



IST 659- Prof. S. Varma

U-FIT Gym Management System

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01

INTRODUCTION



About the Project

- **The gym management system is a software application that helps the members and trainers of the gym to manage their day-to-day operations.**
- **It can be used to manage diets, sessions, equipments, etc.**
- **A gym management system can help gyms improve efficiency, reduce costs, and increase profitability.**





Why this topic?

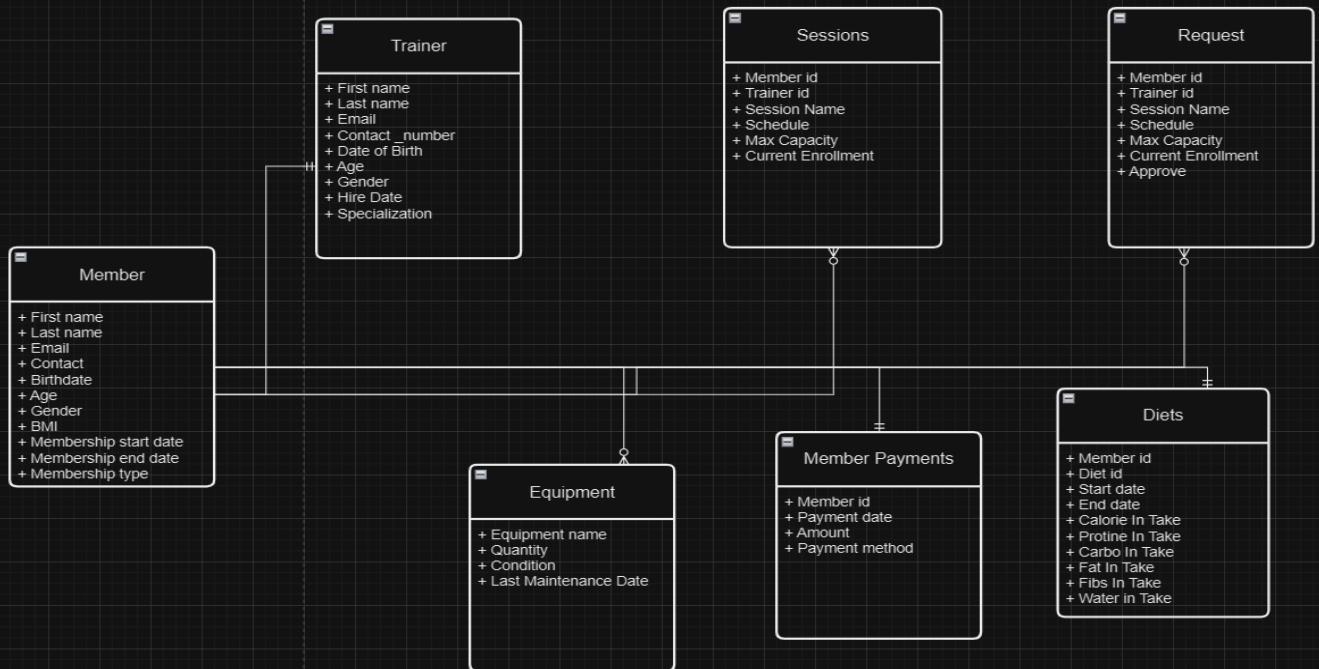
- **Because why not!**
- **Personal interest and relevance**
- **Real-world relevance**
- **Diverse data management**
- **User interaction**
- **Data integrity and security**
- **Querying and reporting**
- **System scalability**
- **Learning opportunities**
- **Problem-solving**
- **Project portfolio**



