



American International University-Bangladesh
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Dhaka, Bangladesh

00892 ADVANCE DATABASE MANAGEMENT SYSTEM
PROJECT Report
[B][SUMMER 22-23]

E-Sports Management System

Submitted by

Names of Students	ID
AJRAN HOSSAIN	19-39334-1
SHARIF HADI MAHATAB	20-43625-2
MD. SARAFAT ALI ADIR	20-41926-1
MEDHA CHOWDHURY	20-41930-1

Date of Submission

July 9, 2023

Submitted to

JUENA AHMED NOSHIN

Assistant Professor, Faculty

Department of Computer Science and Engineering
American International University-Bangladesh

Contribution

	AJRAN HOSSAIN	SHARIF HADI MAHATAB	MD. SARAFAT ALI ADIR	MEDHA CHOWDHURY	Contribution (%)
	<i>19-39334-1</i>	<i>20-43625-2</i>	<i>20-41926-1</i>	<i>20-41930-1</i>	
Diagram	10%	10%	0%	0%	20(%)
UI Design	50%	0%	0%	0%	50(%)
Normalization	50%	50%	0%	0%	100(%)
SQL Query	0%	0%	0%	0%	0(%)
Relational Algebra	0%	0%	0%	0%	0(%)
Report Writing	50%	30%	0%	0%	80(%)

Contents

1	Introduction	1
1.1	Project Proposal	1
1.1.1	Purposes	2
1.1.2	Methodology	2
1.2	Project Scenario	3
2	Diagrams	4
2.1	ER Diagram	4
2.2	Class Diagram	5
2.3	Use Case Diagram	6
2.4	Activity Diagram	7
3	User Interface	8
3.1	Technologies Used	8
3.1.1	Login Page	8
3.1.2	Home Page	8
3.1.3	Tournament Page	9
3.1.4	Team Page	9
3.1.5	Game Page	9
4	NF and Schema	10
4.1	Manage branch	10
4.1.1	(Admin → Manager)	10
4.1.2	(Manager → Finance)	11
4.1.3	(Manager → Teams)	12
4.1.4	(SocialMedia → ContentCreator)	13
4.2	Pay branch	15
4.2.1	(Finance → SocialMedia)	15
4.2.2	(Finance → organization)	16
4.3	Formed branch	17
4.3.1	(Teams → Player)	17
4.4	Has branch	19
4.4.1	(Record → Tournament)	19
4.4.2	(Tournament → Game)	20
4.5	Participate branch	21
4.5.1	(Teams → Game)	21
4.6	Host branch	22
4.6.1	(Organizer → Tournament)	22
4.7	Sponsor branch	23
4.7.1	(Companies → Organization)	23
4.7.2	(Companies → Teams)	24
4.8	Temporary Tables	25
4.9	Final Tables	27
4.10	Schema Diagram	29
5	SQL Queries	30
5.1	Table Creation	30

6	Relational Algebra	35
6.1	Selection	35
7	Conclusion	36

Introduction

Esports Management System is an innovative platform that will revolutionize the management and organization of esports teams, participants, tournaments, and sponsors. This system seeks to provide users with an efficient and user-friendly way to search for their preferred professional esports players.

A user-friendly interface is at the core of the Esports Management System, allowing users to seamlessly navigate and explore the realm of professional esports. With only a few clicks, users can search for potential professional athletes and teams, as well as access valuable information such as their winning records and accomplishments. This enables fans and enthusiasts to remain up-to-date on their preferred players and teams, nurturing a stronger connection within the esports community.

The Esports Management System's ability to facilitate sponsorships is a crucial feature. Numerous organizations and businesses can engage in sponsorship activities, whether for the purpose of supporting tournaments or individual athletes. The system serves as a centralized repository where the information and details of these sponsors can be efficiently stored and managed. This facilitates the sponsorship process and ensures that sponsors and the esports industry collaborate effectively.

There are specialized administrators within the Esports Management System who play crucial roles in managing and enhancing the overall experience. The social media manager is among these supervisors; he or she supervises the organization's online presence and engagement on various social media platforms. In addition, the content creator/VFX/GFX team assures the creation of visually stunning and captivating content that enhances the overall esports experience.

Dynamic features and functionalities make the Esports Management System an indispensable instrument for the esports industry. It makes it easier for fans to discover and connect with professional esports players, allowing them to remain informed and engaged. It enhances collaboration between organizations and the esports community by providing a centralized platform for sponsorship management. In addition, the system enables administrators to enhance the organization's online presence and develop visually appealing content, ensuring that all stakeholders have an engaging experience.

In the following sections, we will delve deeper into the features, functionalities, and innovative aspects of the Esports Management System, demonstrating its potential to revolutionize the management and celebration of esports teams, players, tournaments, and sponsors.

1.1 Project Proposal

This proposal for the development and implementation of an Esports Management System is presented with pleasure. This revolutionary platform seeks to transform the management and organization of esports teams, players, tournaments, and sponsors. The Esports Management System will improve the user experience, encourage community engagement, and expedite operations within the esports industry by leveraging advanced technology and comprehensive functionalities.

1.1.1 Purposes

- Create an intuitive web-based platform that serves as the central hub for esports administration, catering to the requirements of teams, players, tournament organizers, and sponsors.
- Implement a sophisticated matching algorithm to facilitate the search and discovery of favored professional esports players, thereby enhancing the fan experience and fostering esports community connections.
- Provide efficient sponsorship administration capabilities, enabling organizations and businesses to support tournaments or individual athletes through sponsorship activities.
- Enhance the organization's online presence by supervising social media platforms and having the content creator/VFX/GFX team produce visually spectacular and engaging content.

