**Ext. Attendees:**	N/A
Team Attendees:	7/7	**Apologies:**	N/A
Meeting Lead:	Samuel	**Note Taker:**	Haiwei
Agenda Items:	• Finish off making Kanban cards. • Choose to hyperspecialise game to Overwatch.	**Update on actions:**	• Haiwei & Samuel completed s1 ranking justification • All completed Kanban cards for s2 • Mark in progress in compiling m1 submission using LaTex
Actions & Owner:	• Haiwei tasked to organise meeting diaries • Mark tasked to compile m1 submission	**Time sheets signed off / feedback:**	All of team.
Next meeting date/time/location:	2024-02-08 @ 11:30 in UG04	**Next meeting lead/note taker:**	Ogieltaziba (lead), Garance (secretary)

Table 3: Meeting 6: 60 minutes

Date:	2024-02-08 @ 11:30	**Location:**	UG04
Meeting Type:	TA Meeting	**Ext. Attendees:**	Katie Potts
Team Attendees:	5/7	**Apologies:**	Samuel (ill), Talha (interview)
Meeting Lead:	Haiwei	**Note Taker:**	Garance
Agenda Items:	• Meet with tutor. • Reorganise meeting logs. • Sign off timesheets. • Discuss S2, more specifically: – Asked tutor about tech report research – what does it do, how it works, how it's going to applied to the project. – UML – class diagram for feature (can include more) – Specialise Kanban cards more for S2 submission • Decided to specialise to one specific game after discussing with tutor, just need to explain why when uploading M2. • Discuss potential APIs and libraries for text stacks.	**Update on actions:**	• Finished mock-ups with coherent template • Finished kanban cards for M1 • Submitted M1
Actions & Owner:	• Research decided technologies for tech reports. • Libraries/Library/tech stack – Rest APIs (rhys), JHipster (talha), JDL (samuel), Prostgres (garance), Angular (mark), Docker (ogieltaziba, Springboot (haiwei)	**Time sheets signed off / feedback:**	All of team.
Next meeting date/time/location:	2024-02-13 @ 14:00 in UG04	**Next meeting lead/note taker:**	Haiwei (lead), Garance (secretary)

Table 4: Meeting 7: 120 minutes

Date:	2024-02-13 @ 14:00	**Location:**	UG04
Meeting Type:	TA Meeting	**Ext. Attendees:**	Katie Potts
Team Attendees:	7/7	**Apologies:**	N/A
Meeting Lead:	Haiwei	**Note Taker:**	Garance
Agenda Items:	• Look at the template code in the repository. • Discuss what to do for tech report. • Discuss M2 with tutor: – Walking skeleton: the technologies are set up so that there can be features used on them so that the website can be used but not fully functional – Discuss which feature would be easiest to implement at minimal function for M2 (agreed "create team") – GDPR policy – use template to match to our needs – DPIA policy – answer questions and get point across concisely • Discuss S2 requirements: – Only class diagrams needed, but others UML can be used which may be helpful but not required	**Update on actions:**	• No substantial research conducted yet on tech reports.
Actions & Owner:	• Samuel – Make tech report ahead of time so that we can discuss the uses of JDL in a meeting before submitting S2 • All -Discuss database in future meeting	**Time sheets signed off / feedback:**	All of team.
Next meeting date/time/location:	2024-02-16 @ 12:30 in UG04	**Next meeting lead/note taker:**	Rhys (lead), Talha (secretary)

Table 5: Meeting 8: 90 minutes

Date:	2024-02-16 @ 12:30	**Location:**	UG04
Meeting Type:	Regular	**Ext. Attendees:**	N/A
Team Attendees:	6/7	**Apologies:**	Garance
Meeting Lead:	Rhys	**Note Taker:**	Talha
Agenda Items:	• Present current progress on Tech Reports • Explain current research on technologies • Discuss the walking skeleton: – How to use angular to develop the UI. – How to use JDL for class diagrams.	**Update on actions:**	• Presented current progress on Tech Reports. • Explained current research on technologies. • Discussed how to use Angular and JDL for the walking skeleton.
Actions & Owner:	• Mark (Angular) – research how to change theme on JHipster and how to create components on pages using Angular. • Samuel (JDL) – complete Tech Report ahead of time, so team can do their class diagrams. • Rest of Team - complete Tech Reports.	**Time sheets signed off / feedback:**	N/A
Next meeting date/time/location:	2024-02-20 @ 14:00 in UG04	**Next meeting lead/note taker:**	Ogieltaziba (lead), Rhys (secretary)

Table 6: Meeting 9: 55 minutes

Date:	2024-02-20 @ 14:00	**Location:**	UG04
Meeting Type:	TA Meeting	**Ext. Attendees:**	Katie Potts
Team Attendees:	6/7	**Apologies:**	Talha
Meeting Lead:	Ogieltaziba	**Note Taker:**	Rhys
Agenda Items:	• Check on tech report progress. • Can go into more detail but only submit 2 pages. • Tutorials online may not line up with template. • How it exactly works may not be important, what you get out as a product is. • How the database works in template. • Kanban cards should be specific, break down to specific task. • Discuss how to make Class Diagrams.	**Update on actions:**	• Tech Reports almost done / completed.
Actions & Owner:	• Finalise Tech Reports • Complete Class Diagrams / JDL for next meeting • Mark will start work on DPIA form • Rest of M2 will be allocated next week	**Time sheets signed off / feedback:**	All team's timesheets.
Next meeting date/time/location:	2024-02-23 @ 12:30 in UG04	**Next meeting lead/note taker:**	Garance (lead), Ogieltaziba (secretary)

