

Project assignment 2

Use Case Diagram

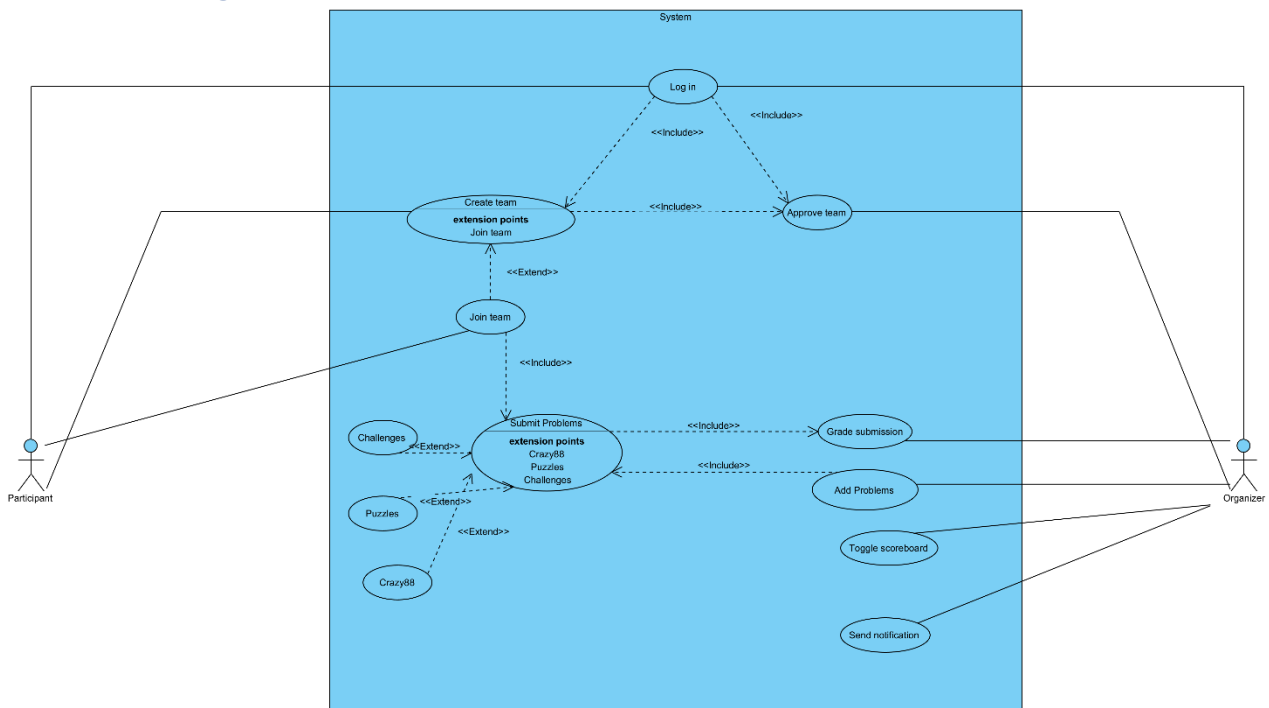


Figure 1 : use case diagram

The use case diagram shows the core functionalities that are available for either a participant or an organizer. A participant can log in, create a team or join an already existing team while on the other hand an organizer will have to approve a team after a team is created.

After joining a team, people can submit the answers to puzzles or crazy 88 assignments and organizers can grade submissions.

Organizers can toggle the scoreboard's visibility for participants, and they can send notifications to participants about changed puzzles for examples.

Class diagram

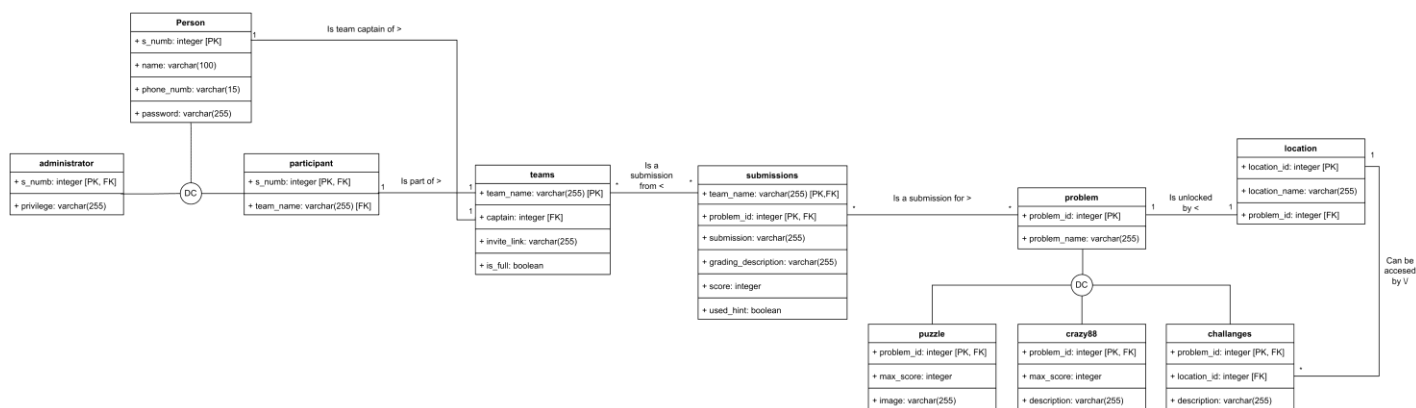


Figure 2 : Class diagram

We decided to make several classes for our project which consists of:

- Person
- Administrator
- Teams
- Submissions
- Problem
- Puzzle
- Crazy88
- Challenges
- Location

The association of the class are implemented in figure 2 which help us to work on the database.

SQL Schema

```

--
-- Name: Notification_description_seq; Type: SEQUENCE; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--

CREATE SEQUENCE dab_di22232b_79."Notification_description_seq"
AS integer
START WITH 1
INCREMENT BY 1
NO MINVALUE
NO MAXVALUE
CACHE 1;
ALTER TABLE dab_di22232b_79."Notification_description_seq" OWNER TO dab_di22232b_79;
--
-- Name: Notification_description_seq; Type: SEQUENCE OWNED BY; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER SEQUENCE dab_di22232b_79."Notification_description_seq" OWNED BY
dab_di22232b_79.notification.description;
--
-- Name: Notification_name_seq; Type: SEQUENCE; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--

```

```

CREATE SEQUENCE dab_di22232b_79."Notification_name_seq"
  AS integer
  START WITH 1
  INCREMENT BY 1
  NO MINVALUE
  NO MAXVALUE
  CACHE 1;
ALTER TABLE dab_di22232b_79."Notification_name_seq" OWNER TO dab_di22232b_79;
--
-- Name: Notification_name_seq; Type: SEQUENCE OWNED BY; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER SEQUENCE dab_di22232b_79."Notification_name_seq" OWNED BY
dab_di22232b_79.notification.name;
--
-- Name: administrator; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.administrator (
  s_numb integer NOT NULL,
  privile character varying(255) NOT NULL
);
ALTER TABLE dab_di22232b_79.administrator OWNER TO dab_di22232b_79;
--
-- Name: challenges; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.challenges (
  problem_id integer NOT NULL,
  location_id integer,
  description text
);
ALTER TABLE dab_di22232b_79.challenges OWNER TO dab_di22232b_79;
--
-- Name: crazy88; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.crazy88 (
  problem_id integer NOT NULL,
  description text
);
ALTER TABLE dab_di22232b_79.crazy88 OWNER TO dab_di22232b_79;
--
-- Name: location; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.location (
  location_id integer NOT NULL,
  location_name character varying(255)
);
ALTER TABLE dab_di22232b_79.location OWNER TO dab_di22232b_79;
--
-- Name: participant; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--