1.1.2 Methodology

System Development:

- Conduct exhaustive investigation on the necessary requirements and features of an effective Esports Management System.
- Utilize industry-standard programming languages and technologies to create a scalable and secure web-based platform.
- Implement a user-friendly interface with intuitive navigation in order to provide a seamless and enjoyable user experience.

Matching Algorithm

- Collaboration with data scientists and psychologists to create a matching algorithm based on personality traits, values, and beliefs.
- Integrate the matching algorithm into the system to recommend professional esports players compatible with the user's preferences.

Sponsorship Management

- Create an all-encompassing sponsorship management module to facilitate collaborations between organizations and the esports industry.
- Provide a centralized repository for sponsor information to facilitate communication and sponsorship efficiency.

Online Presence Enhancement

- Appoint a social media manager to supervise the organization's online presence and interact with the esports community.
- Appoint a social media manager to supervise the organization's online presence and interact with the esports community.

1.2 Project Scenario

Imagine an eSports organization called "eSports FTW" that manages various teams and tournaments in the gaming industry. The organization is led by an Admin who oversees the operations. The Admin entity contains attributes such as email, picture, password, name, and a unique ID.

Under the Admin, there are multiple Managers responsible for different departments. Each Manager has attributes including hire date, picture, salary, email, name, department ID, and a unique ID. One Manager specifically manages the Finance department, ensuring financial stability and handling the accounts for the organization. The Finance entity consists of attributes such as a unique ID, account number, and balance.

In addition to managing the finances, each Manager is in charge of a specific team. The Teams entity includes details such as the team's established date, country, name, team ID, team icon, winning numbers, and total prize money. Each team has a unique Manager assigned to it, ensuring proper coordination and organization. The Manager entity is linked to the Teams entity through the Manager ID attribute.

Within each team, there are multiple Players who represent the organization in various games. The Players entity contains attributes such as name, player ID, picture, salary, winning prize money, total hours played, phone number, and address (including country, city, zip code, and road number). Additionally, players have links to their social media profiles on platforms like Facebook, Instagram, Twitter, and YouTube.

The organization hosts tournaments, bringing together teams from different games. The Tournament entity consists of attributes such as tournament ID, name, prize pool, starting date, and ending date. Each tournament features various games such as Valorant, Mobile Legends: Bang Bang (MLBB), and Rainbow Six Siege. The Game entity contains attributes like name, release date, genre, game picture, publisher, platform, game ID, and prize pool. Each tournament may have different games associated with it, creating diverse competitive environments.

To support the teams and tournaments financially, eSports FTW seeks sponsorships from different companies. The Companies entity includes attributes such as name, company ID, location, sponsor date, and phone number. Multiple companies can sponsor both teams and tournaments, forming a many-to-many relationship between the Companies, Teams, and Tournament entities.

Additionally, eSports FTW employs a Social Media Manager responsible for managing the organization's online presence. The Social Media Manager entity contains attributes such as name, picture, email, manager ID, hire date, salary, phone number, and social media links (Facebook, Instagram, Twitter, YouTube). The Social Media Manager oversees the VFX/GFX and Content Creator teams, ensuring engaging content creation and visual effects. The VFX/GFX and Content Creator entities include attributes like name, picture, VFX/GFX ID, email, phone number, salary, and address (country, city, zip code, and road number).