Table 7: Meeting 10: 185 minutes

Date:	2024-02-23 @ 12:30	**Location:**	CS Building
Meeting Type:	Regular	**Ext. Attendees:**	N/A
Team Attendees:	5/7	**Apologies:**	Talha, Samuel
Meeting Lead:	Garance	**Note Taker:**	Ogieltaziba
Agenda Items:	• Look at JDLs: viewing and comparing all individuals JDLs. • Decide combined JDL format for overlapping classes: discussed how to format JDLs and choose specific data needed on overlapping classes. • Discuss Kanban cards for S2: discussed how to improve current Kanban cards. • Ran combined JDL: encountered error upon compiling JDL, we were unable to fix the error.	**Update on actions:**	• All JDLs done. • All tech reports done.
Actions & Owner:	N/A	**Time sheets signed off / feedback:**	N/A
Next meeting date/time/location:	2024-02-27 @ 14:30 in UG04	**Next meeting lead/note taker:**	Mark (lead), Mark (secretary)

Table 8: Meeting 11: 90 minutes

Date:	2024-02-27 @ 14:30	**Location:**	UG04, Murray Learning Centre
Meeting Type:	TA Meeting	**Ext. Attendees:**	Katie Potts
Team Attendees:	5/7	**Apologies:**	Samuel, Garance
Meeting Lead:	Mark	**Note Taker:**	Mark
Agenda Items:	• Reviewed generated JDL for website. • Verified that JDL for application is okay. • Verified and skim-read through all tech reports. • Had a discussion about login/user infrastructure. • Discussed and agreed upon a S2 ranking guide for M2 • Agreed we'll discuss the legal stuff on the Friday meeting.	**Update on actions:**	• No updates.
Actions & Owner:	Talk to *someone* about what would be the best way to migrate between the existing JHipster-generated user/login entities and infrastructure, to our own (whether to couple them, or ditch old and remake new). (we'll do this in the Friday lab)	**Time sheets signed off / feedback:**	All team's.
Next meeting date/time/location:	2024-03-01 @ 12:30 in UG04	**Next meeting lead/note taker:**	Mark (lead), Mark (secretary)

Table 9: Meeting 12: 60 minutes

Date:	2024-03-01 @ 12:30	**Location:**	CS Building
Meeting Type:	Regular	**Ext. Attendees:**	N/A
Team Attendees:	5/7	**Apologies:**	Haiwei, Ogieltaziba
Meeting Lead:	Mark	**Note Taker:**	Mark
Agenda Items:	• Ranking S2 submissions for M2. • Bring everyone up to speed on what the MVP feature is and how we'll implement it.	**Update on actions:**	• JDL merging finalised, and user/player entities linked.
Actions & Owner:	• Finish up GDPR form – Rhys • Implement MVP feature, team creation – Mark, Haiwei, Samuel • Finish up DPIA form – Garance, Talha, Ogieltaziba • Get S2 ranking justifications from Haiwei and Ogieltaziba • Get S2 ranking scores from Ogieltaziba	**Time sheets signed off / feedback:**	N/A
Next meeting date/time/location:	2024-03-05 @ 14:00 in UG04	**Next meeting lead/note taker:**	Samuel (lead), Talha (secretary)

Table 10: Meeting 13: 60 minutes

Date:	2024-03-05 @ 14:00	**Location:**	CS Building
Meeting Type:	TA Meeting	**Ext. Attendees:**	Katie Potts
Team Attendees:	6/7	**Apologies:**	Haiwei
Meeting Lead:	Samuel	**Note Taker:**	Talha
Agenda Items:	• GDPR form finalised and included in M2 • DPIA form nearly finished, and linked to M2 • Discussed public/private features for teams/players	**Update on actions:**	• GDPR form finished • MVP feature backend done; frontend partially done • DPIA form 95% done • All ranking justifications obtained • S2 ranking scores all complete
Actions & Owner:	• MVP frontend will be finished by Mark • M2 doc will be finished by Mark • DPIA form will be finished by Garance • testimonial feedback will be obtained by Rhys	**Time sheets signed off / feedback:**	Everyone's
Next meeting date/time/location:	2024-03-08 @ 12:30 in UG04	**Next meeting lead/note taker:**	Samuel (lead), Talha (secretary)

7 S3 Task Allocation & Planning

Although allocation of tasks has not changed, we have refined our tasks and issues on GitLab - adding more, and adding detail. Below are screenshots of each person's Kanban board, along with a screenshot of a universal one:

1. Universal Task List
2. Garance's Task List
3. Haiwei's Task List
4. Mark's Task List
5. Ogieltaziba's Task List
6. Rhys' Task List
7. Samuel's Task List
8. Talha's Task List