```

```

CREATE TABLE dab_di22232b_79.participant (
    s_numb integer NOT NULL,
    team_name character varying(255) NOT NULL
);
ALTER TABLE dab_di22232b_79.participant OWNER TO dab_di22232b_79;
--
-- Name: person; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.person (
    s_numb integer NOT NULL,
    name character varying(100),
    phone_numb character varying(15),
    password character varying(255),
    salt character varying(255)
);
ALTER TABLE dab_di22232b_79.person OWNER TO dab_di22232b_79;
--
-- Name: problem; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.problem (
    problem_id integer NOT NULL,
    problem_name character varying(255),
    score integer
);
ALTER TABLE dab_di22232b_79.problem OWNER TO dab_di22232b_79;
--
-- Name: puzzles; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.puzzles (
    problem_id integer NOT NULL,
    image character varying(255),
    location_id integer NOT NULL
);
ALTER TABLE dab_di22232b_79.puzzles OWNER TO dab_di22232b_79;
--
-- Name: settings; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.settings (
    name character varying,
    setting boolean
);
ALTER TABLE dab_di22232b_79.settings OWNER TO dab_di22232b_79;
--
-- Name: submission; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.submission (
    team_name character varying(255) NOT NULL,
    problem_id integer NOT NULL,
    submission character varying(255),
    grading_description text,
    score integer,
    used_hint Boolean );

```

```

ALTER TABLE dab_di22232b_79.submission OWNER TO dab_di22232b_79;
--
-- Name: teams; Type: TABLE; Schema: dab_di22232b_79; Owner: dab_di22232b_79
--
CREATE TABLE dab_di22232b_79.teams (
    team_name character varying(255) NOT NULL,
    captain integer NOT NULL,
    invite_link character varying(255),
    is_full boolean,
    approved boolean
);
ALTER TABLE dab_di22232b_79.teams OWNER TO dab_di22232b_79;
--
-- Name: notification name; Type: DEFAULT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.notification ALTER COLUMN name SET DEFAULT
nextval('dab_di22232b_79."Notification_name_seq"::regclass');
--
-- Name: notification description; Type: DEFAULT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.notification ALTER COLUMN description SET
DEFAULT nextval('dab_di22232b_79."Notification_description_seq"::regclass');
--
-- Name: notification Notification_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.notification
    ADD CONSTRAINT "Notification_pkey" PRIMARY KEY ("timestamp");
--
-- Name: administrator administrator_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.administrator
    ADD CONSTRAINT administrator_pkey PRIMARY KEY (s_num);
--
-- Name: challenges challenges_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.challenges
    ADD CONSTRAINT challenges_pkey PRIMARY KEY (problem_id);
--
-- Name: crazy88 crazy88_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.crazy88
    ADD CONSTRAINT crazy88_pkey PRIMARY KEY (problem_id);
--
-- Name: location location_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--

```

```

ALTER TABLE ONLY dab_di22232b_79.location
  ADD CONSTRAINT location_pkey PRIMARY KEY (location_id);
--
-- Name: participant participant_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.participant
  ADD CONSTRAINT participant_pkey PRIMARY KEY (s_num);
--
-- Name: person person_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.person
  ADD CONSTRAINT person_pkey PRIMARY KEY (s_num);
--
-- Name: problem problem_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.problem
  ADD CONSTRAINT problem_pkey PRIMARY KEY (problem_id);
--
-- Name: puzzles puzzles_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.puzzles
  ADD CONSTRAINT puzzles_pkey PRIMARY KEY (problem_id);
--
-- Name: submission submissions_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.submission
  ADD CONSTRAINT submissions_pkey PRIMARY KEY (team_name, problem_id);
--
-- Name: teams teams_pkey; Type: CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.teams
  ADD CONSTRAINT teams_pkey PRIMARY KEY (team_name);
--
-- Name: administrator administrator_s_num_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.administrator
  ADD CONSTRAINT administrator_s_num_fkey FOREIGN KEY (s_num) REFERENCES
dab_di22232b_79.person(s_num);
--
-- Name: challenges challenges_location_id_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.challenges
  ADD CONSTRAINT challenges_location_id_fkey FOREIGN KEY (location_id)
REFERENCES dab_di22232b_79.location(location_id);

```

```

--
-- Name: challenges challenges_problem_id_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.challenges
  ADD CONSTRAINT challenges_problem_id_fkey FOREIGN KEY (problem_id)
REFERENCES dab_di22232b_79.problem(problem_id);
--
-- Name: crazy88 crazy88_problem_id_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.crazy88
  ADD CONSTRAINT crazy88_problem_id_fkey FOREIGN KEY (problem_id) REFERENCES
dab_di22232b_79.problem(problem_id);
--
-- Name: puzzles location_id; Type: FK CONSTRAINT; Schema: dab_di22232b_79; Owner:
dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.puzzles
  ADD CONSTRAINT location_id FOREIGN KEY (location_id) REFERENCES
dab_di22232b_79.location(location_id);
--
-- Name: notification notification_team_name_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.notification
  ADD CONSTRAINT notification_team_name_fkey FOREIGN KEY (team_name)
REFERENCES dab_di22232b_79.teams(team_name);
--
-- Name: participant participant_s_numb_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.participant
  ADD CONSTRAINT participant_s_numb_fkey FOREIGN KEY (s_numb) REFERENCES
dab_di22232b_79.person(s_numb);
--
-- Name: participant participant_team_name_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.participant
  ADD CONSTRAINT participant_team_name_fkey FOREIGN KEY (team_name)
REFERENCES dab_di22232b_79.teams(team_name);
--
-- Name: puzzles puzzles_problem_id_fkey; Type: FK CONSTRAINT; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.puzzles
  ADD CONSTRAINT puzzles_problem_id_fkey FOREIGN KEY (problem_id) REFERENCES
dab_di22232b_79.problem(problem_id);

```

```

--
-- Name: submission submissions_problem_id_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.submission
  ADD CONSTRAINT submissions_problem_id_fkey FOREIGN KEY (problem_id)
REFERENCES dab_di22232b_79.problem(problem_id);
--
-- Name: submission submissions_team_name_fkey; Type: FK CONSTRAINT; Schema:
dab_di22232b_79; Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.submission
  ADD CONSTRAINT submissions_team_name_fkey FOREIGN KEY (team_name)
REFERENCES dab_di22232b_79.teams(team_name);
--
-- Name: teams teams_captain_fkey; Type: FK CONSTRAINT; Schema: dab_di22232b_79;
Owner: dab_di22232b_79
--
ALTER TABLE ONLY dab_di22232b_79.teams
  ADD CONSTRAINT teams_captain_fkey FOREIGN KEY (captain) REFERENCES
dab_di22232b_79.person(s_numb);

```

Prototype

We decided to design every page of the project so that we have a good vision for us to work on the front-end. Most of the design we use blue color as primary color and white color as secondary color because those color are represented as Inter-Actief. We use Figma for our design applications which help us more effectively work parallel with other members. We also plan our website is responsive which can be held on the phone as well for committee members or user members.