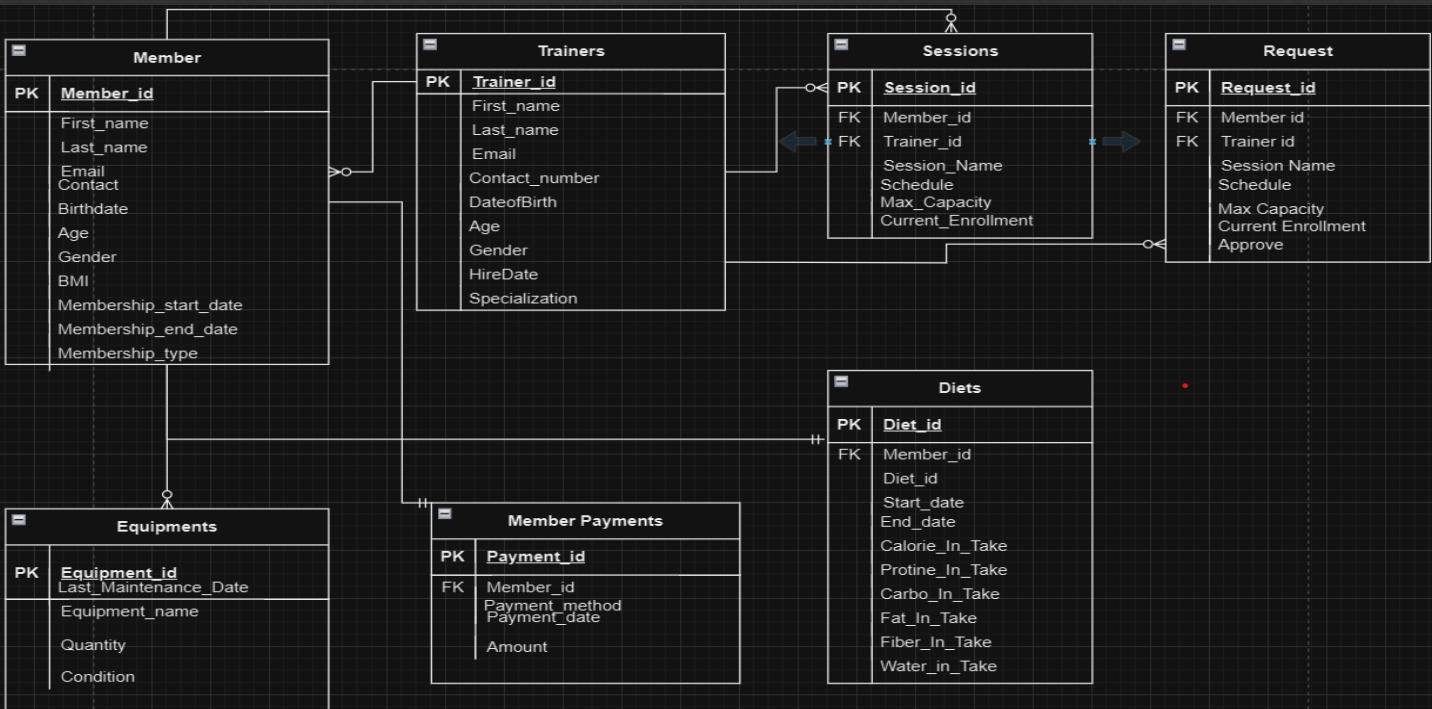
02

DIAGRAMS

1. Conceptual Data Model



1. Logical Data Model





03

DATASET

1. Members

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. On the left, the Object Explorer displays a connection to 'localhost <default> (sa)' and a database named 'ist659nmshirod'. Under the 'Tables' node, there is a single table named 'Members'. The script pane shows the T-SQL code for creating the 'Members' table:

```
32      create table Members (
33          MemberID VARCHAR(10) PRIMARY KEY,
34          first_name VARCHAR(50),
35          last_name VARCHAR(50),
36          email VARCHAR(50),
37          contact VARCHAR(50),
38          birthdate DATE,
39          age INT,
40          gender VARCHAR(50),
41          BMI INT,
42          membership_start_date DATE,
43          membership_end_date DATE,
44          membership_type VARCHAR(50)
45      );
46
47
48      SELECT * FROM Members
49
```

The results pane displays the data for the 'Members' table:

MemberID	first_name	last_name	email	contact	birthdate	age	gender	BMI	membership_start_date	membership_end_date	membership_type
M001	John	Doe	john@example.com	1234567890	1990-05-15	31	Male	25	2022-01-01	2023-01-01	Standard
M002	Alice	Smith	alice@example.com	9876543210	1985-08-20	36	Female	28	2022-02-10	2023-02-10	Standard
M003	Michael	Johnson	michael@example.com	4567890123	1995-04-25	26	Male	23	2022-03-05	2023-03-05	Standard
M004	Emily	Brown	emily@example.com	7890123456	1998-12-10	23	Female	22	2022-04-15	2023-04-15	Standard
M005	Robert	Wilson	robert@example.com	2345678901	1993-11-18	28	Male	26	2022-05-20	2023-05-20	Standard
M006	Sophia	Miller	sophia@example.com	8901234567	1991-09-30	30	Female	25	2022-06-25	2023-06-25	Standard
M007	William	Garcia	william@example.com	3456789012	1996-07-08	25	Male	24	2022-07-30	2023-07-30	Standard
M008	Olivia	Martinez	olivia@example.com	9012345678	1997-03-12	24	Female	27	2022-08-12	2023-08-12	Standard
M009	Daniel	Lee	daniel@example.com	0123456789	1994-02-28	27	Male	21	2022-09-05	2023-09-05	Standard
M010	Ava	Lopez	ava@example.com	5678901234	2000-06-05	21	Female	20	2022-10-18	2023-10-18	Standard
M011	Ethan	Harris	ethan@example.com	7890123456	1989-10-22	32	Male	29	2022-11-22	2023-11-22	Standard
M012	Mia	Clark	mia@example.com	2345678901	1992-12-03	29	Female	26	2022-12-30	2023-12-30	Standard
M013	James	Lewis	james@example.com	8901234567	1999-04-14	22	Male	23	2023-01-05	2024-01-05	Standard
M014	Charlotte	Young	charlotte@example.com	3456789012	1990-08-19	31	Female	27	2023-02-10	2024-02-10	Standard