Diagrams

2.1 ER Diagram



ER Diagram

2.2 Class Diagram



Class Diagram

2.3 Use Case Diagram



Use Case Diagram

2.4 Activity Diagram



Activity Diagram

User Interface

3.1 Technologies Used

- SvelteKit
 - Tailwind CSS
-

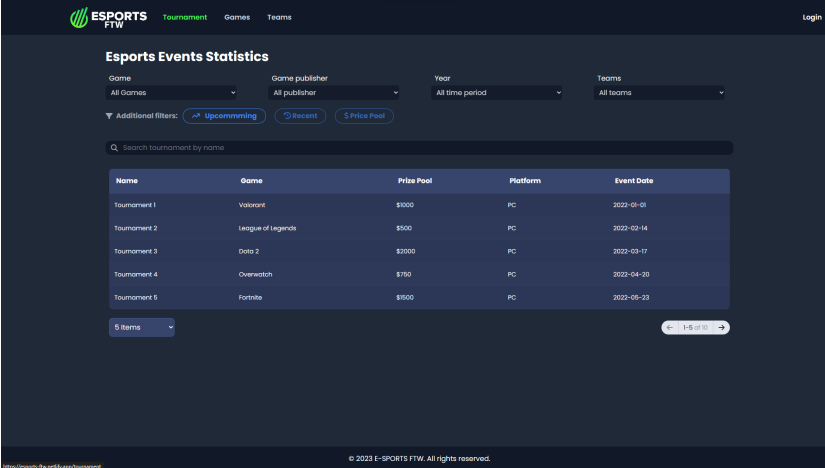
3.1.1 Login Page



3.1.2 Home Page



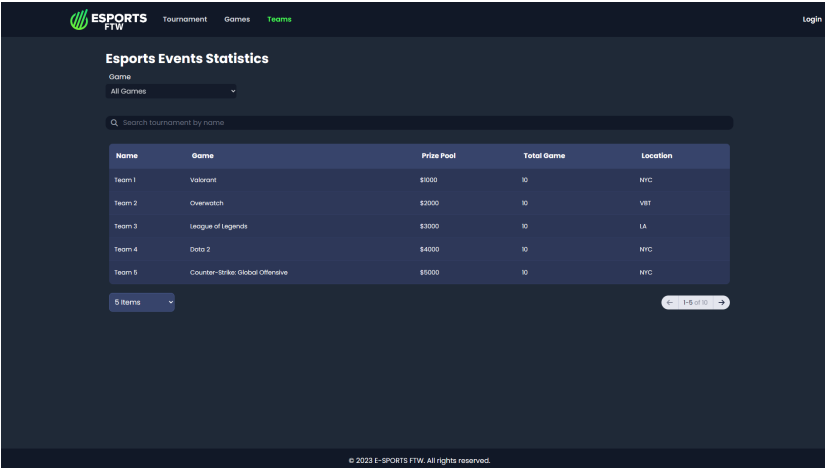
3.1.3 Tournament Page



The screenshot shows the 'Esports Events Statistics' page. It features a navigation bar with 'ESPORTS FTW', 'Tournament', 'Games', and 'Teams'. Below the navigation bar, there are filters for 'Game', 'Game publisher', 'Year', and 'Teams'. A search bar is present with the text 'Search tournament by name'. The main table lists tournaments with columns: Name, Game, Prize Pool, Platform, and Event Date. The table contains 5 items, and the current view is '5 Items'.

Name	Game	Prize Pool	Platform	Event Date
Tournament 1	Valorant	\$1000	PC	2022-01-01
Tournament 2	League of Legends	\$500	PC	2022-02-14
Tournament 3	Dota 2	\$2000	PC	2022-03-17
Tournament 4	Overwatch	\$750	PC	2022-04-20
Tournament 5	Fortnite	\$1500	PC	2022-05-23

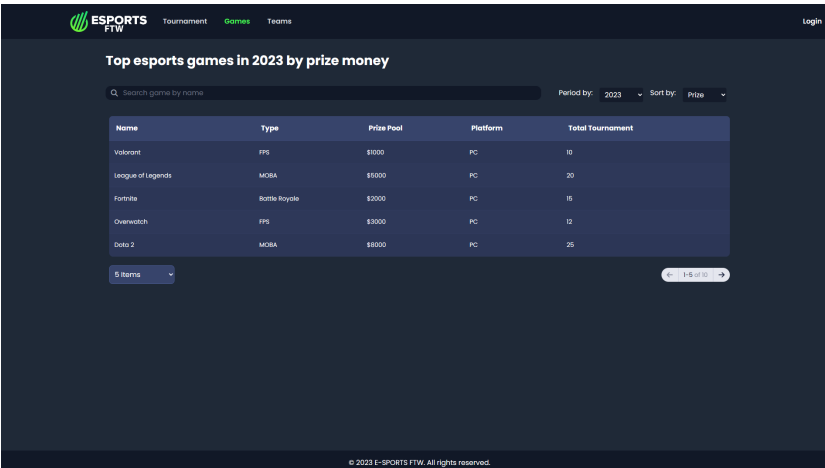
3.1.4 Team Page



The screenshot shows the 'Esports Events Statistics' page. It features a navigation bar with 'ESPORTS FTW', 'Tournament', 'Games', and 'Teams'. Below the navigation bar, there are filters for 'Game', 'Game publisher', 'Year', and 'Teams'. A search bar is present with the text 'Search tournament by name'. The main table lists teams with columns: Name, Game, Prize Pool, Total Game, and Location. The table contains 5 items, and the current view is '5 Items'.

Name	Game	Prize Pool	Total Game	Location
Team 1	Valorant	\$1000	10	NYC
Team 2	Overwatch	\$2000	10	VBT
Team 3	League of Legends	\$3000	10	LA
Team 4	Dota 2	\$4000	10	NYC
Team 5	Counter-Strike: Global Offensive	\$5000	10	NYC

3.1.5 Game Page



The screenshot shows the 'Esports Events Statistics' page. It features a navigation bar with 'ESPORTS FTW', 'Tournament', 'Games', and 'Teams'. Below the navigation bar, there are filters for 'Game', 'Game publisher', 'Year', and 'Teams'. A search bar is present with the text 'Search game by name'. The main table lists games with columns: Name, Type, Prize Pool, Platform, and Total Tournament. The table contains 5 items, and the current view is '5 Items'.

Name	Type	Prize Pool	Platform	Total Tournament
Valorant	FPS	\$1000	PC	10
League of Legends	MOBA	\$1000	PC	20
Fortnite	Battle Royale	\$2000	PC	15
Overwatch	FPS	\$3000	PC	12
Dota 2	MOBA	\$8000	PC	25

Normalization and Schema Design

4.1 Manage branch

4.1.1 (Admin → Manager)

UNF

(Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture, Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone)

1NF

Phone is multi-valued attribute.

- (Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture, Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone)

2NF

- Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture
- Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone

3NF

No transitive dependencies found. Same as 2NF

Table after Normalization

- **Manager** (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, **Admin_ID**)
- **Admin** (Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture)
- **Manager_Phone** (Mp_ID, **Manager_ID**, Manager_Phone)

4.1.2 (Manager \rightarrow Finance)

UNF

(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone, Finance_ID, Finance_Account_Number, Finance_Balance)

1NF

Phone is multi-valued attribute.