Home page design

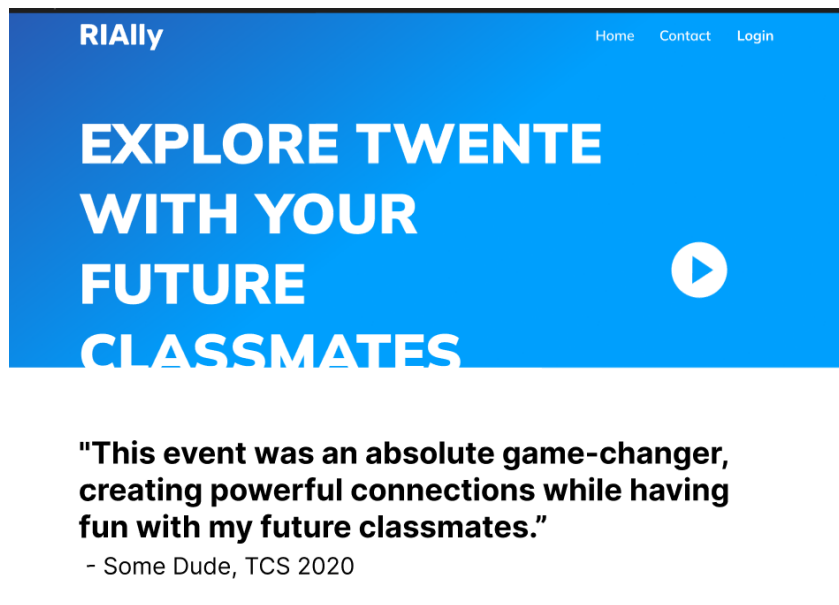


Figure 3: Home page design

The home page has a typical slogan and positive reviews/comments from past attendees. The client wished for the design to be blue, so we decided to make it primarily with blue and white. All of the pages are included with a navbar that is unique for players and committee members.

Login Page

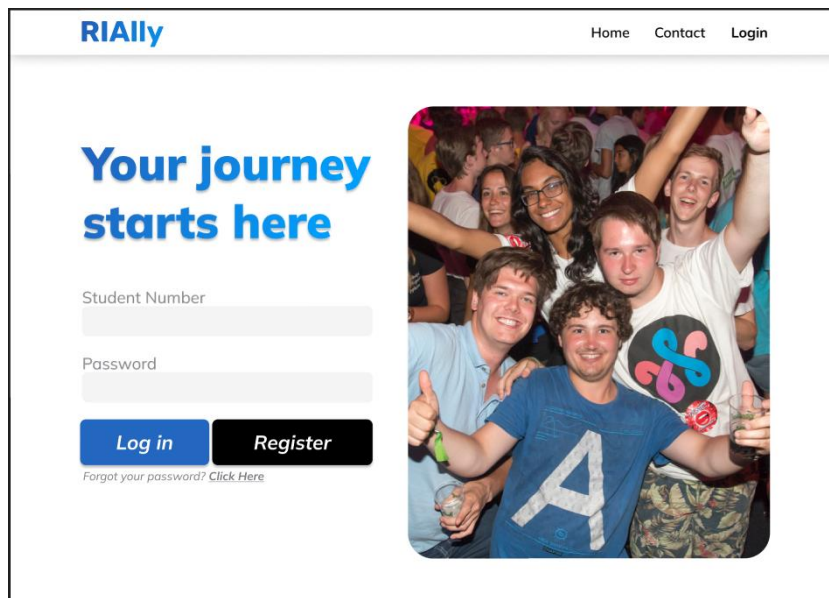


Figure 4: Login Page

Our login page has a login button and a registration button in case a user has not made an account yet.

Team Page

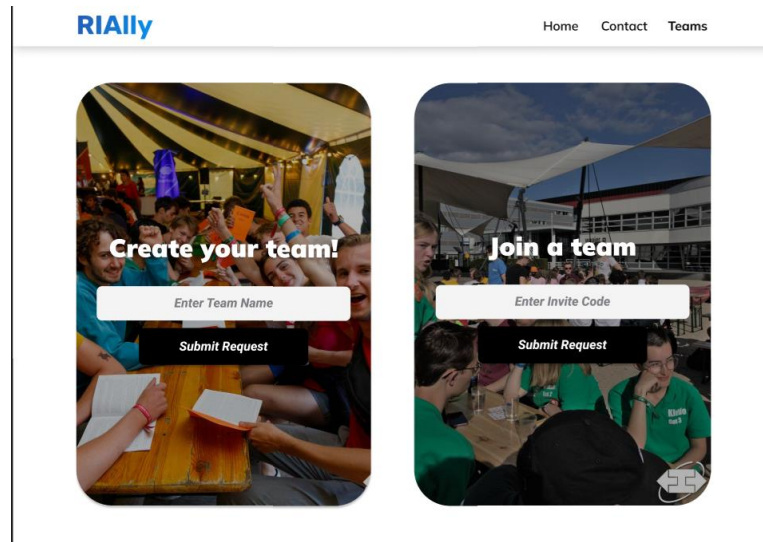


Figure 5: Joining team page

When a user has logged in as a player for the first time, they are not a part of a team yet, so they have an option to create a team which will be either approved or declined from the committee or join an already approved team with a join code that the specific team's captain shares.

Contact page

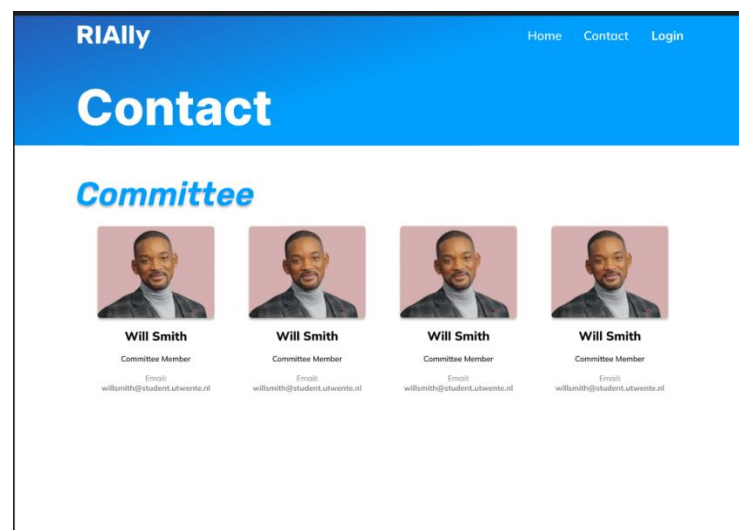
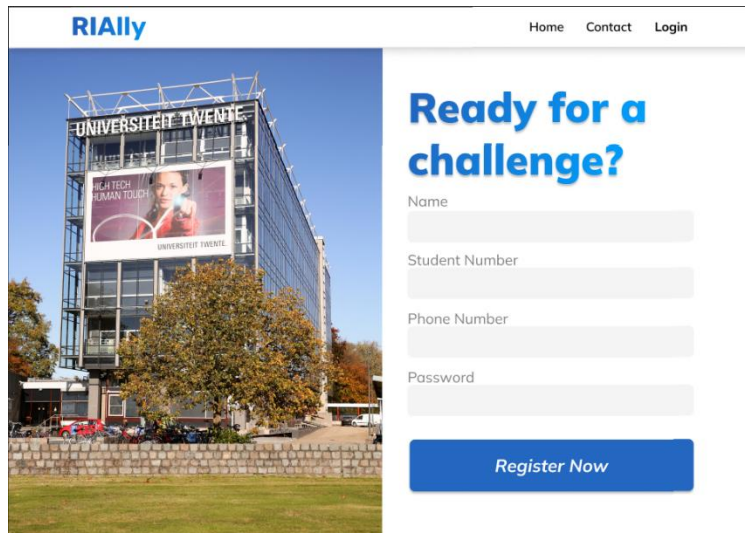


