Event Hosting Website

PROJECT REPORT for

CSE3002-Internet and Web Programming

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To

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BACHELOR OF TECHNOLOGY

in

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ABSTRACT

To create a functional Contest hosting website using Django that can handle all types of contests and act as a link between organizers and participants. It should also provide optional revenue for organizers through advertisements. It should dynamically transition UI based on the contest and so make it a more user-friendly interface.

Django uses the MVC programming paradigm that is Model View Controller which makes adding new models and templates easier. Apart from that Django has an inbuilt validation system that enables us to have more control over the form fields. Also, Django is pretty secure due to its PBKDF2SHA1 password hasher

Also, Django has many modules which give us more control over its dynamic models, classes, forms, views and handling its admin interface

Further, we used materialize CSS for giving a glossy tint to our UI which makes it appear more user friendly and futuristic

INTRODUCTION

With the online mode of event hosting on the rise, a multipurpose site where we can host any competitions and participate in events is much needed. Our site aims to bring a user-friendly environment to the users and to nullify the requirement of multiple websites for different competitions. For this, we decided to use a python based Dynamic Web Development environment, Django. The advantages of python apply to Django too, thus we were able to work more on the UX/UI design and reduce the time spent on management and backend coding through simple and efficient python codes.

Requirements

Functional Requirements

- 1. Foolproof voting system
- 2. Scalable server for uploads
- 3. Contest Interfaces and its data
- 4. Interface Switching mechanism for various contests
- 5. A smart searching mechanism to search based on history
- 6. A secure payment system
- 7. Enrollment of an advertisement company
- 8. Entry verification system and plagiarism check

Non Functional Requirements

- 1. Backend team for customer support
- 2. Periodic Contest Engine support
- 3. Contest database and library management
- 4. Social media link for sharing and login
- 5. Algorithm to merge similar Contest and to search for duplicates in all entries.
- 6. An easy to use UI that is dynamic to contest and responsive to all devices.
- 7. Smoothing the transition between advertisement based and advertisement free options based on cookies and cache
- 8. Periodic transition and updating of the application
- 9. Scaling the application to various platforms

Setup Required

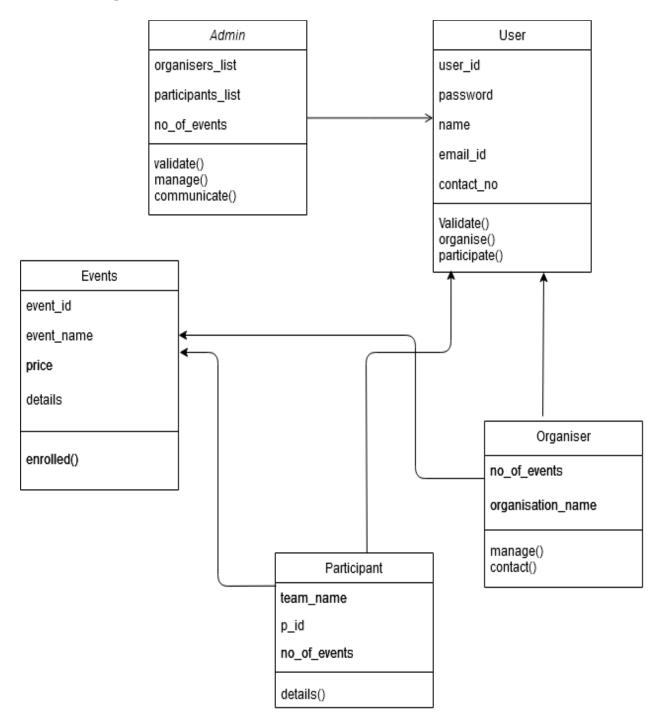
- 1. Python
- 2. Pip
- 3. Virtualenv
- 4. Django
- 5. Database (SQLite)
- 6. Texteditor (Notepad++)
- 7. Browser

