**CO226 – Database Systems**

**E18Project - Description**

**Group No. 14 (E/18/077, E/18/147, E/18/379)**

**The University Gymnasium**

This database aims to keep track of the operations involving the university gymnasium. It will store information about the usage of the gymnasium’s arenas, usage of gym equipment, details about sporting competitions and sport team captain’s details as well as gym staff details which will be in the system for the ease of communication between the gym staff and students.

The details of the schedules of the upcoming year’s sporting events for university students will also be available in the database.

All athletes’ achievements at competitions will also be stored in the database.

Additionally, if any stadium in the gymnasium is reserved to be used by outsiders for their events, that too will be recorded in the database system.

The database will also have details and contact information of the gym’s staff.

Thus, we identify several key users of this system, namely, **Director of the Department of physical education, gymnasium staff (front desk), coaches, students and visitors.**

The web interface will include interactive interfaces for above mentioned users and will additionally have a link to the department of physical education website which will direct users who want more information about the gymnasium and its facilities.

To store the information described above there will be several tables in the system.

1. Gymnasium Staff

This table will include details such as Employee ID, Employee name, National ID No. , Contact number, year of employment etc. The primary keys of the table will be Employee ID and National ID No.

1. Gym Equipment

This table will have details about the equipment such as Equipment ID, Equipment type, Equipment description as well as availability. The primary key of the table will be Equipment ID. This table will be a reference table to the Gym Equipment Reservation table.

1. Gym Equipment Reservation

This table will have details about the borrowed equipment such as Reservation ID, Equipment ID, Student ID, reserved date and time as well as returned date and time. This table will have Equipment ID and Student ID as foreign keys.

1. Sporting arenas

This table will have details about the sporting arenas such as Arena ID, Arena Type, Arena Description, and Reservation Status. The primary key of the table will be the Arena ID. This table will be a reference table to the Stadium Reservation table.

1. Stadium Reservation

This table will have the details about the reservations being made. The details will include the Reservation ID, Arena ID (foreign key), Reserved By, Student Registration Number (foreign key), Reserved Date, Reserved Time, End Date, and End Time. The primary key of the table will be the Reservation ID.

1. Sports Captain Information

This table will have details about the Sports captains such as Student Registration No., Sport, Contact Number and Email Address. The primary key of the table will be the Student Registration No.

1. Sporting competitions

This table will have the details of the upcoming sporting competitions for the university students. The table will include the details of the competition ID (primary key), name of the competition date, location and organizer details.

1. Achievements

This table will have details about the achievements of the students/sports teams in various competitions. It will include details about the student, competition and achievements.

1. Student

This table will have details about the Students such as Student Registration No, Contact Number and Email Address. The primary key of the table will be the Student Registration No. This table will be a reference table to the Gym Equipment Reservation table and stadium reservation table.

1. Visitor (A table to hold records/ details of those who have made stadium reservations)

This table will include details about those who have made reservations as outsiders.

The table will include Reservation ID, Name, Contact Number, and Description. The primary key of this table will be the Reservation ID. This table will be a reference table to the Stadium Reservation table.

**Users and features of the system**

1. **Students**

Students are only allowed to **read** from the system.

They will be able to log into the system as a student and view all details in the tables, “Gymnasium Staff”, “Gym Equipment”, “Gym Equipment Reservation”, ,”Sporting arenas”, “Stadium reservation”, “Sports Captain Information”, “Achievements” and “Sporting competitions”.

Based on the information a student gathers from the above tables, he/she may make a reservation through the Gymnasium’s front desk/ director's office.

1. **Gymnasium Director**

The gymnasium directors or their secretaries are allowed to **create, read,**

**update** and **delete** data from all tables in the system.

Create

* The manager is allowed to create/add new entries to the database.
  + Add in new equipment.
  + Add in a new equipment reservation for a student.
  + Add in a new stadium reservation for a team or a student
  + Add sporting arena’s details.
  + Add captains’ details at the beginning of every new sporting year
  + Include all sporting competition information
  + Add in details of visitors who reserve sporting arenas.
  + Add new staff members.

Read

* The manager can view all tables in the database.

Update

* The manager updates the database whenever equipment is returned/ borrowed and whenever a stadium is reserved and not.
* The manager also updates and keeps track of the new gym staff members, captains and sporting competitions.
* Update the athletes’ achievements table information.

Delete

* If staff members retire, the relevant details will be deleted from the system.
* If reservations are canceled, the relevant information is deleted from the system.

1. **Gymnasium Staff (front desk)**

The front desk is allowed to **create**, **read, update and delete** data in certain

tables of the system.

Create

* The staff is allowed to create/add new entries to the database.
  + Add in a new equipment reservation for a student.
  + Add in a new stadium reservation for a team or a student
  + Include all sporting competition information

Read

* The staff can view all tables in the database.

Update

* The staff updates the database whenever equipment is returned/ borrowed and whenever a stadium is reserved and not.

Delete

* If reservations are canceled, the gym staff deletes the relevant information from the system.

1. **Coaches**

Coaches are only allowed to **read** from the system.

They will be able to log into the system as a coach and view all details in the tables, “Gymnasium Staff”,  “Gym Equipment”, “Stadium reservation”  ,”Sporting arenas”, “Captain Information”, “Achievements” and “Sporting competitions”.

Based on the information the coach gathers, he/she may make a reservation through the Gymnasium’s front desk/director’s office.

1. **Visitors**

Visitors are only allowed to **read** from the system

They are allowed to log into the system and view the tables, “Stadium Reservations”, “Gym Equipment”, ”Sporting arenas” and “Gymnasium Staff” only.

If an outsider wishes to reserve the gym, they may go through the “Gymnasium Staff” table for contact details and make a reservation through the gym’s front desk/directors office.