2. Trainers

The screenshot shows the SSMS interface with the following details:

- Connections:** Disconnected.
- Servers:** localhost, <default> (sa).
- Database:** ist659nmshirod
- Query:** A CREATE TABLE statement for "Trainers" and a SELECT * FROM Trainers query.
- Results:** A table showing 5 rows of data for trainers T1 through T5.
- Toolbar:** Includes Run, Cancel, Disconnect, Change, Estimated Plan, Enable Actual Plan, Parse, Enable SQLCMD, To Notebook, and other standard SSMS icons.
- Status Bar:** Shows Ln 88, Col 23 (22 selected), Spaces: 3, UTF-8, CRLF, 5 rows, MSSQL, 00:00:00, and the connection string ist659nmshirod.database.windows.net : ist659...shirod.
- Taskbar:** Shows the Windows Start button, a search bar with "Type here to search", and pinned icons for File Explorer, Edge, Mail, Photos, and File History.
- System Tray:** Shows battery level, network status, and system date/time (12/4/2023, 2:29 PM, ENG).

3. Sessions

The screenshot shows the SSMS interface with the following details:

- Connections:** Disconnected.
- Servers:** localhost, <default> (sa).
- Database:** ist659nmshirod
- Query:** A CREATE TABLE statement for "Sessions" and a SELECT * FROM Sessions query.
- Results:** A table showing 5 rows of session data.
- Toolbar:** Includes Run, Cancel, Disconnect, Change, Estimated Plan, Enable Actual Plan, Parse, Enable SQLCMD, To Notebook, and other standard SSMS icons.
- Status Bar:** Shows Ln 111, Col 23, Spaces: 3, UTF-8, CRLF, 5 rows, MSSQL, 00:00:00, and the connection string ist659nmshirod.database.windows.net : ist659...shirod.
- Taskbar:** Shows the Windows Start button, a search bar with "Type here to search", and pinned icons for File Explorer, Edge, Mail, Photos, and File History.
- System Tray:** Shows battery level, network status, and system date/time (12/4/2023, 2:32 PM, ENG).

4. Equipments

The screenshot shows the SSMS interface with the following details:

- Connections:** Disconnected.
- Servers:** localhost, <default> (sa) and ist659nmshirod.database.windows.net (nmshirod).
- Database:** ist659nmshirod.
- Query:** A script to create the 'Equipments' table and a select query to retrieve all data from it.
- Results:** A table showing 11 rows of equipment data.
- Toolbar:** Includes icons for Run, Cancel, Disconnect, Change, Estimated Plan, Enable Actual Plan, Parse, Enable SQLCMD, To Notebook, and others.
- Status Bar:** Shows the current state (Ln 133, Col 25 (24 selected)), encoding (Spaces: 3), file type (UTF-8), line count (11 rows), database (MSSQL), time (00:00:00), and connection details (ist659nmshirod.database.windows.net : ist659nmshirod).
- Taskbar:** Shows the Windows Start button, search bar, and pinned icons for File Explorer, Edge, Mail, and Cloud.

5. Diets

The screenshot shows the SSMS interface with the following details:

- Connections:** Disconnected.
- Servers:** localhost, <default> (sa) and ist659nmshirod.database.windows.net (nmshirod).
- Database:** ist659nmshirod.
- Query:** A script to create the 'Diets' table and a select query to retrieve all data from it.
- Results:** A table showing 5 rows of diet data.
- Toolbar:** Includes icons for Run, Cancel, Disconnect, Change, Estimated Plan, Enable Actual Plan, Parse, Enable SQLCMD, To Notebook, and others.
- Status Bar:** Shows the current state (Ln 165, Col 20 (19 selected)), encoding (Spaces: 3), file type (UTF-8), line count (5 rows), database (MSSQL), time (00:00:00), and connection details (ist659nmshirod.database.windows.net : ist659nmshirod).
- Taskbar:** Shows the Windows Start button, search bar, and pinned icons for File Explorer, Edge, Mail, and Cloud.