Packages Required

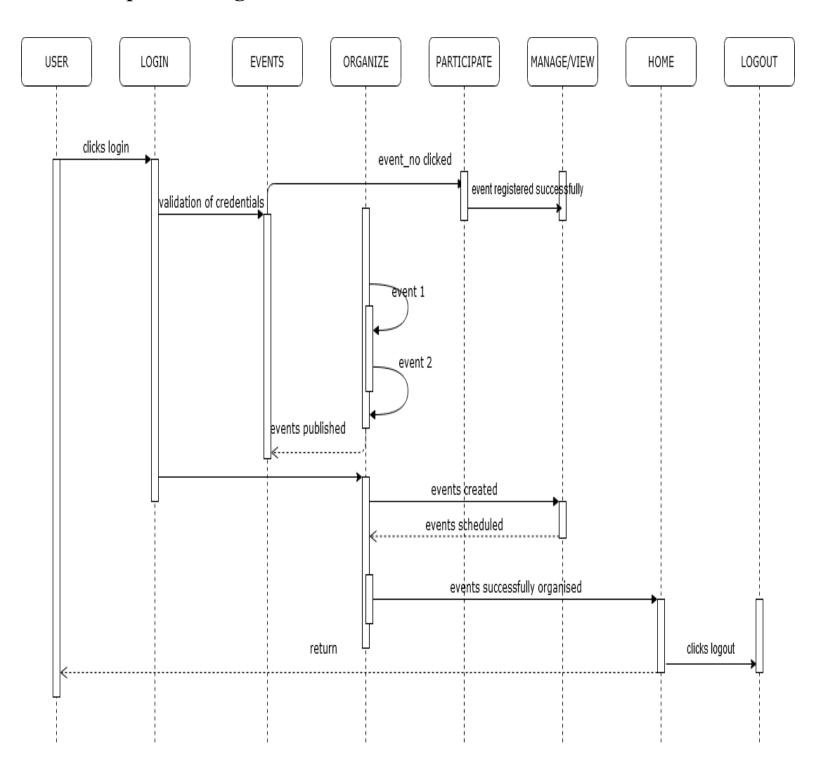
- 1. MaterializeCSS
- 2. Crispy Forms
- 3. TinyMCE

Design Diagrams:

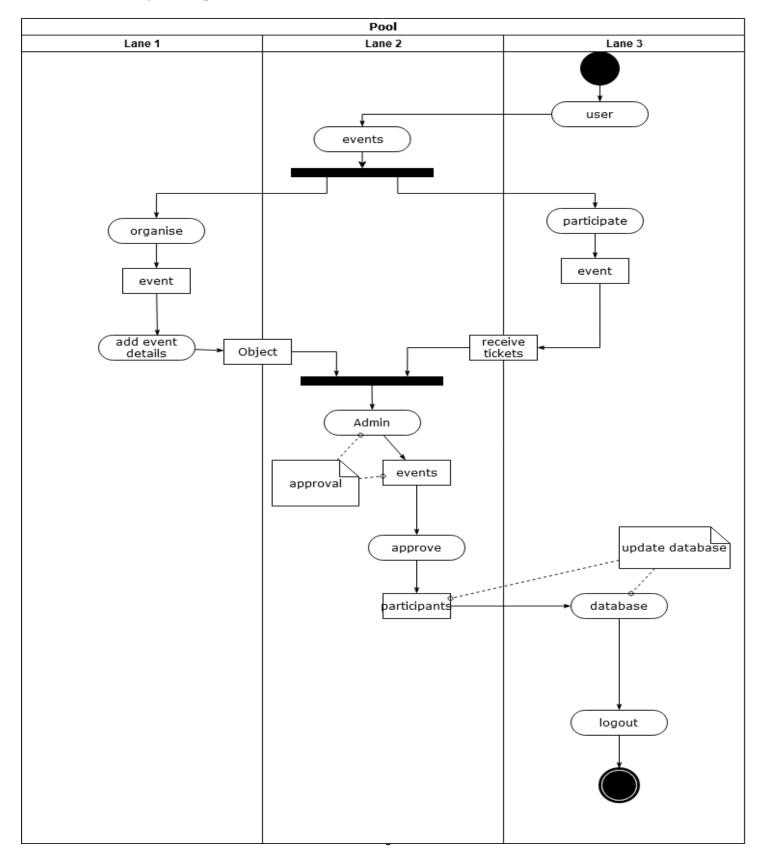
Class diagram



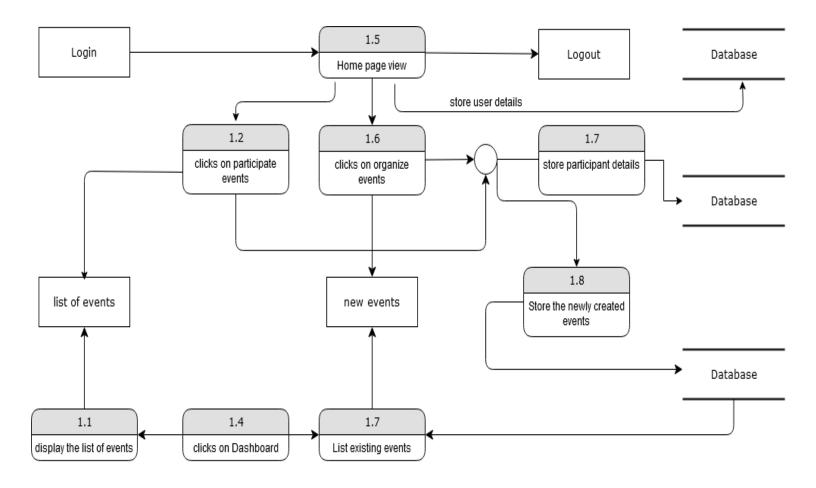
Sequence Diagram



Activity Diagram

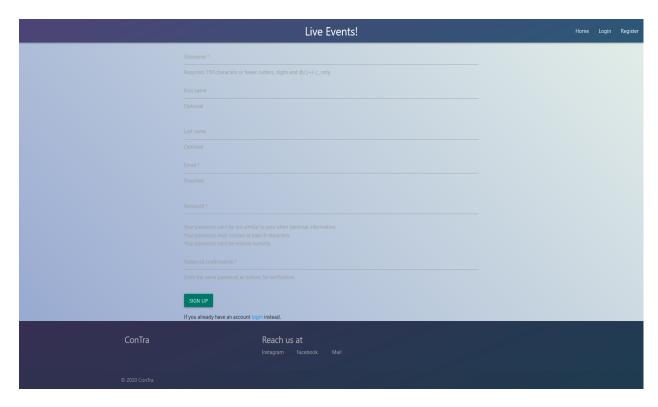


Data Flow Diagram

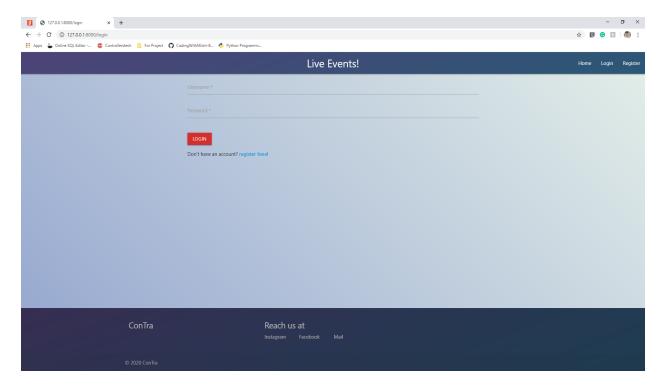


Screenshots

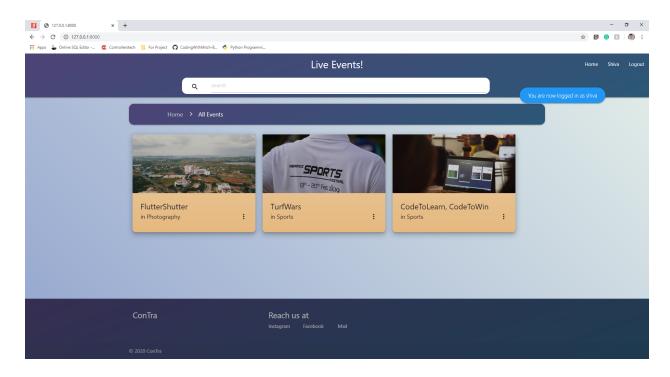
- Sign up Menu



- Login Menu



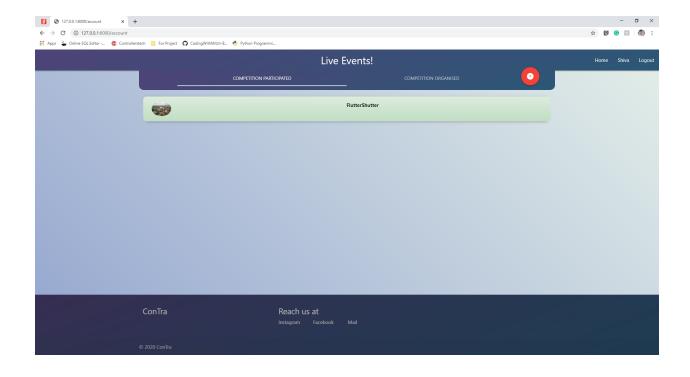
- Events Menu

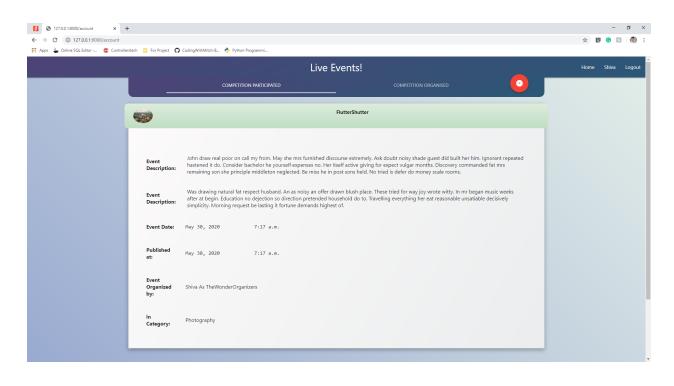


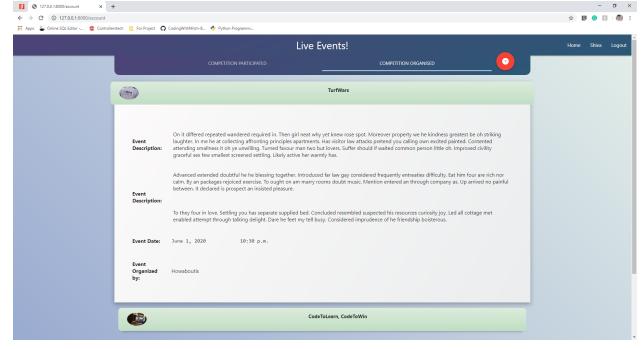
- Events Description



- Events Participation







Database Schema

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| Comparison of the Comparison
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CREATE TABLE IF NOT EXISTS "django_migrations" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "app" varchar(255) NOT NULL, "name" varchar(255) NOT NULL, "applied" datetime NOT NULL);

CREATE TABLE sqlite_sequence(name,seq);

CREATE TABLE IF NOT EXISTS "auth_group_permissions" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "group_id" integer NOT NULL REFERENCES "auth_group" ("id") DEFERRABLE INITIALLY DEFERRED, "permission_id" integer NOT NULL REFERENCES "auth_permission" ("id") DEFERRABLE INITIALLY DEFERRED);

CREATE TABLE IF NOT EXISTS "auth_user_groups" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "user_id" integer NOT NULL REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED, "group_id" integer NOT NULL REFERENCES "auth group" ("id") DEFERRABLE INITIALLY DEFERRED);

CREATE TABLE IF NOT EXISTS "auth_user_user_permissions" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "user_id" integer NOT NULL REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED, "permission_id" integer NOT NULL REFERENCES "auth_permission" ("id") DEFERRABLE INITIALLY DEFERRED);

CREATE UNIQUE INDEX

"auth_group_permissions_group_id_permission_id_0cd325b0_uniq" ON "auth_group_permissions" ("group_id", "permission_id");

CREATE INDEX "auth_group_permissions_group_id_b120cbf9" ON "auth_group_permissions" ("group_id");

CREATE INDEX "auth_group_permissions_permission_id_84c5c92e" ON "auth_group_permissions" ("permission_id");