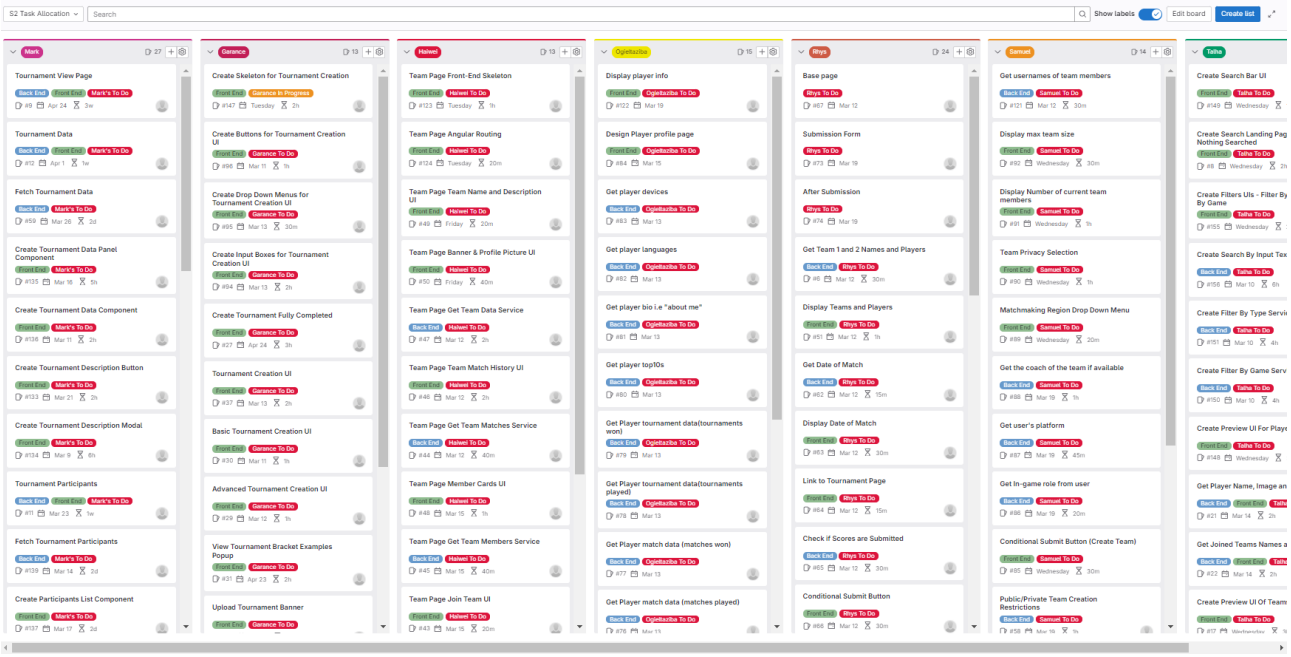

Figure 7: Universal Task List

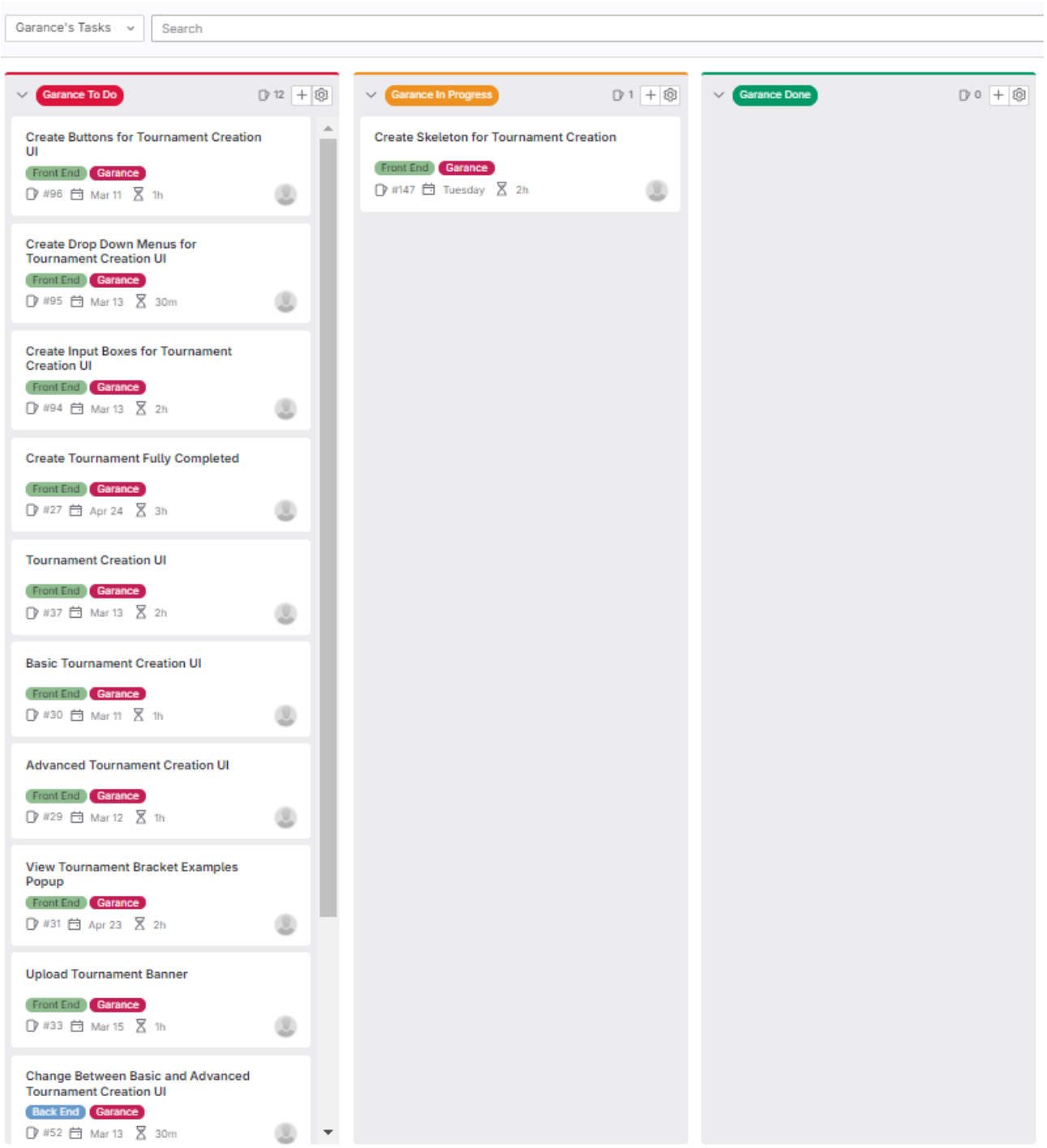

