Curtin University – Discipline of Computing

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Unit name:	Web Application Frameworks	Unit Code:	COMP6006
Lecturer:	Tristan Reed	Tutorial Session	
Date of assess:	1 April 2022	Which assessment?	1

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Signature: Huynh Van Phi Vu

Date of signature: 31 March 2022

Assessment One: Web Development Assessment

Project: Sport Tournament Management

Created by: Huynh Van Phi Vu
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Introduction

This project is created to manage the scoring between 2 teams in a sport event. This will show the list of matches and list of teams in one tournament. User can view the details of the match if they want to know more information of the match.
In the page of matches, which show all the matches in the tournament, the system will show the name 2 opponents, the result of the match, and the time that the match is held. When user click on the 'Details' option, the system will redirect the user to the page of match details. In that page, user can view the statistic of the match.
In the page of teams, which show all the teams participating in the tournament, the system will show the list of teams with their position (rank) and point in the tournament. Moreover, because this system is developed for football event, the system also shows the records of home matches and away matches of one team.

Note

All the data that are used in the project are not randomly generated (except the email address of each team), the data are taken from the website: https://www.whoscored.com/Regions/252/Tournaments/2/Seasons/8228/Stages/18685/Show/England-Premier-League-2020-2021
For the data of teams, the data are taken from the "Summary" tab with the details of "Overall", "Home", and "Away" of each team.
For the data of matches, due to the huge number of matches in one season, only data of two months September and October of 2020 are taken from the "Fixtures" tab. The data are including the result, the half time and full time, the date and time, and some statistic of the match.

For the development progress, I have cited the references for the code that I have used outside the Curtin's academic program. The references are written above the code in the project.

Discussion

1. Describe why you chose the attributes and data types that you chose and why you implemented the relationship(s) between the two models in the way that you did. You may wish to contrast your choices with alternatives and consider the functionality enabled by your choices.

   In the project, all models are referenced according to the data from the website that mentioned above, there are 5 models that are related to match and teams.

   a. TeamStatistic

Position	IntegerField
Total_matches	IntegerField
Wins	IntegerField
Draws	IntegerField
Losses	IntegerField
Goal_for	IntegerField
Goal_against	IntegerField
Point	IntegerField

   This model includes all the statistic of one team participating in one tournament. The reason I split into another model is because the statistic requires many fields, this will make it easier to see and maintain. All the attributes are using IntegerField since the data for these attributes is number only.

   b. Team

Name	CharField
Location	CharField
Email_address	EmailField
Logo_url	ImageField
Overall_statistic	ForeignKey(TeamStatistic)
Home_statistic	ForeignKey(TeamStatistic)
Away_statistic	ForeignKey(TeamStatistic)

   This model is the main model of one team. The name and location attributes use the CharField type, because these fields can include text and number. Email_address is using EmailField and Logo_url is using ImageField to validate when user input the correct format for email and image respectively.

The last 3 attributes are statistic of attribute “Overall”, “Home”, and “Away” and they are pointing to object (model) TeamStatistic. As mentioned above, these attributes will point to object TeamStatistic to ease of maintenance.

c. MatchResult

Home_team_halftime_goal	IntegerField
Away_team_halftime_goal	IntegerField
Home_team_goal	IntegerField
Away_team_goal	IntegerField

The reason for this model is same as TeamStatistic which keeps all the records for the result of one match. All the attributes use the IntegerField since they contain only numbers.

d. MatchStatistic

Open_play	IntegerField
Set_piece	IntegerField
Counter_attack	IntegerField
Penalty	IntegerField
Own_goal	IntegerField

This model is same as MatchResult which keeps all the statistic of the match. All the attributes use the IntegerField since they contain only numbers.

e. Match

Home_team	ForeignKey(Team)
Away_team	ForeignKey(Team)
Result	ForeignKey(MatchResult)
Match_time	DateTimeField
Home_team_statistic	ForeignKey(MatchStatistic)
Away_team_statistic	ForeignKey(MatchStatistic)

This model is the main model of one match. Most of the attributes use the ForeignKey that point to another object (model), this helps this model look tidily. The match_time attribute use DateTimeField, because this will help the user can input date as well as time of the match in one field.

2. Detail which CRUD operations you would restrict to team managers, scorekeepers and website visitors respectively and justify your decisions.
    a. Team managers
    This person (group) manages the information of the team, they can operate CRUD features for list of teams only. Since they can add a new team prior to the start of tournament, or they can update if the team information is wrong.

b. Score keepers
   This person (group) manages the result and statistic of the match, they can only have CRUD features for the list of matches.
c. Website visitors
   Since they are the visitors of the website, they can only view the information of teams of matches of the tournament. They cannot create, update, or delete any record of the team and match. If they have full control, some people will manipulate the wrong information to the match.

3. Discuss two of the benefits of implementing this App within Django, with respect to either security, performance or ease of development. You may provide two benefits from the same category
   Django is an open-source framework written in Python which support by a large community, I can find the solution on the internet whenever I get stuck. When building app with Django, I am able to build app from frontend to backend. Django supports the MVC models which help me to create HTML template to view data from the database. I am able to control data from view.py to support the specific purpose. Moreover, Django supports admin view to manage all the records in the database.