Figure 6: Contact page

The contact page is just a simple page for showing the committee members and their contact information.

Registration page

The registration page features a header with the 'RIAlly' logo and navigation links for 'Home', 'Contact', and 'Login'. On the left, there is a large image of a modern building with a 'UNIVERSITEIT TWENTE' sign and a poster that reads 'HIGH TECH HUMAN TOUCH'. The right side of the page contains a registration form with the heading 'Ready for a challenge?'. The form includes input fields for 'Name', 'Student Number', 'Phone Number', and 'Password', followed by a blue 'Register Now' button.

RIAlly Home Contact Login

Ready for a challenge?

Name

Student Number

Phone Number

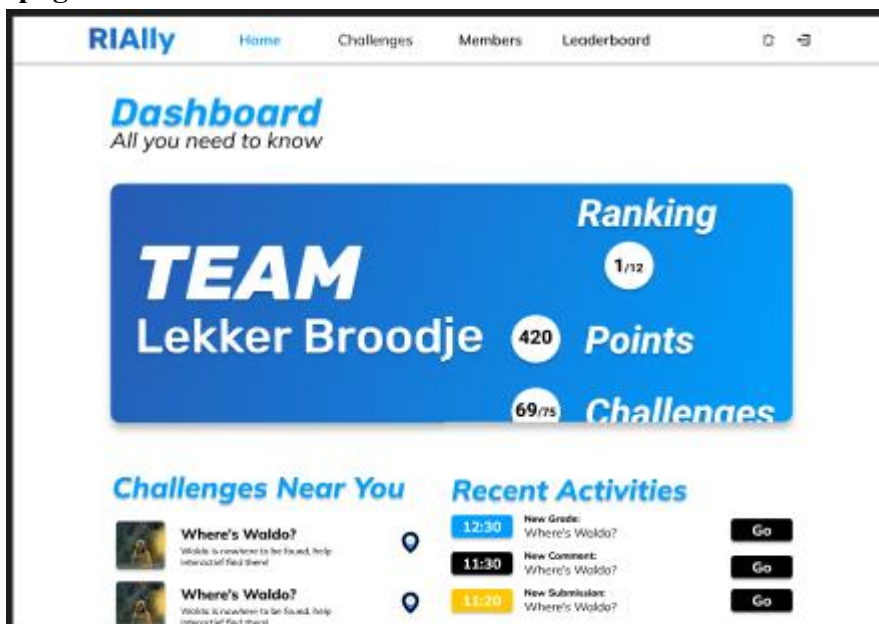
Password

Register Now

Figure 7: Registration page

If a user has not registered yet, he can navigate to this registration page. The user needs to fill out information about his name, student number, phone number and password.

Dashboard user page

The dashboard user page has a header with the 'RIAlly' logo and navigation links for 'Home', 'Challenges', 'Members', and 'Leaderboard'. The main content area is titled 'Dashboard All you need to know'. It features a large blue box displaying the team's ranking: 'TEAM Lekker Broodje' with a ranking of '1/12', '420 Points', and '69/75 Challenges'. Below this, there are two sections: 'Challenges Near You' and 'Recent Activities'. The 'Challenges Near You' section lists two 'Where's Waldo?' challenges with location pins. The 'Recent Activities' section lists three activities: 'New Grade: Where's Waldo?', 'New Comment: Where's Waldo?', and 'New Submission: Where's Waldo?', each with a timestamp and a 'Go' button.

RIAlly Home Challenges Members Leaderboard

Dashboard
All you need to know

TEAM
Lekker Broodje **420 Points**
1/12 Ranking
69/75 Challenges

Challenges Near You

- Where's Waldo?**
Waldo is nowhere to be found, help intercept him there!
- Where's Waldo?**
Waldo is nowhere to be found, help intercept him there!

Recent Activities

- 12:30** New Grade: Where's Waldo? **Go**
- 11:30** New Comment: Where's Waldo? **Go**
- 11:30** New Submission: Where's Waldo? **Go**

Figure 8: Dashboard user page

We decided to make dashboard consist of ranking of the team, the challenges that we can access on that time, and the last challenge that already been submitted. In the navigation bar, we have challenges, members and Leaderboard. We still use our dominant color (blue) for the Dashboard user page.

Challenge page

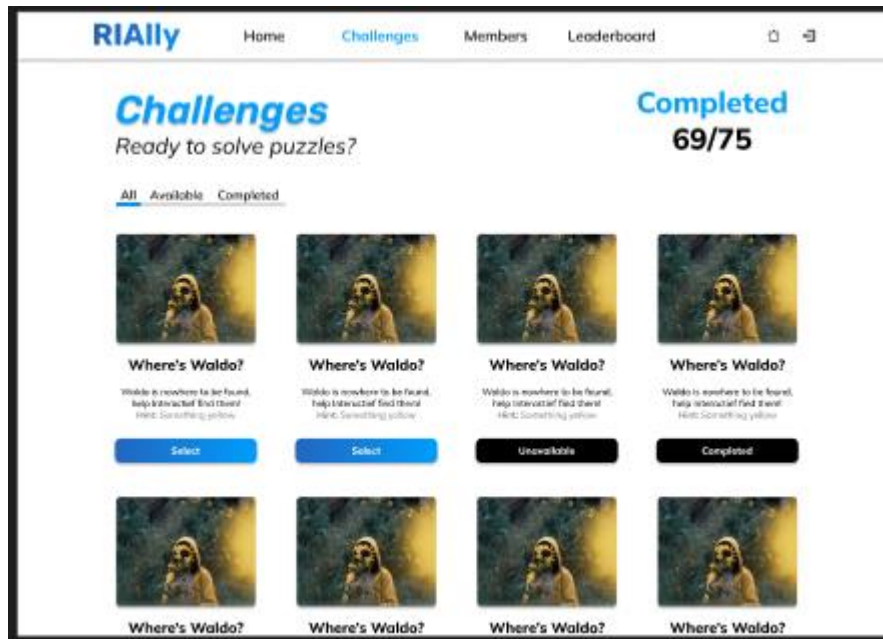


Figure 9: Challenge page

The challenges page consists of 3 tabs filled with cards that are the challenges. Some challenges are locked which means clicking them doesn't do anything. When an unlocked challenge is clicked, it will navigate to the specific challenge's own page.