- (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone, Finance_ID, Finance_Account_Number, Finance_Balance)

2NF

- **Manager**(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone)
- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Manager**(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate)
- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance, **Manager_ID**)
- **Manager_Phone** (Manager_ID, **Manager_ID**, Manager_Phone)

4.1.3 (Manager \rightarrow Teams)

UNF

(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone, Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Price_Money, Team_Winnig)

1NF

Winning & Phone are multi-valued attribute.

- (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone, Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Team_Total_Price_Money, Team_Winnig)

2NF

- **Manager**(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, Manager_Phone)
- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Total_Price_Money, Team_country)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Manager**(Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate)
- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Price_Money, **Manager_ID**)
- **Team_Winnig**(Tw_ID, **Team_ID**, Team_Winnig)
- **Manager_Phone**(Mp_ID, **Manager_ID**, Manager_Phone)

4.1.4 (SocialMedia → ContentCreator)

UNF

(SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary, ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture, ContentCreator_Phone , ContentCreator_Hiredate , ContentCreator_Salary, ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link , ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)

1NF

Phone is multi-valued attribute.

- (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary, ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture, ContentCreator_Phone , ContentCreator_Hiredate , ContentCreator_Salary, ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link , ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)

2NF

- **SocialMedia** (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary)
- **ContentCreator** (ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture, ContentCreator_Phone , ContentCreator_Hiredate , ContentCreator_Salary, ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link , ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)

3NF

- **SocialMedia** SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary)
- **ContentCreator** ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture , ContentCreator_Hiredate , ContentCreator_Salary)
- **ContentCreator_SocialMedia** (**ContentCreator_ID**, **SocialMedia_ID** , ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link)
- **ContentCreator_Address** (**ContentCreator_ID**, ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)

Table after Normalization

- **SocialMedia** (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary)
- **ContentCreator** (ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture , ContentCreator_Hiredate , ContentCreator_Salary)
- **ContentCreator_SocialMedia** (Ccs_ID, **ContentCreator_ID** , ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link)
- **ContentCreator_Address** (Cca_ID, **ContentCreator_ID**, ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)
- **ContentCreator_Phone** (Ccp_ID, **ContentCreator_ID**, ContentCreator_Phone)
- **SocialMedia_Phone** (Smp_ID, **SocialMedia_ID**, SocialMedia_Phone)
- **ContentCreator_SocialMedia_Phone** (Ccp_ID, **ContentCreator_ID**, ContentCreator_Phone)

4.2 Pay branch

4.2.1 (Finance \rightarrow SocialMedia)

UNF

(Finance_ID, Finance_Account_Number, Finance_Balance, SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary)

1NF

Phone is multi-valued attribute.

- (Finance_ID, Finance_Account_Number, Finance_Balance, SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary)

2NF

- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance)
- **SocialMedia**(SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture, SocialMedia_Phone , SocialMedia_Hiredate , SocialMedia_Salary)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance)
- **SocialMedia**(SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary, **Finance_ID**)
- **SocialMedia_Phone** (Smp_ID, **SocialMedia_ID**, SocialMedia_Phone)

4.2.2 (Finance \rightarrow organization)

UNF

(Finance_ID, Finance_Account_Number, Finance_Balance, Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

1NF

Phone is multi-valued attribute.

- (Finance_ID, Finance_Account_Number, Finance_Balance, Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

2NF

- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance)
- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance)
- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone, **Finance_ID**)
- **Organization_Phone** (Op_ID, **Organization_ID**, Organization_Phone)

4.3 Formed branch

4.3.1 (Teams → Player)

UNF

(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning,

Team_Winnig, Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Phone, Player_Salary, Player_Winnig_Money, Player_Play_Hours, Player_country, Player_City, Player_Street, Player_Zip_Code, Player_DOB, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)

1NF

Phone & Wining number are multi-valued attribute.

- (Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig, Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Phone, Player_Salary, Player_Winnig_Money, Player_Play_Hours, Player_country, Player_City, Player_Street, Player_Zip_Code, Player_DOB, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)

2NF

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Player**(Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Salary, Player_Winnig_Money, Player_Play_Hours, Player_country, Player_City, Player_Street, Player_Zip_Code, Player_DOB, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)

3NF

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Player**(Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Salary, Player_Winnig_Money, Player_Play_Hours, Player_DOB)
- **Player_Address** (Pa_ID, **Player_ID**, Player_country, Player_City, Player_Street, Player_Zip_Code)
- **Player_Social_Link** (PsL_ID, **Player_ID**, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)

Table after Normalization

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Player**(Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Salary, Player_Play_Hours, Player_DOB)

- **Player_Address** (Pa_ID, **Player_ID**, Player_country, Player_City, Player_Street, Player_Zip_Code)
- **Player_Social_Link** (Psl_ID, **Player_ID**, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)
- **Player_Phone** (Pp_ID, **Player_ID**, Player_Phone)
- **Player_Wining** (Pw_ID, **Player_ID**, Player_Winnig)
- **Player_Team** (Pt_ID, **Player_ID**, **Team_ID**)

4.4 Has branch

4.4.1 (Record \rightarrow Tournament)

UNF

(Record_ID, Record_Date, Record_Price_Pool, Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)

1NF

- (Record_ID, Record_Date, Record_Price_Pool, Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)

2NF

- **Record**(Record_ID, Record_Date, Record_Price_Pool, **Tournament_ID**)
- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Record**(Record_ID, Record_Date, Record_Price_Pool, **Tournament_ID**)
- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)

4.4.2 (Tournament → Game)

UNF

(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

1NF

- (Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

2NF

- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)
- **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)
- **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)
- **Tournament_Game**(Tournament_ID, Game_ID)

4.5 Participate branch

4.5.1 (Teams \rightarrow Game)

UNF

(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig, Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

1NF

- (Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig, Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

2NF

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)
- **Team_Game**(Team_ID, Game_ID)

4.6 Host branch

4.6.1 (Organizer \rightarrow Tournament)

UNF

(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

1NF

Phone is a multi-valued attribute.