Figure 8: Garance's Task List

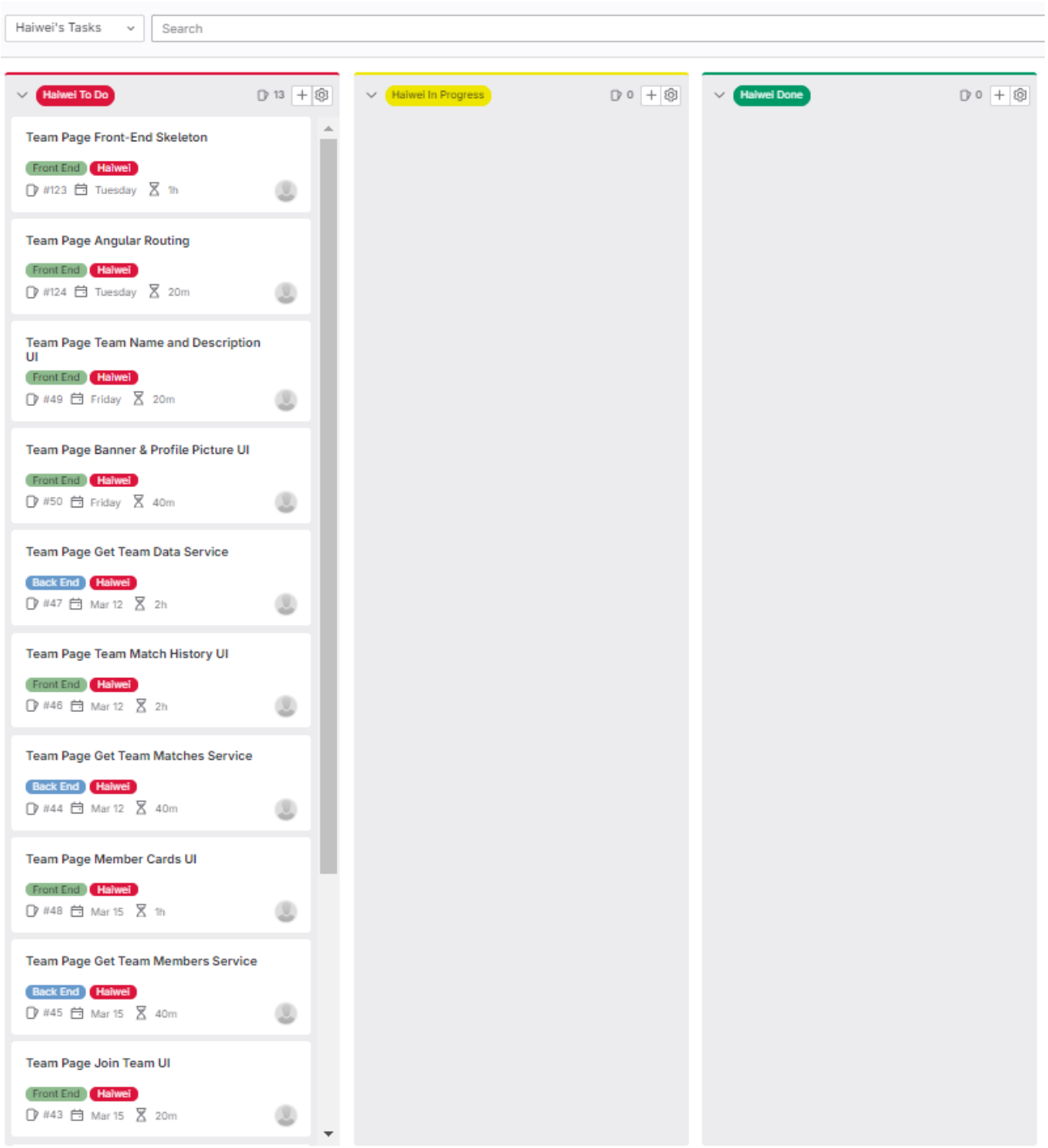