Specific Challenge page

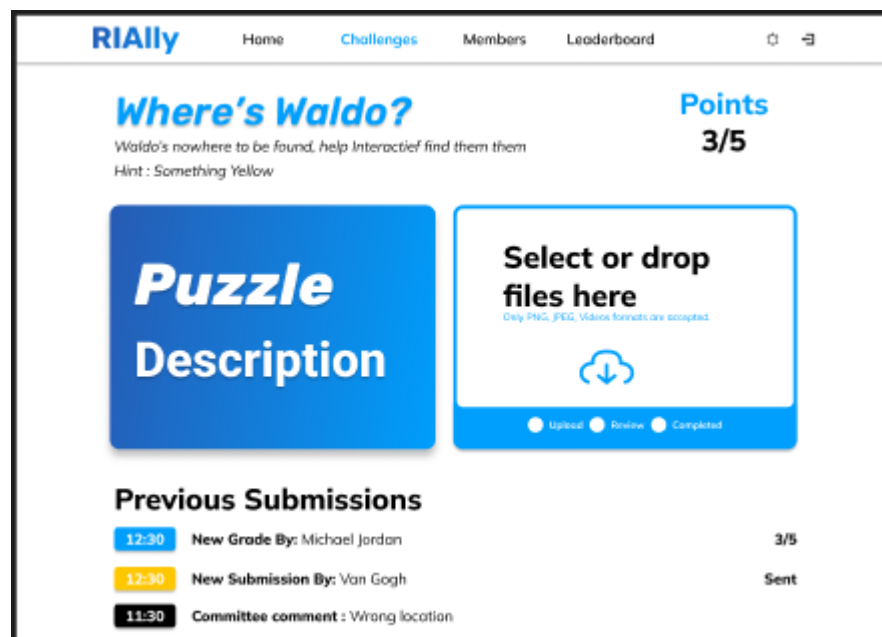


Figure 10: Specific Challenge page

On the specific challenge page, the user can see all the information about the challenge in question. User can also upload a file to submit to complete the challenge.

Captain Member page

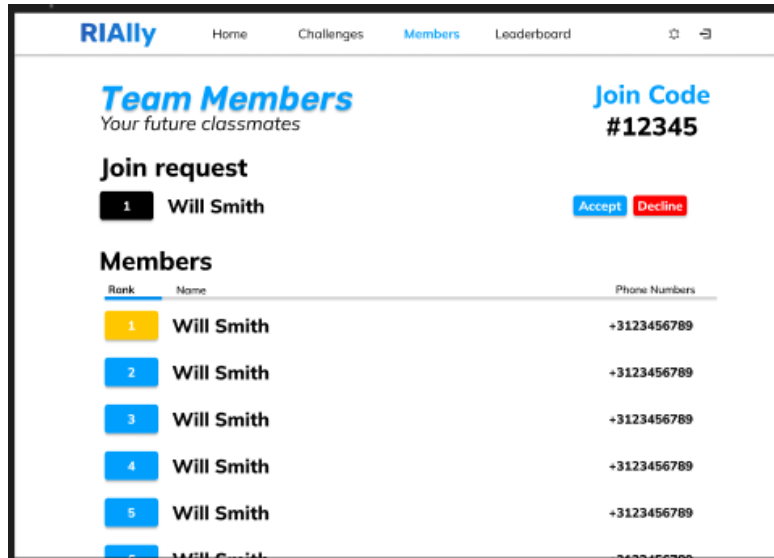


Figure 11: Captain page

This page is the same as team members page but from the team captain's viewpoint. Team captain has an option accept incoming join requests from other players.

Members page

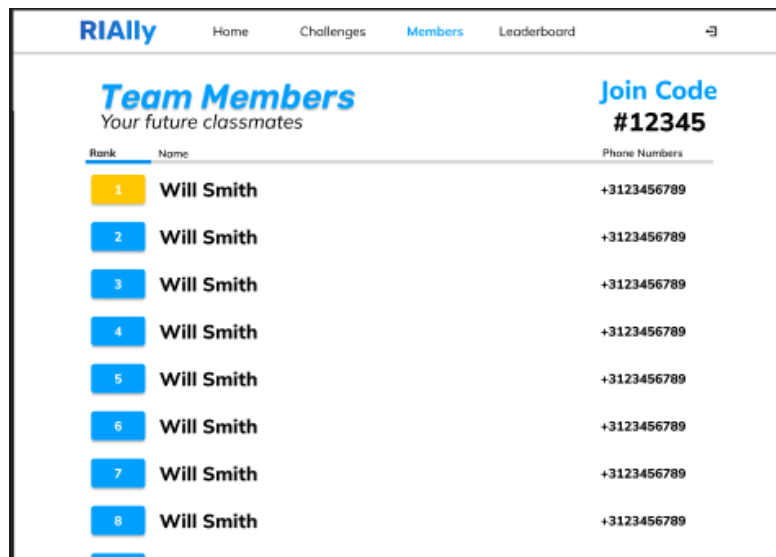


Figure 12: Team member page

Team member page from the member's point of view. They can see their team members and phone numbers but cannot see incoming join requests.

Dashboard Committee page

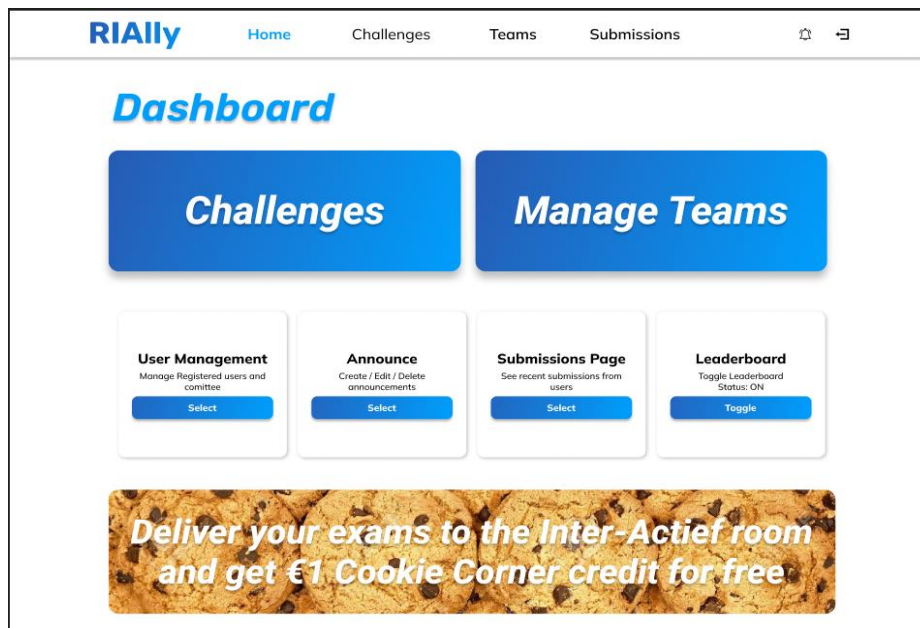


Figure 13: Dashboard Committee page

For the Dashboard Committee page, we can see everything for the RIAIly needed such as challenge, submissions from the user, leaderboard, teams, user management, and announcement.