- (Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

2NF

- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Organization_ID)
- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Organization_ID)
- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture)
- **Organization_Phone**(Organization_ID, Organization_Phone)
- **Organization_Tournament**(Organization_ID, Tournament_ID)

4.7 Sponsor branch

4.7.1 (Companies \rightarrow Organization)

UNF

(Organization_ID, Organization_Name, Organization_Email, Organization_Picture, Organization_Phone, Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)

1NF

phone is a multi-value attribute.

- (Organization_ID, Organization_Name, Organization_Email, Organization_Picture, Organization_Phone, Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)

2NF

- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Picture, Organization_Phone, Company_ID)
- **Company**(Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Picture, Company_ID)
- **Organization_Phone**(Organization_ID, Organization_Phone)
- **Company**(Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)
- **Company_Phone**(Company_ID, Company_Phone)
- **Organization_Company**(Organization_ID, Company_ID)

4.7.2 (Companies \rightarrow Teams)

UNF

(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig, Company_ID, Company_Name, Company_Email, Company_Password, Company_Picture, Company_Phone, Company_location)

1NF

Phone is multi-value attribute.

- (Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig, Company_ID, Company_Name, Company_Email, Company_Password, Company_Picture, Company_Phone, Company_location)

2NF

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Company**(Company_ID, Company_Name, Company_Email, Company_Password, Company_Picture, Company_Phone, Company_location)

3NF

No transitive dependency found. Same as 2NF.

Table after Normalization

- **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
- **Company**(Company_ID, Company_Name, Company_Email, Company_Password, Company_Picture, Company_Phone, Company_location)
- **Team_Company**(Team_ID, Company_ID)
- **Company_Phone**(Company_ID, Company_Phone)

4.8 Temporary Tables

1. **Manager** (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, **Admin_ID**)
2. **Admin** (Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture)
3. **Manager_Phone** (Mp_ID, **Manager_ID**, Manager_Phone)
4. **Manager** (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate)
5. **Finance** (Finance_ID, Finance_Account_Number, Finance_Balance, **Manager_ID**)
6. **Manager_Phone** (Mp_ID, **Manager_ID**, Manager_Phone)
7. **Manager** (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate)
8. **Team** (Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Price_Money, **Manager_ID**)
9. **Team_Winnig** (Tw_ID, **Team_ID**, Team_Winnig)
10. **Manager_Phone** (Mp_ID, **Manager_ID**, Manager_Phone)
11. **SocialMedia** (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary)
12. **ContentCreator** (ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture , ContentCreator_Hiredate , ContentCreator_Salary)
13. **ContentCreator_SocialMedia** (Ccs_ID, **ContentCreator_ID** , ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link)
14. **ContentCreator_Address** (Cca_ID, **ContentCreator_ID**, ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)
15. **ContentCreator_Phone** (Ccp_ID, **ContentCreator_ID**, ContentCreator_Phone)
16. **SocialMedia_Phone** (Smp_ID, **SocialMedia_ID**, SocialMedia_Phone)
17. **Finance** (Finance_ID, Finance_Account_Number, Finance_Balance)
18. **Organization** (Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone, **Finance_ID**)
19. **Organization_Phone** (Op_ID, **Organization_ID**, Organization_Phone)
20. **Finance** (Finance_ID, Finance_Account_Number, Finance_Balance)
21. **SocialMedia** (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary, **Finance_ID**)
22. **SocialMedia_Phone** (Smp_ID, **SocialMedia_ID**, SocialMedia_Phone)

23. **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
24. **Player**(Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Salary, Player_Play_Hours, Player_DOB)
25. **Player_Address** (Pa_ID, **Player_ID**, Player_country, Player_City, Player_Street, Player_Zip_Code)
26. **Player_Social_Link** (Psl_ID, **Player_ID**, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)
27. **Player_Phone** (Pp_ID, **Player_ID**, Player_Phone)
28. **Player_Wining** (Pw_ID, **Player_ID**, Player_Winnig)
29. **Player_Team** (Pt_ID, **Player_ID**, **Team_ID**)
30. **Record**(Record_ID, Record_Date, Record_Price_Pool, **Tournament_ID**)
31. **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)
32. **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)
33. **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)
34. **Tournament_Game**(Tournament_ID, Game_ID)
35. **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool, Organization_ID)
36. **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture)
37. **Organization_Phone**(Organization_ID, Organization_Phone)
38. **Organization_Tournament**(Organization_ID, Tournament_ID)
39. **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)
40. **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)
41. **Team_Game**(Team_ID, Game_ID)
42. **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Picture, Company_ID)
43. **Organization_Phone**(Organization_ID, Organization_Phone)
44. **Company**(Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)