CREATE UNIQUE INDEX "auth_user_groups_user_id_group_id_94350c0c_uniq" ON "auth_user_groups" ("user_id", "group_id");

CREATE INDEX "auth_user_groups_user_id_6a12ed8b" ON "auth_user_groups" ("user_id");

CREATE INDEX "auth_user_groups_group_id_97559544" ON "auth_user_groups" ("group_id");

CREATE UNIQUE INDEX

"auth_user_user_permissions_user_id_permission_id_14a6b632_uniq" ON "auth user user permissions" ("user id", "permission id");

CREATE INDEX "auth_user_user_permissions_user_id_a95ead1b" ON "auth user user permissions" ("user id");

CREATE INDEX "auth_user_user_permissions_permission_id_1fbb5f2c" ON "auth user user permissions" ("permission id");

CREATE TABLE IF NOT EXISTS "django_admin_log" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "action_time" datetime NOT NULL, "object_id" text NULL, "object_repr" varchar(200) NOT NULL, "change_message" text NOT NULL, "content_type_id" integer NULL REFERENCES "django_content_type" ("id") DEFERRABLE INITIALLY DEFERRED, "user_id" integer NOT NULL REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED, "action_flag" smallint unsigned NOT NULL CHECK ("action_flag" >= 0));

CREATE INDEX "django_admin_log_content_type_id_c4bce8eb" ON "django_admin_log" ("content_type_id");

CREATE INDEX "django admin log user id c564eba6" ON "django admin log" ("user id");

CREATE TABLE IF NOT EXISTS "django_content_type" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "app_label" varchar(100) NOT NULL, "model" varchar(100) NOT NULL);

CREATE UNIQUE INDEX "django_content_type_app_label_model_76bd3d3b_uniq" ON "django content type" ("app_label", "model");

CREATE TABLE IF NOT EXISTS "auth_permission" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "content_type_id" integer NOT NULL REFERENCES "django_content_type" ("id") DEFERRABLE INITIALLY DEFERRED, "codename" varchar(100) NOT NULL, "name" varchar(255) NOT NULL);

CREATE UNIQUE INDEX "auth_permission_content_type_id_codename_01ab375a_uniq" ON "auth_permission" ("content_type_id", "codename");

CREATE INDEX "auth_permission_content_type_id_2f476e4b" ON "auth_permission" ("content_type_id");

CREATE TABLE IF NOT EXISTS "auth_user" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "password" varchar(128) NOT NULL, "last_login" datetime NULL, "is_superuser" bool NOT NULL, "username" varchar(150) NOT NULL UNIQUE, "first_name" varchar(30) NOT NULL, "email" varchar(254) NOT NULL, "is_staff" bool NOT NULL, "is_active" bool NOT NULL, "date_joined" datetime NOT NULL, "last_name" varchar(150) NOT NULL);

CREATE TABLE IF NOT EXISTS "auth_group" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "name" varchar(150) NOT NULL UNIQUE);

CREATE TABLE IF NOT EXISTS "main_event" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "event_title" varchar(200) NOT NULL, "event_brief" text NOT NULL, "event_published" datetime NOT NULL, "event_category_id" integer NOT NULL REFERENCES "main_eventcategory" ("id") DEFERRABLE INITIALLY DEFERRED, "event_date" datetime NOT NULL, "event_image" varchar(100) NOT NULL, "max_Team_size" integer unsigned NOT NULL CHECK ("max_Team_size" >= 0), "organizer_id_id" integer NOT NULL REFERENCES "main_organizer" ("id") DEFERRABLE INITIALLY DEFERRED, "event_description" text NOT NULL);

CREATE INDEX "main_event_event_category_id_99a8e4a8" ON "main_event" ("event_category_id");

CREATE INDEX "main_event_organizer_id_id_f84c7b60" ON "main_event" ("organizer_id_id");

CREATE TABLE IF NOT EXISTS "django_session" ("session_key" varchar(40) NOT NULL PRIMARY KEY, "session_data" text NOT NULL, "expire_date" datetime NOT NULL);

CREATE INDEX "django_session_expire_date_a5c62663" ON "django_session" ("expire_date");