Challenges Committee page

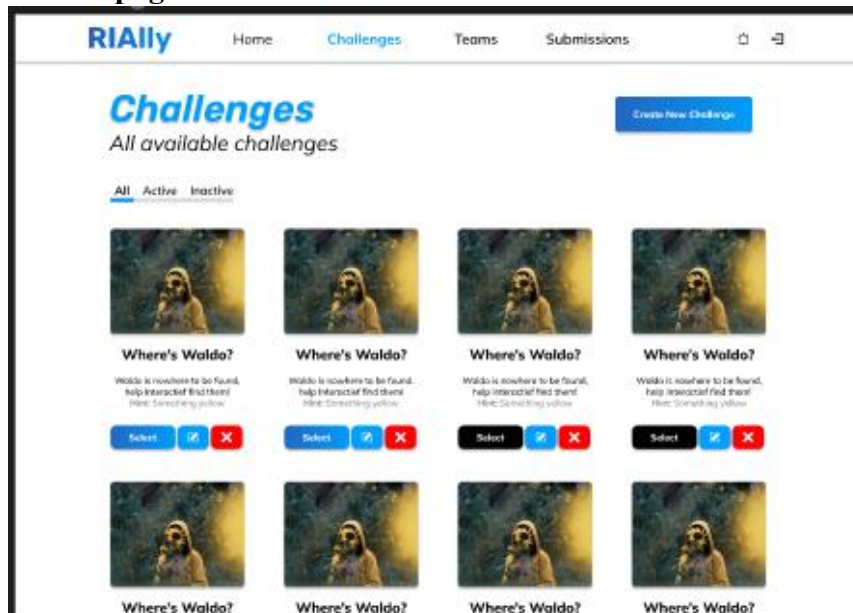


Figure 14: Challenge Committee page

Committee members can make and delete challenges in Challenge Committee page.

Specific Challenges Committee page

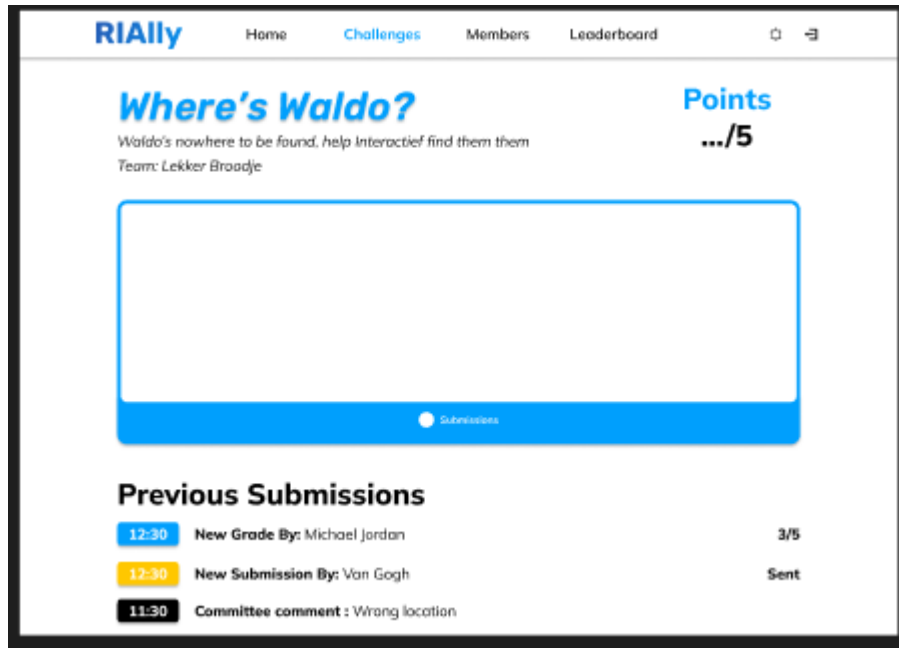


Figure 15: Specific Challenges Committee page

In this page we have it similar the user page, but in here the committee member can edit the challenge and grade the submission so that the players know if the submission has been graded and approved.

Submission Committee page

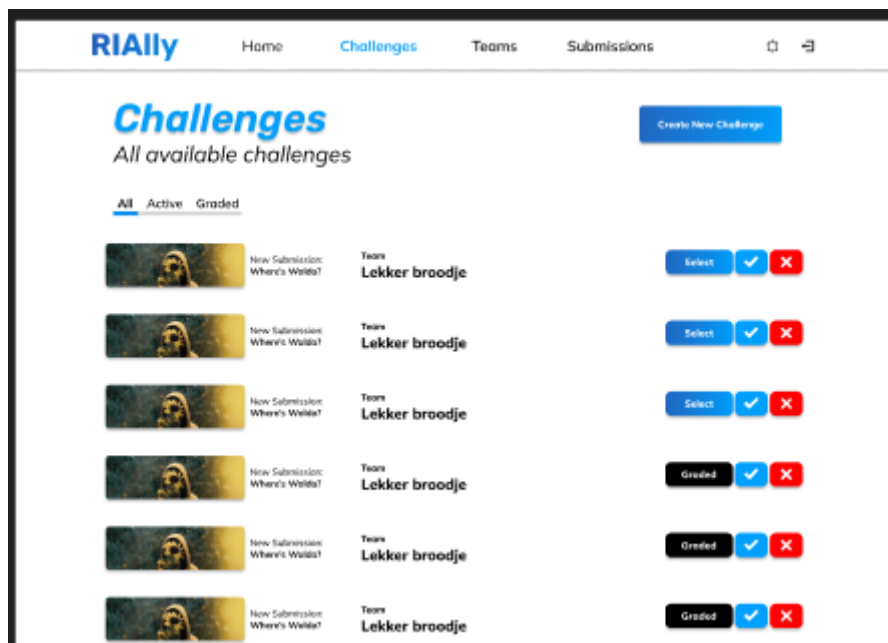
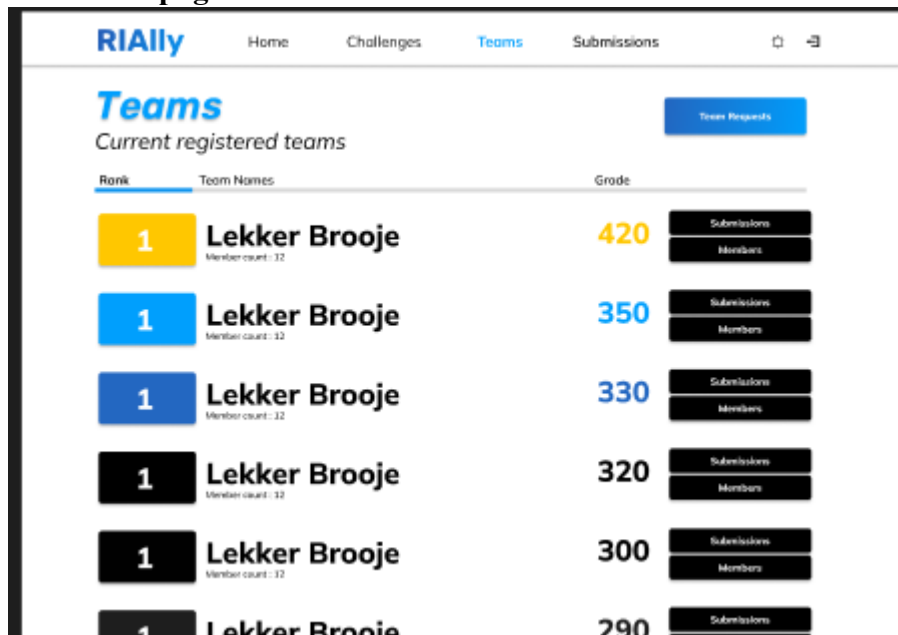