45. **Company_Phone**(Company_ID, Company_Phone)
46. **Organization_Company**(Organization_ID, Company_ID)
47. ~~**Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Earning, Team_Winnig)~~
48. ~~**Company**(Company_ID, Company_Name, Company_Email, Company_Password, Company_Picture, Company_Phone, Company_Location)~~
49. **Team_Company**(Team_ID, Company_ID)
50. ~~**Company_Phone**(Company_ID, Company_Phone)~~

4.9 Final Tables

1. **Manager** (Manager_ID, Manager_Name, Manager_Email, Manager_Password, Manager_Picture, Manager_Hiredate, **Admin_ID**)
2. **Admin** (Admin_ID, Admin_Name, Admin_Email, Admin_Password, Admin_Picture)
3. **Manager_Phone** (Mp_ID, **Manager_ID**, Manager_Phone)
4. **Finance**(Finance_ID, Finance_Account_Number, Finance_Balance, **Manager_ID**)
5. **Team**(Team_ID, Team_Name, Team_Icon, Team_established_date, Team_country, Total_Price_Money, **Manager_ID**)
6. **Team_Winnig**(Tw_ID, **Team_ID**, Team_Winnig)
7. **SocialMedia** (SocialMedia_ID, SocialMedia_Name, SocialMedia_Email, SocialMedia_Password, SocialMedia_Picture , SocialMedia_Hiredate , SocialMedia_Salary)
8. **ContentCreator** (ContentCreator_ID, ContentCreator_Name, ContentCreator_Email, ContentCreator_Password, ContentCreator_Picture , ContentCreator_Hiredate , ContentCreator_Salary)
9. **ContentCreator_SocialMedia** (Ccs_ID, **ContentCreator_ID** , ContentCreator_Facebook_Link, ContentCreator_Twitter_Link, ContentCreator_Instagram_Link, ContentCreator_Youtube_Link)
10. **ContentCreator_Address** (Cca_ID, **ContentCreator_ID**, ContentCreator_Country, ContentCreator_City, ContentCreator_Street, ContentCreator_Zip_Code)
11. **ContentCreator_Phone** (Ccp_ID, **ContentCreator_ID**, ContentCreator_Phone)
12. **SocialMedia_Phone** (Smp_ID, **SocialMedia_ID**, SocialMedia_Phone)

13. **Organization**(Organization_ID, Organization_Name, Organization_Email, Organization_Password, Organization_Picture, Organization_Phone, **Finance_ID**)
14. **Organization_Phone** (Op_ID, **Organization_ID**, Organization_Phone)
15. **Player**(Player_ID, Player_Name, Player_Email, Player_Password, Player_Picture, Player_JoinDate, Player_Salary, Player_Play_Hours, Player_DOB)
16. **Player_Address** (Pa_ID, **Player_ID**, Player_country, Player_City, Player_Street, Player_Zip_Code)
17. **Player_Social_Link** (Psl_ID, **Player_ID**, Player_Facebook_Link, Player_Instagram_Link, Player_Twitter_Link, Player_Youtube_Link)
18. **Player_Phone** (Pp_ID, **Player_ID**, Player_Phone)
19. **Player_Wining** (Pw_ID, **Player_ID**, Player_Winnig)
20. **Player_Team** (Pt_ID, **Player_ID**, **Team_ID**)
21. **Record**(Record_ID, Record_Date, Record_Price_Pool, **Tournament_ID**)
22. **Tournament**(Tournament_ID, Tournament_Name, Tournament_StartingDate, Tournament_EndingDate, Tournament_Location, Tournament_Prize_Pool)
23. **Game**(Game_ID, Game_Name, Game_Icon, Game_ReleaseDate, Game_Platform, Game_PricePool, Game_Genre, Game_Publisher)
24. **Tournament_Game**(Tournament_ID, Game_ID)
25. **Organization_Tournament**(Organization_ID, Tournament_ID)
26. **Team_Game**(Team_ID, Game_ID)
27. **Company**(Company_ID, Company_Name, Company_Email, Company_Picture, Company_Phone, location)
28. **Company_Phone**(Company_ID, Company_Phone)
29. **Organization_Company**(Organization_ID, Company_ID)
30. **Team_Company**(Team_ID, Company_ID)

4.10 Schema Diagram



Schema Diagram

SQL Queries

5.1 Table Creation

```
1 CREATE TABLE Admin (  
2     Admin_ID INT PRIMARY KEY,  
3     Admin_Name VARCHAR(100),  
4     Admin_Email VARCHAR(100),  
5     Admin_Password VARCHAR(100),  
6     Admin_Picture VARCHAR(100)  
7 );
```

Create Admin table

```
1 CREATE TABLE Manager (  
2     Manager_ID INT PRIMARY KEY,  
3     Manager_Name VARCHAR(100),  
4     Manager_Email VARCHAR(100),  
5     Manager_Password VARCHAR(100),  
6     Manager_Picture VARCHAR(100),  
7     Manager_Hiredate DATE,  
8     Admin_ID INT,  
9     FOREIGN KEY (Admin_id) REFERENCES Manager (Admin_ID)  
10 );
```

Create Manager table

```
1 CREATE TABLE Manager_Phone (  
2     Mp_ID INT PRIMARY KEY,  
3     Manager_ID INT,  
4     Manager_Phone VARCHAR(20),  
5     FOREIGN KEY (Manager_ID) REFERENCES Manager (Manager_ID)  
6 );
```

