Assignment

Name: Azizul Abedin Azmi

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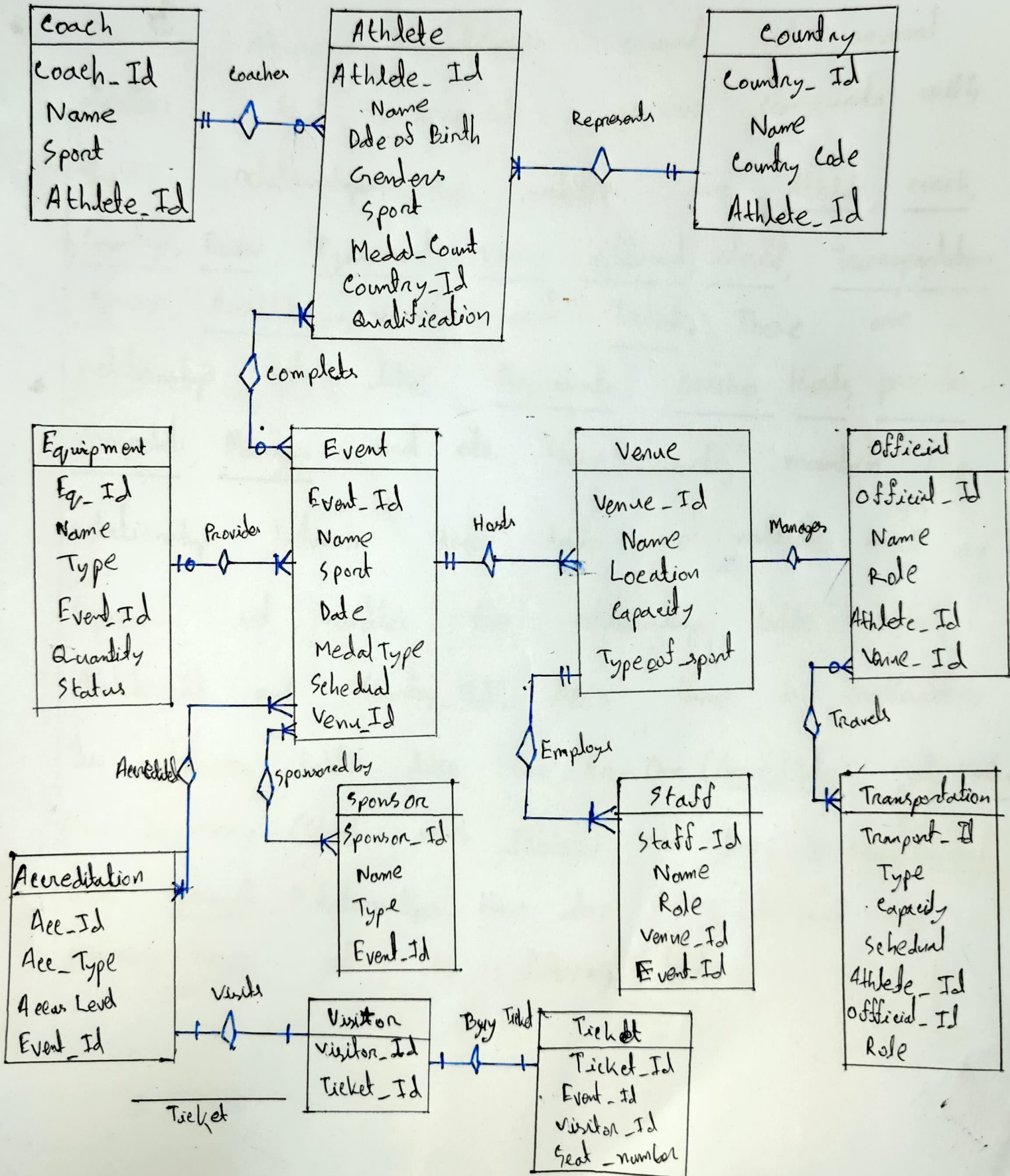**Date: 16/09/2024**

Course Instructor:

Dr. Mohammad Rezwanul Huq

Associate Professor

Department of Computer

Science and Engineering

ER Diagram

Coach
- Coach_Id
- Name
- Sport
- Athlete_Id

Coaches (relationship: Coach ‖——◇——o Athlete)