Figure 16: Submission Committee page

Submission Committee page shows which team has made a submission. Committee members can cancel their submission and add new challenges in here.

Leaderboard Committee page



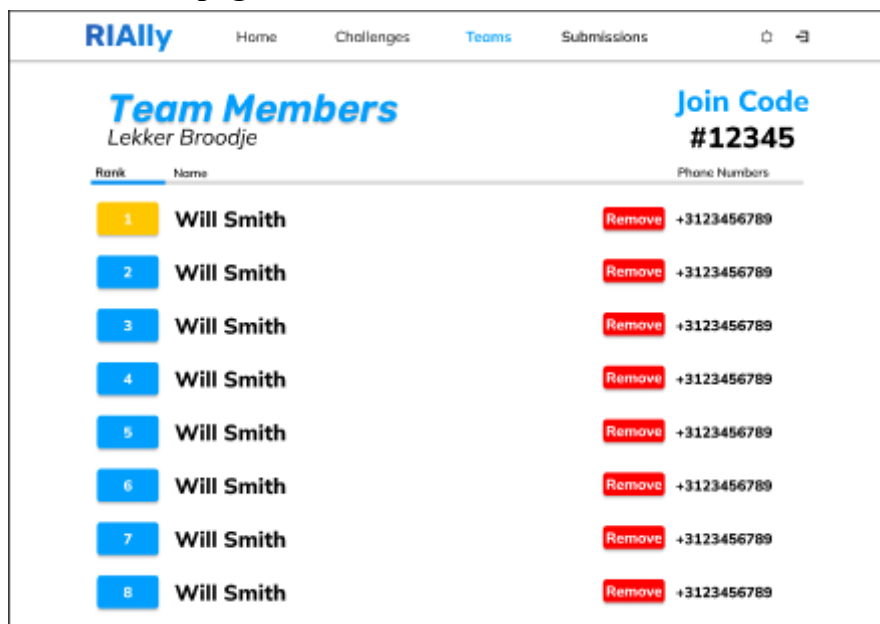
The screenshot shows the 'Teams' page on the RIAIly website. The header includes the RIAIly logo and navigation links: Home, Challenges, Teams (active), and Submissions. Below the header, the page title is 'Teams' with the subtitle 'Current registered teams'. A 'Team Requests' button is in the top right. The main content is a table with columns: Rank, Team Names, Grade, and two buttons: Submissions and Members. The table lists five teams, all named 'Lekker Brooje', with member counts of 12. The grades are 420, 350, 330, 320, and 300. The ranks are 1, 1, 1, 1, and 1 respectively.

Rank	Team Names	Grade	Submissions	Members
1	Lekker Brooje Member count : 12	420	Submissions	Members
1	Lekker Brooje Member count : 12	350	Submissions	Members
1	Lekker Brooje Member count : 12	330	Submissions	Members
1	Lekker Brooje Member count : 12	320	Submissions	Members
1	Lekker Brooje Member count : 12	300	Submissions	Members
1	Lekker Brooje Member count : 12	290	Submissions	Members

Figure 17: Leaderboard Committee page

In leaderboard committee page, the committee members can toggle the scoreboard to be visible for the players or not. Other than that, we have same function and page with the player side of the Leaderboard page.

Team Members Committee page



The screenshot shows the 'Team Members' page on the RIAIly website. The header includes the RIAIly logo and navigation links: Home, Challenges, Teams (active), and Submissions. Below the header, the page title is 'Team Members' with the subtitle 'Lekker Broodje'. A 'Join Code #12345' is displayed in the top right. The main content is a table with columns: Rank, Name, and Phone Numbers. The table lists eight members, all named 'Will Smith', with phone numbers starting with +3123456789. The ranks are 1, 2, 3, 4, 5, 6, 7, and 8 respectively. Each row has a 'Remove' button.

Rank	Name	Phone Numbers
1	Will Smith	Remove +3123456789
2	Will Smith	Remove +3123456789
3	Will Smith	Remove +3123456789
4	Will Smith	Remove +3123456789
5	Will Smith	Remove +3123456789
6	Will Smith	Remove +3123456789
7	Will Smith	Remove +3123456789
8	Will Smith	Remove +3123456789

Figure 18: Team Members Committee page

Team Members Committee page have similar functions with the captain, however the committee can kick or remove the members who are need to be removed and the captain.