Create Manager Phone table

```
1 CREATE TABLE Finance (  
2     Finance_ID INT PRIMARY KEY,  
3     Finance_Account_Number VARCHAR(100),  
4     Finance_Balance DECIMAL(10, 2),  
5     Manager_ID INT,  
6     FOREIGN KEY (Manager_ID) REFERENCES Manager (Manager_ID)  
7 );
```

Create Finance table

```
1 CREATE TABLE Team (  
2     Team_ID INT PRIMARY KEY,  
3     Team_Name VARCHAR(100),  
4     Team_Icon VARCHAR(100),  
5     Team_Established_Date DATE,  
6     Team_Country VARCHAR(100),  
7     Total_Price_Money DECIMAL(10, 2),  
8     Manager_ID INT,  
9     FOREIGN KEY (Manager_ID) REFERENCES Manager (Manager_ID)  
10 );
```

Create Team table

```

1 CREATE TABLE Team_Winning (
2     Tw_ID INT PRIMARY KEY,
3     Team_ID INT,
4     Team_Winning VARCHAR(100),
5     FOREIGN KEY (Team_ID) REFERENCES Team (Team_ID)
6 );

```

Create Team Winning table

```

1 CREATE TABLE SocialMedia (
2     SocialMedia_ID INT PRIMARY KEY,
3     SocialMedia_Name VARCHAR(100),
4     SocialMedia_Email VARCHAR(100),
5     SocialMedia_Password VARCHAR(100),
6     SocialMedia_Picture VARCHAR(100),
7     SocialMedia_Hiredate DATE,
8     SocialMedia_Salary DECIMAL(10, 2)
9 );

```

Create SocialMedia table

```

1 CREATE TABLE ContentCreator (
2     ContentCreator_ID INT PRIMARY KEY,
3     ContentCreator_Name VARCHAR(100),
4     ContentCreator_Email VARCHAR(100),
5     ContentCreator_Password VARCHAR(100),
6     ContentCreator_Picture VARCHAR(100),
7     ContentCreator_Hiredate DATE,
8     ContentCreator_Salary DECIMAL(10, 2)
9 );

```

Create ContentCreator table

```

1 CREATE TABLE ContentCreator_SocialMedia (
2     Ccs_ID INT PRIMARY KEY,
3     ContentCreator_ID INT,
4     ContentCreator_Facebook_Link VARCHAR(100),
5     ContentCreator_Twitter_Link VARCHAR(100),
6     ContentCreator_Instagram_Link VARCHAR(100),
7     ContentCreator_Youtube_Link VARCHAR(100),
8     FOREIGN KEY (ContentCreator_ID) REFERENCES ContentCreator (ContentCreator_ID)
9 );

```

Create ContentCreator SocialMedia table

```

1 CREATE TABLE ContentCreator_Address (
2     Cca_ID INT PRIMARY KEY,
3     ContentCreator_ID INT,
4     ContentCreator_Country VARCHAR(100),
5     ContentCreator_City VARCHAR(100),
6     ContentCreator_Street VARCHAR(100),
7     ContentCreator_Zip_Code VARCHAR(20),
8     FOREIGN KEY (ContentCreator_ID) REFERENCES ContentCreator (ContentCreator_ID)
9 );

```

Create ContentCreator Address table

```

1 CREATE TABLE ContentCreator_Phone (
2     Ccp_ID INT PRIMARY KEY,
3     ContentCreator_ID INT,
4     ContentCreator_Phone VARCHAR(20),
5     FOREIGN KEY (ContentCreator_ID) REFERENCES ContentCreator (ContentCreator_ID)
6 );

```

Create ContentCreator Phone table

```

1 CREATE TABLE SocialMedia_Phone (
2     Smp_ID INT PRIMARY KEY,
3     SocialMedia_ID INT,
4     SocialMedia_Phone VARCHAR(20),
5     FOREIGN KEY (SocialMedia_ID) REFERENCES SocialMedia (SocialMedia_ID)
6 );

```

Create SocialMedia Phone table

```

1  CREATE TABLE Organization (
2      Organization_ID INT PRIMARY KEY,
3      Organization_Name VARCHAR(100),
4      Organization_Email VARCHAR(100),
5      Organization_Password VARCHAR(100),
6      Organization_Picture VARCHAR(100),
7      Organization_Phone VARCHAR(20),
8      Finance_ID INT,
9      FOREIGN KEY (Finance_ID) REFERENCES Finance (Finance_ID)
10 );

```

Create Organization table

```

1  CREATE TABLE Organization_Phone (
2      Op_ID INT PRIMARY KEY,
3      Organization_ID INT,
4      Organization_Phone VARCHAR(20),
5      FOREIGN KEY (Organization_ID) REFERENCES Organization (Organization_ID)
6 );

```

Create Organization Phone table

```

1  CREATE TABLE Player (
2      Player_ID INT PRIMARY KEY,
3      Player_Name VARCHAR(100),
4      Player_Email VARCHAR(100),
5      Player_Password VARCHAR(100),
6      Player_Picture VARCHAR(100),
7      Player_JoinDate DATE,
8      Player_Salary DECIMAL(10, 2),
9      Player_Play_Hours INT,
10     Player_DOB DATE
11 );

```

Create Player table

```

1  CREATE TABLE Player_Address (
2      Pa_ID INT PRIMARY KEY,
3      Player_ID INT,
4      Player_Country VARCHAR(100),
5      Player_City VARCHAR(100),
6      Player_Street VARCHAR(100),
7      Player_Zip_Code VARCHAR(20),
8      FOREIGN KEY (Player_ID) REFERENCES Player (Player_ID)
9 );