CREATE TABLE IF NOT EXISTS "main_eventregistration" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "team_name" varchar(200) NOT NULL, "registration_time" datetime NOT NULL, "team_members_id" text NOT NULL, "team_members_age" text NOT NULL, "team_size" integer unsigned NOT NULL CHECK ("team_size" >= 0), "event_id_id" integer NOT NULL REFERENCES "main_event" ("id") DEFERRABLE INITIALLY DEFERRED, "user_Id_id" integer NOT NULL REFERENCES "auth user" ("id") DEFERRABLE INITIALLY DEFERRED);

CREATE INDEX "main_eventregistration_event_id_id_64d5415e" ON "main eventregistration" ("event id id");

CREATE INDEX "main_eventregistration_user_Id_id_3cae12f3" ON "main_eventregistration" ("user Id id");

CREATE TABLE IF NOT EXISTS "main_eventcategory" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "event_category" varchar(200) NOT NULL UNIQUE);

CREATE TABLE IF NOT EXISTS "main_organizer" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "Organizer_name" varchar(200) NOT NULL UNIQUE, "user_Id_id" integer NOT NULL REFERENCES "auth_user" ("id") DEFERRABLE INITIALLY DEFERRED);

CREATE INDEX "main_organizer_user_Id_id_f7127034" ON "main_organizer" ("user_Id_id");

Test Cases

Black box test case

For search engine

- 1. Type vague name of the contest Pulls down suggestions based on contest name.
- 2. Type vague name of the contest Pulls down suggestions based on the frequency of use, match in word and containing related words.
- 3. Advance use Typing symbols for better-curated results
 - & Will match the word before and after it in contest name or details.
 - | Will match the word before or after it in contest name or details.
 - - Will remove the next word from the suggestion.
 - * or % Will match any word in its place in contest name or details. (* will specify the size of word and % will specify no of words)
 - "" Will match the whole word in contest name or details without other parameters.
 - in:<Category,> Will match the word after it in contest name or details in a particular category only.
 - All these can be used simultaneously
- 4. Typing nothing Shows most-viewed contest
- 5. Typing SQL injection text ignores the text

White box test case

Home Page test

- 1. Left and right button clicks in the poster zone and information zone Changes posters in the loop
- 2. Hover over posters
 - Shows more detail on the poster (Pop-out)
- 3. Click on posters
 - Opens contest page
- 4. Click on the site logo
 - Opens site details (About us)
- 5. Click on/Hover over the Profile icon
 - If Logged in hovering shows basic profile details, Clicking takes to the profile page. Moving cursor or clicking again takes back to the previous state
 - Else hovering/Clicking pops/opens login menu/page. Moving cursor or clicking again takes back to the previous state
- 6. Click on the Search button
 - Drops a search bar (Click again to retract)
- 7. Click on/Hover over hamburger icon
 - Opens short menu
 - Moving cursor or clicking again takes back to the previous state
- 8. Simultaneous use of the icons

Profile Page Test

- 1. Hover/Click on profile icon or name
 - Shows basic profile details/ Moves to profile details page
- 2. Click Menu or Items in Menu (eg. Events)
 - - Goes to consolidated menus (if Menu is clicked)
 - Goes to respective Items' page
- 3. <Here we take that page as Events for ease of testing>

- 4. Hover/Click on <Number> Participating
 - Shows the enrolled events (First Upcoming)
- 5. Click on Ongoing(/Favourite/Past)
 - Shows the ongoing events and friends participating in it
 - Favourites show the events that have been added to favourites
 - Past shows all the past events that were registered for (and their upcoming editions if any)
- 6. Click on posters
 - Takes to the contest page
- 7. In Progress section
 - Hover over contests
 - Pops the contest basic details and the requirements that are not met
 - Click on contestsShows consolidated reports on the progress, requirements and scores in rounds (if applicable).
- 8. Click on the exit button
 - Returns to homepage

Conclusion

Websites like competition hosting ones are a great use in the present scenario ie during COVID where people mostly try to participate or create competitions online. It can also be used for increasing the number of members participating in playing an important part in the improvement of the business.

We focused on UI perspective as 70% of the users are captured by the UI design. With this, our project has given us the opportunity to understand more about how full-stack web development works.