Figure 9: Haiwei's Task List

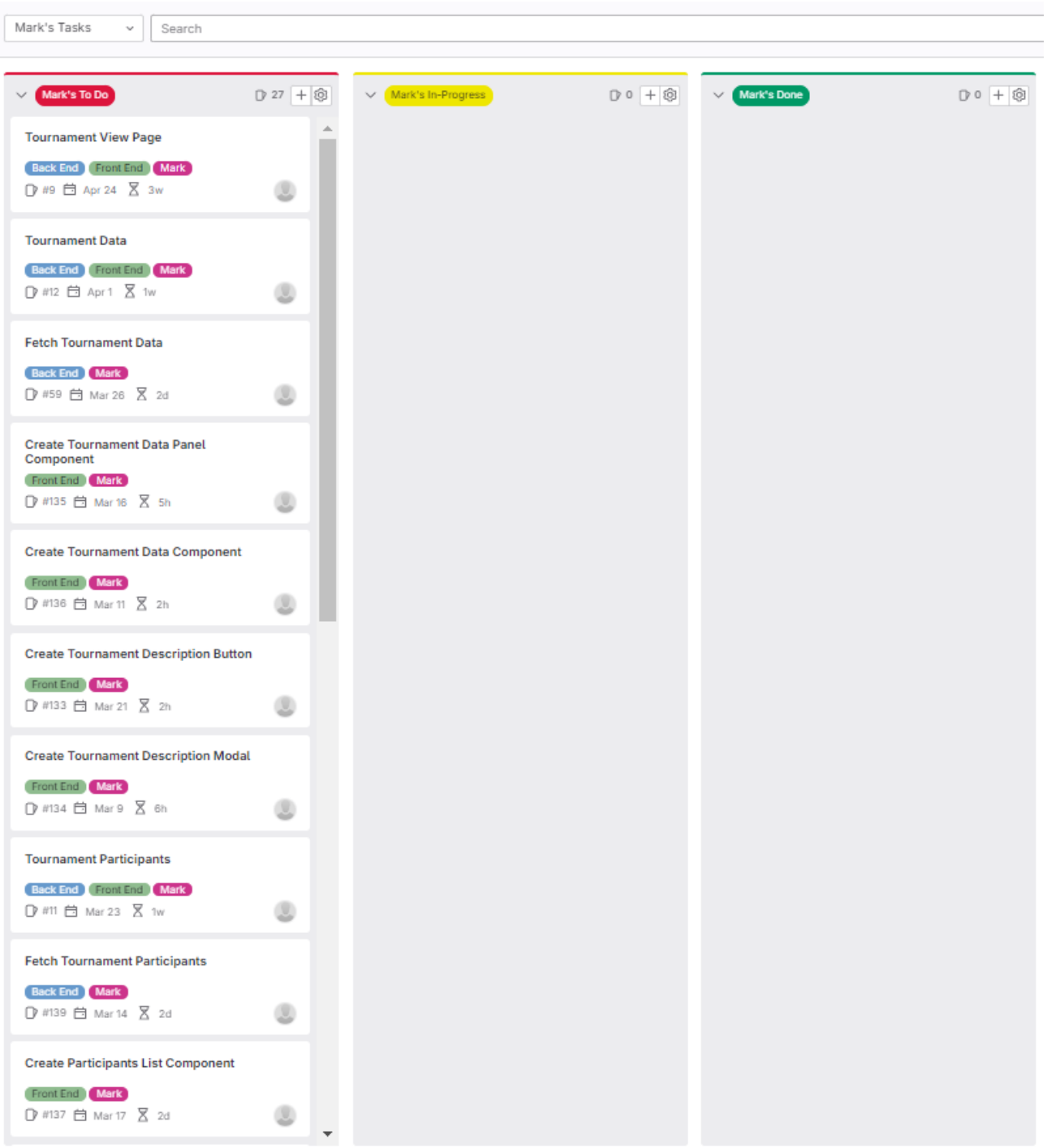

Figure 10: Mark's Task List