```

Create Player Address table

```

1  CREATE TABLE Player_Social_Link (
2      Psl_ID INT PRIMARY KEY,
3      Player_ID INT,
4      Player_Facebook_Link VARCHAR(100),
5      Player_Instagram_Link VARCHAR(100),
6      Player_Twitter_Link VARCHAR(100),
7      Player_Youtube_Link VARCHAR(100),
8      FOREIGN KEY (Player_ID) REFERENCES Player (Player_ID)
9 );

```

Create Player Social Link table

```

1  CREATE TABLE Player_Phone (
2      Pp_ID INT PRIMARY KEY,
3      Player_ID INT,
4      Player_Phone VARCHAR(20),
5      FOREIGN KEY (Player_ID) REFERENCES Player (Player_ID)
6 );

```

Create Player Phone table

```

1 CREATE TABLE Player_Winning (
2     Pw_ID INT PRIMARY KEY,
3     Player_ID INT,
4     Player_Winning VARCHAR(100),
5     FOREIGN KEY (Player_ID) REFERENCES Player (Player_ID)
6 );

```

Create Player Winning table

```

1 CREATE TABLE Player_Team (
2     Pt_ID INT PRIMARY KEY,
3     Player_ID INT,
4     Team_ID INT,
5     FOREIGN KEY (Player_ID) REFERENCES Player (Player_ID),
6     FOREIGN KEY (Team_ID) REFERENCES Team (Team_ID)
7 );

```

Create Player Team table

```

1 CREATE TABLE Tournament (
2     Tournament_ID INT PRIMARY KEY,
3     Tournament_Name VARCHAR(100),
4     Tournament_StartingDate DATE,
5     Tournament_EndingDate DATE,
6     Tournament_Location VARCHAR(100),
7     Tournament_Prize_Pool DECIMAL(10, 2),
8     Organization_ID INT,
9     FOREIGN KEY (Organization_ID) REFERENCES Organization (Organization_ID)
10 );

```

Create Tournament table

```

1 CREATE TABLE Record (
2     Record_ID INT PRIMARY KEY,
3     Record_Date DATE,
4     Record_Price_Pool DECIMAL(10, 2),
5     Tournament_ID INT,
6     FOREIGN KEY (Tournament_ID) REFERENCES Tournament (Tournament_ID)
7 );

```

Create Record table

```

1 CREATE TABLE Game (
2     Game_ID INT PRIMARY KEY,
3     Game_Name VARCHAR(100),
4     Game_Icon VARCHAR(100),
5     Game_ReleaseDate DATE,
6     Game_Platform VARCHAR(100),
7     Game_Price_Pool DECIMAL(10, 2),
8     Game_Genre VARCHAR(100),
9     Game_Publisher VARCHAR(100)
10 );

```

Create Game table

```

1 CREATE TABLE Tournament_Game (
2     Tournament_ID INT,
3     Game_ID INT,
4     PRIMARY KEY (Tournament_ID, Game_ID),
5     FOREIGN KEY (Tournament_ID) REFERENCES Tournament (Tournament_ID),
6     FOREIGN KEY (Game_ID) REFERENCES Game (Game_ID)
7 );

```

Create Tournament Game table

```

1 CREATE TABLE Organization_Tournament (
2     Organization_ID INT,
3     Tournament_ID INT,
4     PRIMARY KEY (Organization_ID, Tournament_ID),
5     FOREIGN KEY (Organization_ID) REFERENCES Organization (Organization_ID),
6     FOREIGN KEY (Tournament_ID) REFERENCES Tournament (Tournament_ID)
7 );

```

Create Organization Tournament table

```

1 CREATE TABLE Team_Game (
2     Team_ID INT,
3     Game_ID INT,
4     PRIMARY KEY (Team_ID, Game_ID),
5     FOREIGN KEY (Team_ID) REFERENCES Team (Team_ID),
6     FOREIGN KEY (Game_ID) REFERENCES Game (Game_ID)
7 );

```

Create Team Game table

```

1 CREATE TABLE Company (
2     Company_ID INT PRIMARY KEY,
3     Company_Name VARCHAR(100),
4     Company_Email VARCHAR(100),
5     Company_Picture VARCHAR(100),
6     Company_Phone VARCHAR(20),
7     Company_Location VARCHAR(100)
8 );

```

Create Company table

```

1 CREATE TABLE Company_Phone (
2     Company_ID INT,
3     Company_Phone VARCHAR(20),
4     PRIMARY KEY (Company_ID, Company_Phone),
5     FOREIGN KEY (Company_ID) REFERENCES Company (Company_ID)
6 );

```

Create Company Phone table

```

1 CREATE TABLE Organization_Company (
2     Organization_ID INT,
3     Company_ID INT,
4     PRIMARY KEY (Organization_ID, Company_ID),
5     FOREIGN KEY (Organization_ID) REFERENCES Organization (Organization_ID),
6     FOREIGN KEY (Company_ID) REFERENCES Company (Company_ID)
7 );

```

Create Organization Company table

```

1 CREATE TABLE Team_Company (
2     Team_ID INT,
3     Company_ID INT,
4     PRIMARY KEY (Team_ID, Company_ID),
5     FOREIGN KEY (Team_ID) REFERENCES Team (Team_ID),
6     FOREIGN KEY (Company_ID) REFERENCES Company (Company_ID)
7 );

```

Create Team Company table

Relational Algebra

6.1 Selection

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Conclusion

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.