Gym System Analysis

1: Feasibility Study

1.1 Economic Feasibility:

- Increased demand for sports clubs.
- Gym subscriptions provide stable monthly income.
- Opportunities for expansion: personal training, product sales.

1.2 Technical Feasibility:

- Web technologies are sufficient to build the system.
- Use of C#.
- No need for specialized hardware.

1.3 Operational Feasibility:

- Ease of use after simple training.
- Reduction of errors resulting from manual operations.

1.4 Time Feasibility:

- Implementation period: 2-3 months.

2: System Analysis

2.1 Main Users:

- Receptionist, Trainers, Management, Members.

2.2 Main Functions:

- **Member registration, Subscription management, Attendance tracking, Class scheduling, Payment management, Report generation.**

2.3 Current Problems:

- **Delays, Data loss, Lack of accurate statistics.**

3: System Design

3.1 Interfaces:

- **Employee control panel, Management interface, Member interface.**

3.2 General Structure:

- **Web application based on MVC.**
- **SQL Server as a database.**
- **C# for the front-end.**

3.3 DFD Level 1:

- **Member → Registers → System → Stores Data**
- **Employee → Enters Subscription → System → Links to Member**
- **System → Generates Reports → Management**

4: Operation

4.1 Operational Requirements:

- **Server or cloud hosting, Browser, Backup.**

4.2 Training and Support:

- **Employee training, User manual, Simple technical support.**

4.3 Operation Plan:

- **Basic data entry, Member registration, Attendance and payment tracking.**

5: Database Analysis

5.1 Entities:

- **Member: Name, Email, Phone, Join Date.**
- **Subscription: Type, Start Date, End Date, Price, Linked to Member.**
- **Trainer: Name, Specialization.**
- **Class: Name, Time, Trainer.**
- **Attendance: Member, Date, Class Type.**
- **Payment: Member, Amount, Date.**

5.2 Relationships:

- **One Member ↔ Many Subscriptions.**
- **One Member ↔ Many Attendances.**

- **One Class ↔ One Trainer.**
- **One Member ↔ Many Payments.**

Page 6: ERD Diagram

Entity-Relationship Diagram:

- **[Member] 1---< [Subscription]**
- **[Member] 1---< [Attendance] >---1 [Class] >---1 [Trainer]**
- **[Member] 1---< [Payment]**