Athlete
- Athlete_Id
- Name
- Date of Birth
- Genders
- Sport
- Medal_Count
- Country_Id
- Qualification

Represents (relationship: Athlete >——◇——‖ Country)

Country
- Country_Id
- Name
- Country Code
- Athlete_Id

completes (relationship: Athlete ——◇——o Event)

Equipment
- Eq_Id
- Name
- Type
- Event_Id
- Quantity
- Status

Provides (relationship: Equipment o——◇——< Event)

Event
- Event_Id
- Name
- Sport
- Date
- Medal Type
- Schedual
- Venu_Id

Hosts (relationship: Event ‖——◇——< Venue)

Venue
- Venue_Id
- Name
- Location
- Capacity
- Type of sport

Manages (relationship: Venue ——◇—— Official)

Official
- Official_Id
- Name
- Role
- Athlete_Id
- Venue_Id

Accredits (relationship)

Sponsored by (relationship)

Employs (relationship: Venue ‖——◇——< Staff)

Travels (relationship: Official o——◇——< Transportation)

Accreditation
- Acc_Id
- Acc_Type
- Acces Level
- Event_Id

Sponsor
- Sponsor_Id
- Name
- Type
- Event_Id

Staff
- Staff_Id
- Name
- Role
- Venue_Id
- Event_Id

Transportation
- Transport_Id
- Type
- Capacity
- Schedual
- Athlete_Id
- Official_Id
- Role

Visits (relationship: Accreditation ——◇—— Visitor)

Visitor
- Visitor_Id
- Ticket_Id

Buy Ticket (relationship: Visitor ——◇—— Ticket)

Ticket
- Ticket_Id
- Event_Id
- Visitor_Id
- Seat_number

Ticket

The following ER-Diagram for the Paris 2024 olympic database consists of several entities that represents various components with their relationships. The entities are Athlde, coach, Country, Event, Equipment, venue, official, staff, Transportation, sponsor, Accreditation, visitor and Ticket. These are relationship sets like Represents, coaches, Hosts, provides, Competets, Manages and etc. These sets maintain the relationship between two tables are multiple such as Represents set handles the relationship table with Athlete_Id and Country_Id. Also there is cardinalities in between tables like, One-to-One (Accreditation with Visitor) One-to-Many (Coach with Athlete) and Many-to-many (Event with Sponsor) Relationships. Here, also we defined the primary keys of the following tables.

Relational Model

Coach

Pk	Coach_Id
Varchar	Name
Varchar	Sport
Fk	Athlete_Id

Athlete

Pk	Athlete_Id
Varchar	Name
Date	DOB
Varchar	Sport
Number	Medal_count
Fk	country_Id
Varchar	Qualification

Country

Pk	Contra_Id
Varchar	Name
Number	Country_code
Fk	Athlete_Id

Equipment

Pk	Eqr_Id
Varchar	Name
Varchar	Type
Fk	Event_Id
Number	Quantity
Char	Status

Event

Pk	Event_Id
Varchar	Name
char	sport
Date	Date
char	Medal type
Date	Schedule
Fk	Venue_Id
Fk	Athlete_Id

Venue

Pk	Venue_Id
Varchar	Name
Varchar	Location
Number	Capacity
char	Type_sport

Official

Pk	Official_Id
Varchar	Name
char	Role
Fk	Athlete_Id
Fk	Venue_Id

Accreditation

Pk	Acc_Id
char	Acc_Type
char	Access Level
Fk	Event_Id

Sponsor

Pk	Sponsor_Id
Varchar	Name
char	Type
Fk	Event_Id

Staff

Pk	Staff_Id
Varchar	Name
char	Role
Fk	Venue_Id
Fk	Event_Id

Transportation

Pk	Transport_Id
char	Type
Number	Capacity
Date	Schedule
Fk	Athlete_Id
Fk	Official_Id
Varchar	Route

Visitor

Pk	Visitor_Id
Fk	Ticket_Id

Ticket

Pk	Ticket_Id
Fk	Event_Id
Fk	Visitor_Id
Number	Seat Number

The following Relational model converts the ER model into a tabular form, defining data storage through tables, fields, and constraints(PKs and FKs). It provides a detailed structured for implementing the database and focuses on ensuring data integrity through relationships between tables, allowing queries to retrive and manipulate data efficiently.