6. Member Payments

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. In the Object Explorer, under SERVERS, there is a connection to 'localhost, <default> (sa)' and a database named 'ist659nmshirod'. Under 'AZURE', there is a user 'Neha Milind Shirodkar - nmshirod@syr.edu'. In the center pane, a T-SQL script is being run:

```
CREATE TABLE MemberPayments (
    PaymentID VARCHAR(10) PRIMARY KEY,
    MemberID VARCHAR(10),
    PaymentDate DATE,
    Amount DECIMAL(10, 2),
    PaymentMethod VARCHAR(20)
    FOREIGN KEY (MemberID) REFERENCES Members(MemberID)
);

SELECT * FROM MemberPayments;
```

The results pane displays a table of member payments:

	PaymentID	MemberID	PaymentDate	Amount	PaymentMethod
1	P1	M001	2022-01-10	50.00	Credit Card
2	P10	M010	2022-10-10	85.00	Credit Card
3	P11	M011	2022-11-15	95.00	Debit Card
4	P12	M012	2022-12-20	70.00	Online Payment
5	P13	M013	2023-01-25	75.00	Cash
6	P14	M014	2023-02-28	80.00	Credit Card
7	P15	M015	2023-03-05	60.00	Debit Card
8	P16	M016	2023-04-10	100.00	Online Payment
9	P17	M017	2023-05-15	55.00	Cash
10	P18	M018	2023-06-20	70.00	Credit Card
11	P19	M019	2023-07-25	90.00	Debit Card
12	P2	M002	2022-02-15	75.00	Cash
13	P20	M020	2023-08-30	80.00	Online Payment
14	P3	M003	2022-03-20	60.00	Debit Card
15	P4	M004	2022-04-05	100.00	Online Payment
16	P5	M005	2022-05-12	55.00	Cash
17	P6	M006	2022-06-18	70.00	Credit Card
18	P7	M007	2022-07-25	80.00	Debit Card

At the bottom, the status bar shows: Ln 186, Col 29 (28 selected) Spaces: 3 UTF-8 CRLF 20 rows MSSQL 00:00:00 ist659nmshirod.database.windows.net : ist659nmshirod. The taskbar at the bottom includes icons for File, Edit, View, Help, and several pinned applications.

7. Requests

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. In the Object Explorer, under SERVERS, there is a connection to 'localhost, <default> (sa)' and a database named 'ist659nmshirod'. Under 'AZURE', there is a user 'Neha Milind Shirodkar - nmshirod@syr.edu'. In the center pane, a T-SQL script is being run:

```
CREATE TABLE Requests (
    RequestID VARCHAR(10) PRIMARY KEY,
    MemberID VARCHAR(10),
    TrainerID VARCHAR(10),
    SessionName VARCHAR(50),
    Schedule VARCHAR(50),
    MaxCapacity INT,
    CurrentEnrollment INT,
    Approve BIT DEFAULT 0,
    FOREIGN KEY (MemberID) REFERENCES Members(MemberID),
    FOREIGN KEY (TrainerID) REFERENCES Trainers(TrainerID)
);

SELECT * FROM Requests;
```

The results pane displays a table of requests:

	RequestID	MemberID	TrainerID	SessionName	Schedule	MaxCapacity	CurrentEnrollment	Approve
1	REQ001	M001	T1	Yoga Class	Monday 5 PM	20	15	0
2	REQ002	M002	T2	Pilates Session	Wednesday 7 AM	15	10	0
3	REQ003	M003	T3	Cardio Workout	Friday 6 PM	25	20	0
4	REQ004	M004	T2	Zumba Fitness	Tuesday 6:30 PM	30	25	0
5	REQ005	M001	T1	Strength Training	Thursday 4 PM	18	12	0

At the bottom, the status bar shows: Ln 280, Col 23 (22 selected) Spaces: 3 UTF-8 CRLF 5 rows MSSQL 00:00:00 ist659nmshirod.database.windows.net : ist659nmshirod. The taskbar at the bottom includes icons for File, Edit, View, Help, and several pinned applications.



04

DEMONSTRATION

Recorded Video

The screenshot shows a web browser window with the URL <https://video.syr.edu/recorder/index/record>. The main content area is titled "Record Media" and displays a large, dark rectangular video frame. In the bottom center of the frame is a small control bar with a red play button icon and the text "00:00". The browser's address bar and various toolbars are visible around the main content area. The taskbar at the bottom of the screen shows several pinned icons, including Microsoft Edge, File Explorer, and various system icons. The system tray on the right side of the taskbar displays the date and time as "04-12-2023 17:04".



05

AREAS OF IMPROVEMENT



Improvisations:

1. Implement Session and Diet Requests Approval from Trainer.
2. Automated Notifications
3. Payment Interface
4. Personalized Workout Plans
5. Data Analytics and Reporting





06

CHALLENGES



Challenges:

1. Logic building and linking the session and diet request approvals from the Trainer
2. Structuring of Database
3. Diagram Integration





"Strength does not come from what you can do. It comes from overcoming the things you once thought you couldn't"

THANKS!