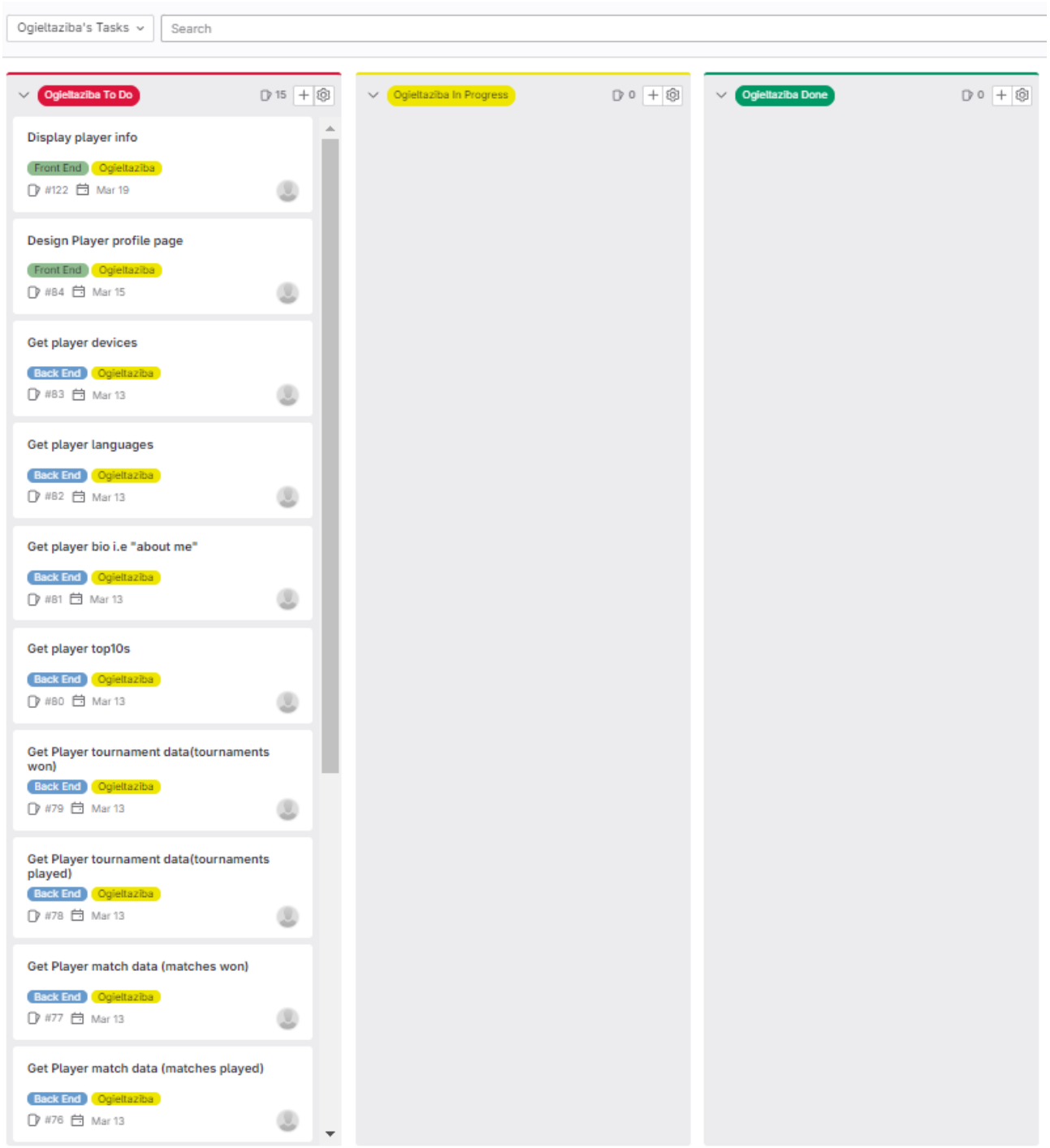

Figure 11: Ogieltaziba's Task List