Mobile Home page

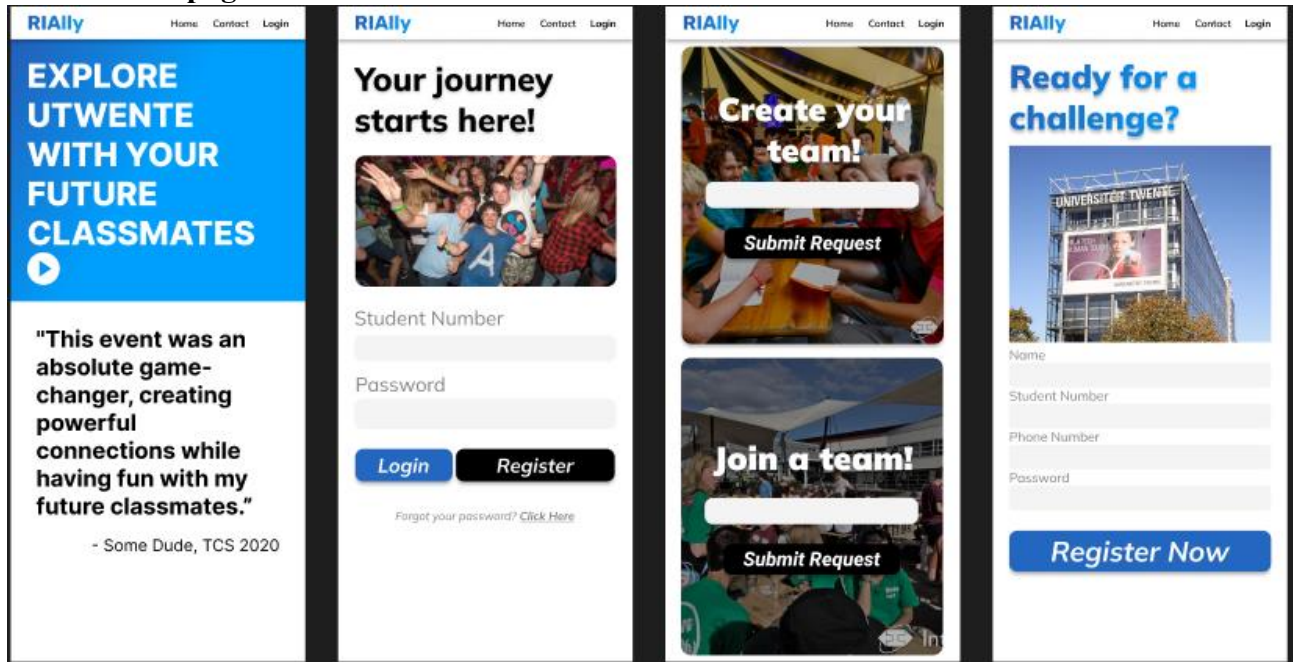


Figure 19: Mobile Home page

Since we have responsive website, we can use it on the mobile. There is no huge different with the home page itself.

Mobile User page

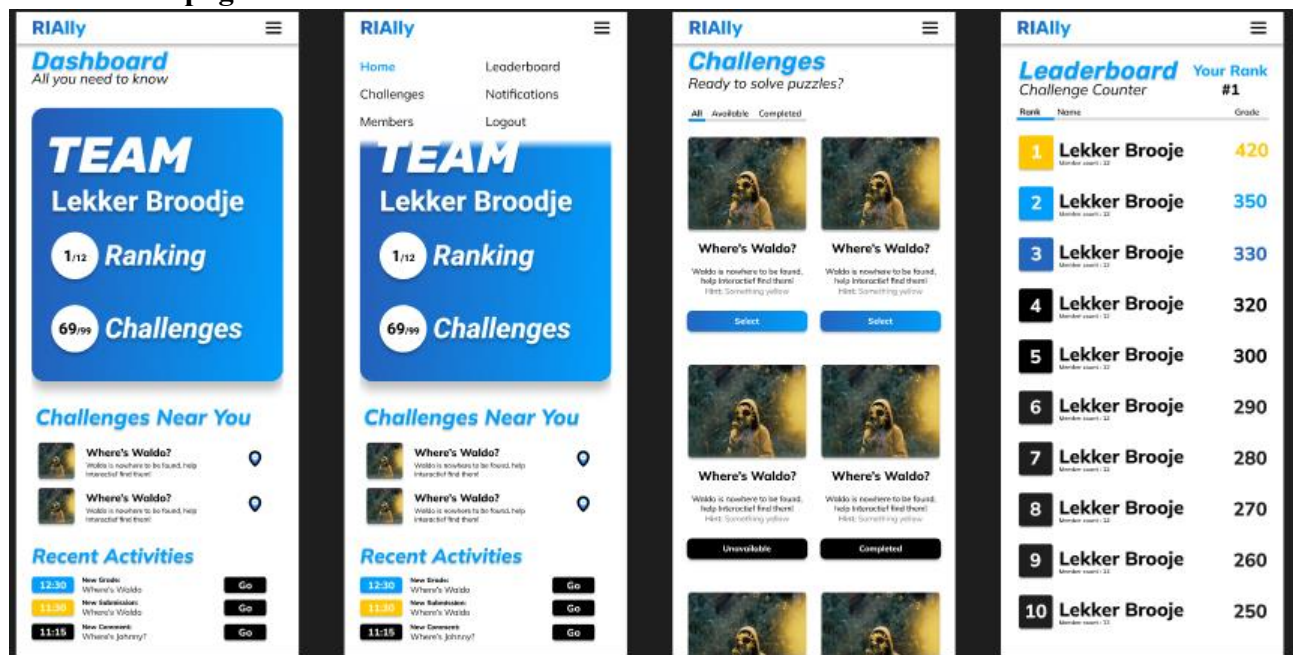


Figure 20: Mobile User page

In Mobile User page, we have 3 stripes on the top right with the function as navigation bar. If we press it, there will be home, challenge, members, leaderboard, notification, and logout. Thus, there is no big difference.

Mobile Committee page

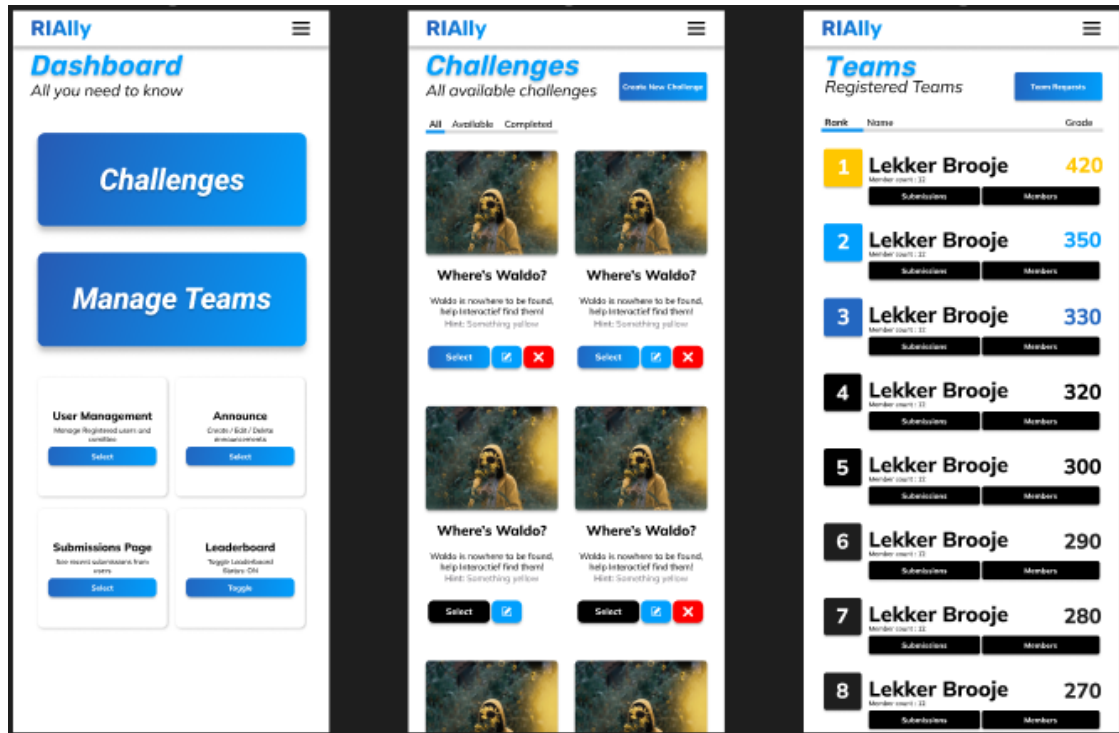


Figure 21: Mobile Committee page

In this page we have same as everything on committee, however the navigation bar become 3 stripes on the top right.