

Who did what in each stage:

Stage 1 (Requirements):

Requirements were split evenly between all 3 team members.

Stage 2 (DBMS Design and Implementation):

Ahmed Fekry: ERD, UPDATE queries.

Mohamed Rabie: Relational Data model, INSERT queries.

Omar Alhaywan: CREATE and SELECT queries.

Stage 3 (GUI using prompt engineering):

Ahmed Fekry: Admin web page and functionality.

Mohamed Rabie: Coach, Client web pages.

Omar Alhaywan: initial prompts to create the first few landing pages, Web page and database integration.

Stage 4 (Testing and Validation):

Testing and Validation was split evenly between us and each one performed one automated test case.

Requirement – Query Matrix:

Query	Requirement ID	Description
INSERT INTO Clients (ClientID, FirstName, LastName, Age, Gender, StartDate, Email, PhoneNumber, AssignedCoachID, NPID, TPID, MembershipStatus) VALUES (...);	REQ_001	Inserting a new client profile into the system.
DELETE FROM Clients WHERE ClientID = 7;	REQ_001	Deleting a client profile from the system.
UPDATE Clients SET AssignedCoachID = 2 WHERE ClientID = 1;	REQ_004	Assigning a coach to a specific client.
SELECT cl.FirstName, cl.LastName, n.planType, t.DaysPerWeek, co.FirstName, co.LastName FROM Clients cl, nutritionPlan n, trainingPlan t, Coaches co	REQ_006	Displaying a dashboard summarizing a client's active plans and assigned coach.

Query	Requirement ID	Description
WHERE cl.NPID = n.NutritionID AND cl.TPID = t.TrainingID AND cl.AssignedCoachID = co.CoachID AND ClientID = 2;		
UPDATE Clients SET TPID = 3 WHERE ClientID = 1;	REQ_007	Updating and monitoring the progress of a client by modifying their training plan.
SELECT cl.FirstName, cl.LastName FROM Clients cl, Coaches co WHERE co.Specialty = 'Calisthenics' AND cl.AssignedCoachID = co.CoachID;	REQ_004	Finding clients assigned to a coach with a specific specialty (Calisthenics).
SELECT c.ClientID, c.FirstName, c.LastName FROM Clients c, nutritionPlan n WHERE c.NPID = n.NutritionID AND n.Calories >= 2000 ORDER BY c.ClientID DESC;	REQ_003	Selecting clients with a nutrition plan of 2000 calories or more.
SELECT cl.FirstName, cl.LastName FROM Clients cl, Coaches co WHERE cl.AssignedCoachID = co.CoachID AND co.CoachID = 4;	REQ_004	Selecting clients assigned to a specific coach (CoachID = 4).
ALTER TABLE Clients ADD username VARCHAR(100); ALTER TABLE Clients ADD password VARCHAR(255);	REQ_005	Adding authentication fields (username and password) for clients.
ALTER TABLE Administrators ADD username VARCHAR(100); ALTER TABLE Administrators ADD password VARCHAR(255);	REQ_005	Adding authentication fields (username and password) for administrators.
ALTER TABLE Coaches ADD username VARCHAR(100); ALTER TABLE Coaches ADD password VARCHAR(255);	REQ_005	Adding authentication fields (username and password) for coaches.
UPDATE Clients SET username = 'fathyaley', password = 'fathyaley' WHERE ClientID = 1;	REQ_005	Setting authentication credentials for a specific client.
UPDATE Coaches SET username = 'NasserAley', password = 'NasserAley' WHERE CoachID = 1;	REQ_005	Setting authentication credentials for a specific coach.
UPDATE Administrators SET username = 'omar', password = 'omar' WHERE AdminID = 1;	REQ_005	Setting authentication credentials for a specific administrator.

Query	Requirement ID	Description
SELECT * FROM Clients;	REQ_001	Viewing all client profiles in the system.
SELECT * FROM Coaches;	REQ_004	Viewing all coach profiles in the system.
SELECT * FROM nutritionPlan;	REQ_003	Viewing all nutrition plans in the system.
SELECT * FROM trainingPlan;	REQ_002	Viewing all training plans in the system.

Requirement – Testing Matrix:

Test Case ID	Requirement ID	Description
TC_001	REQ_001	Create a new client profile.
TC_002	REQ_001	Verify that an admin can update an existing client profile.
TC_003	REQ_002	Verify that a coach can assign a training plan for a client.
TC_004	REQ_002	Verify that a coach can update a training plan for a client.
TC_005	REQ_004	Verify that a coach can view their assigned clients.
TC_006	REQ_005	Verify that a client cannot log in with incorrect credentials.
TC_007	REQ_010	Verify that the system supports multiple roles (admin, coach, client).
TC_008	REQ_001	Verify that an admin can delete a client profile.
TC_009	REQ_008	Verify that a client can view their training plan.
TC_010	REQ_008	Verify that a client can view their nutrition plan.
TC_011	REQ_013	Verify that a client can cancel their membership.
TC_012	REQ_013	Verify that a client can re-register their membership.
TC_013	REQ_001	Verify that an admin can view all clients in the system.

Test Case ID	Requirement ID	Description
TC_014	REQ_002	Verify that a coach can view all training plans.
TC_015	REQ_008	Verify that a client cannot view training plans without logging in.
TC_016	REQ_008	Verify that a client cannot view nutrition plans without logging in.
TC_017	REQ_002	Verify that a coach cannot assign plans to a client without selecting a plan.
TC_018	REQ_013	Verify that a client cannot cancel membership if already cancelled.
TC_019	REQ_013	Verify that a client cannot re-register if membership is active.
TC_020	REQ_003	Verify that an admin can view all nutrition plans.
TC_021	REQ_004	Verify that a coach cannot view clients assigned to another coach.
TC_022	REQ_010	Verify that a client cannot access the admin dashboard.
TC_023	REQ_010	Verify that a coach cannot access the client dashboard.
TC_024	REQ_002	Verify that an admin can view all training plans.
TC_025	REQ_010	Verify that a client cannot access the coach dashboard.
TC_026	REQ_002	Verify that a coach cannot assign a training plan to a non-existent client.
TC_027	REQ_008	Verify that a client cannot view a nutrition plan if none is assigned.
TC_028	REQ_004	Verify that an admin can assign a coach to a client.
TC_029	REQ_004	Verify that an admin cannot assign a coach to a non-existent client.
TC_030	REQ_007	Verify that a coach can view their client's profile.
TC_031	REQ_004	Verify that a coach cannot view a profile of a client that isn't theirs.