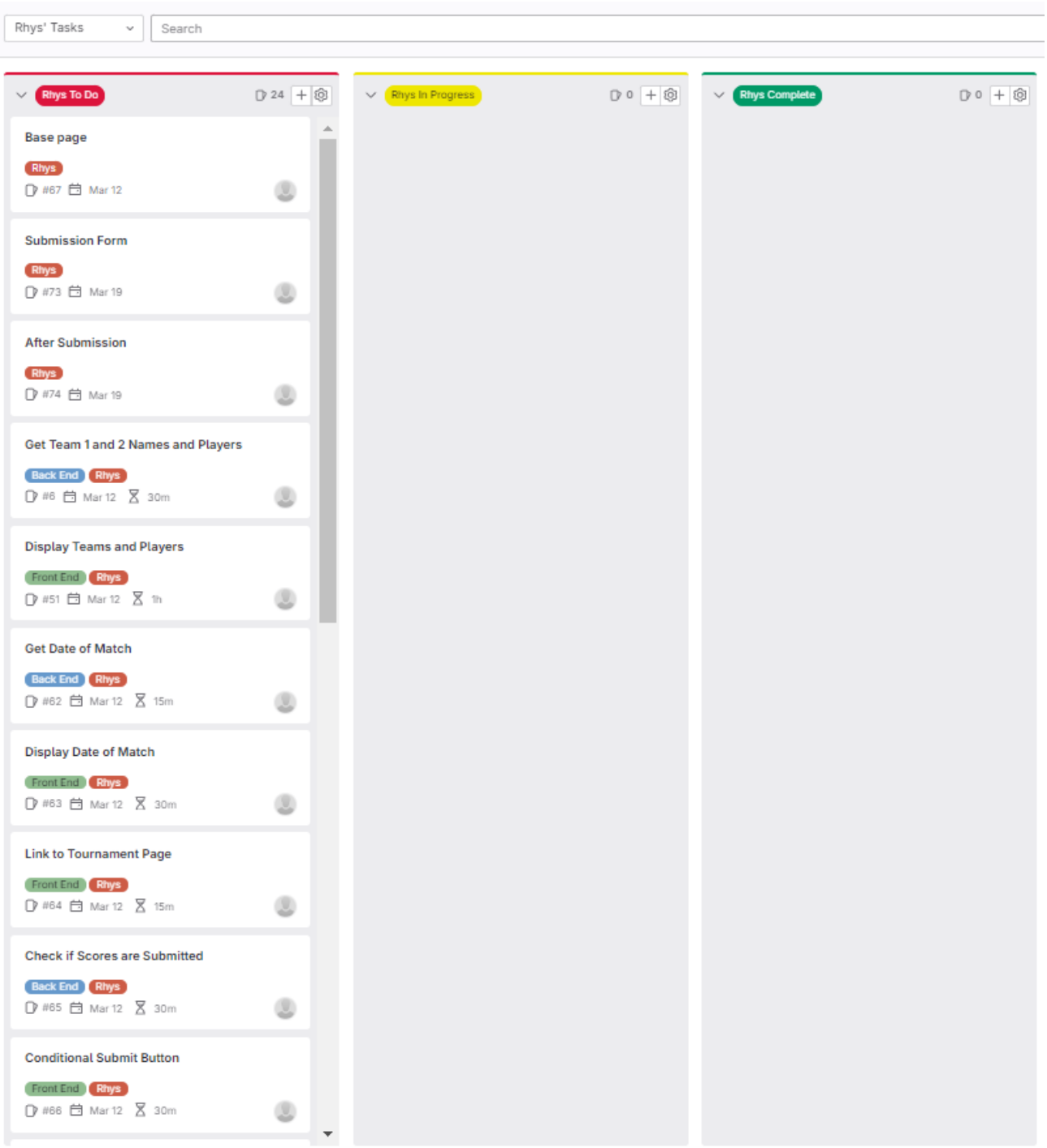

Figure 12: Rhys' Task List

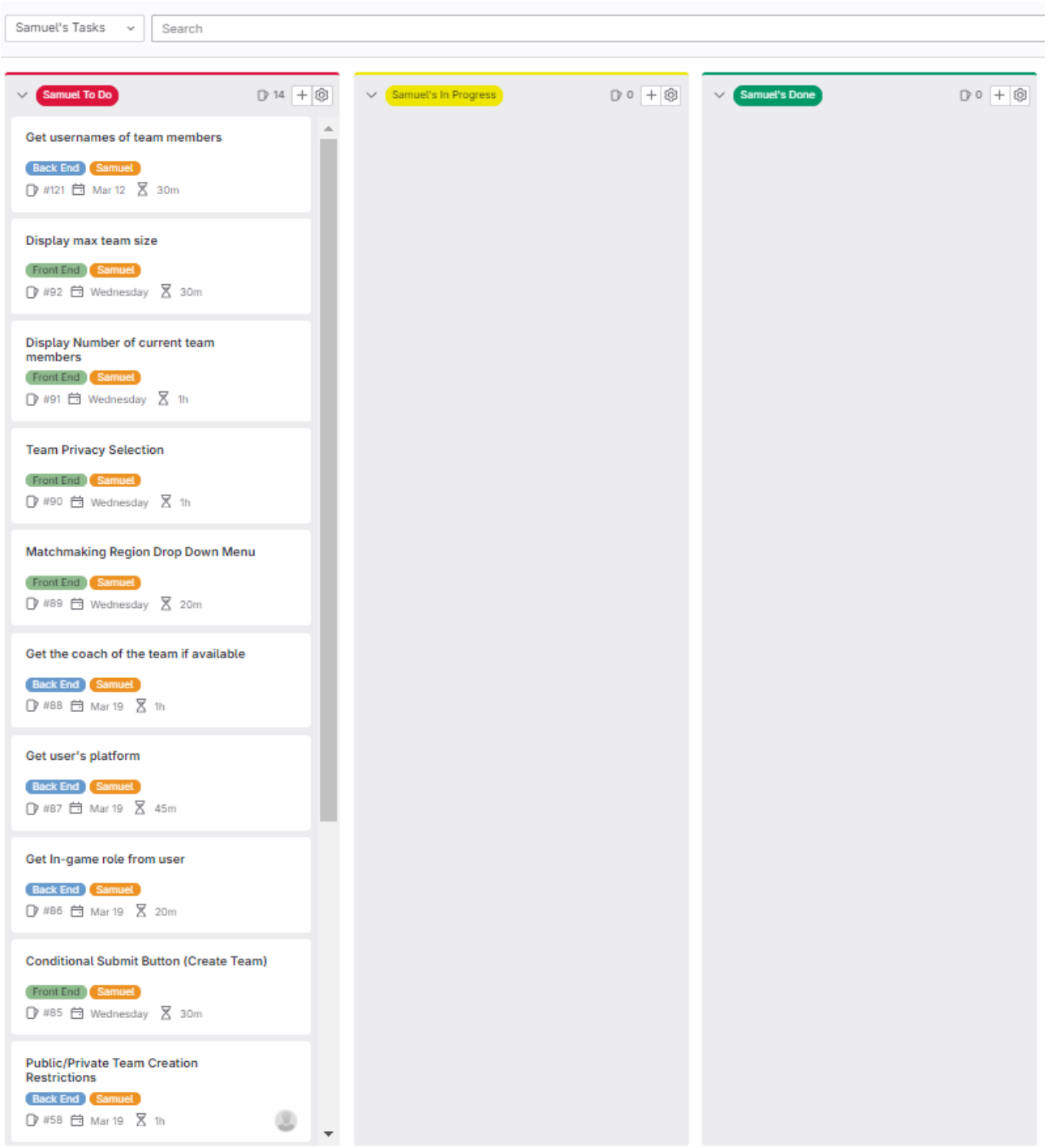

Figure 13: Samuel's Task List

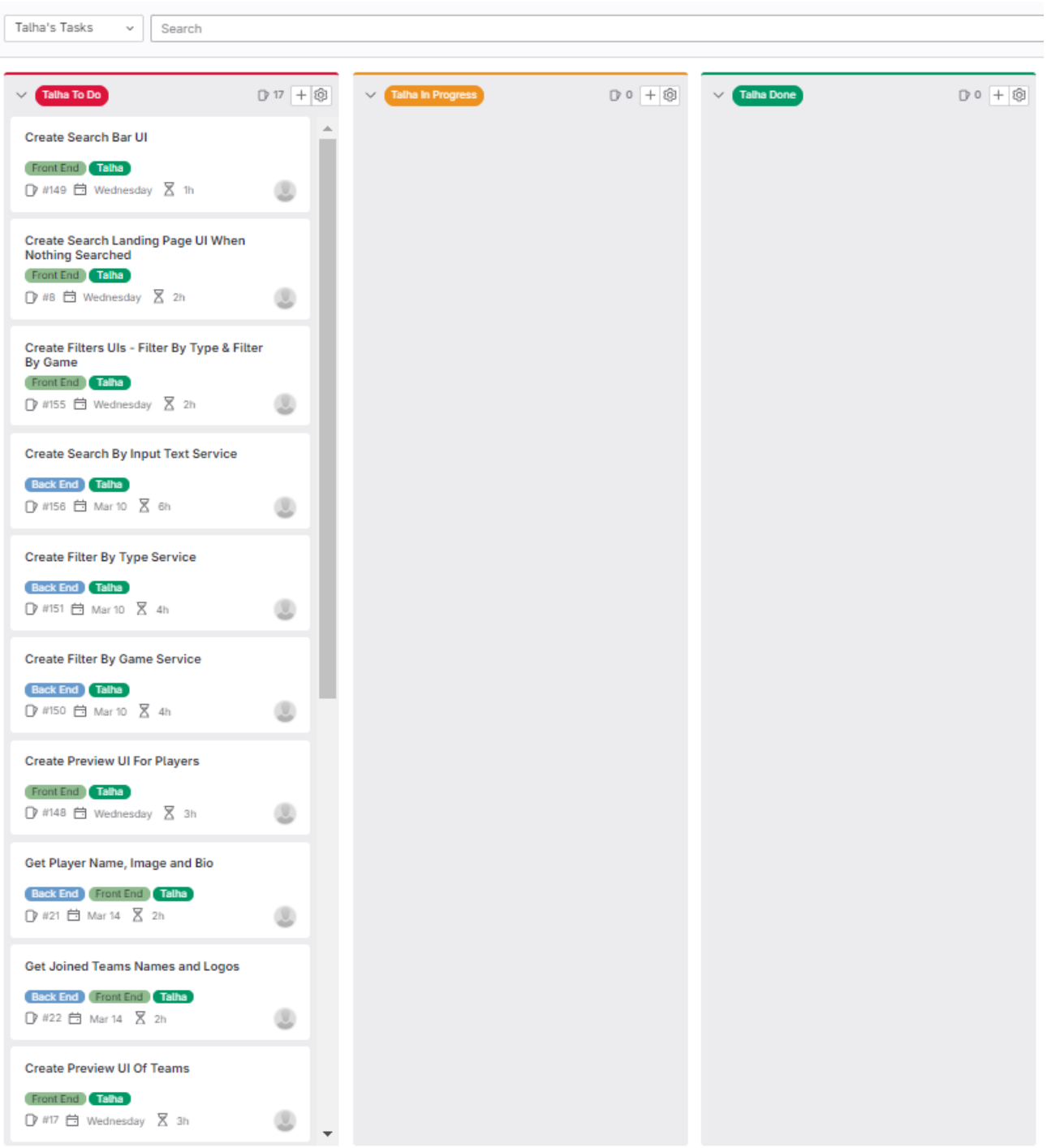

Figure 14: Talha's Task List