Contents

1. Project Overview/Scope

This project provides a technical design and provision of a new database server and the development of a new database for LetsGetFit gym that have multiple members, programs and trainers. Company have few requirements for their database:

1. In terms of members sign-in to gym, member is given a choice of payment options, they can choose just one but may change later.
2. Each member is issued with Membership card, which contains photo and unique membership number, when Membership card is used, login time and date is recorded.
3. Must be flexible to allow for changes such as members and trainers details.
4. It must lend itself to be used for marketing propose.
5. Key entities: Members, Trainers, Payments, Programs
6. In terms of GDPR compliance need to record details of:
    a. If member is giving permission or not to contact with him\her by SMS, email
    b. If member wish to retain their information's after they leave or not and keep contact with them
7. In terms of data update:
    a. Ability to create new member and their first program via a parameterised stored procedure
    b. Ability to add new Trainer via a parameterised stored procedure and store all their information's
    c. Ability to delete a member and their foreign key records associated with this member via a parameterised stored procedure if they have made final payment and requested their details be deleted , as per GDPR compliance within 30 days of membership end date, database should retain business-critical information's generated by this member
8. In terms of member data, if member has indicated that LetsGetFit can keep their information's once they left, system should remain information's but should show not active for applications
9. In terms of management information:
    a. SQL view to see all active members their program and trainer details
10. In terms of deleted member data view:
    a. SQL view to see not active members that ticked GDPR Data box

Ref.1 In Member table PaymentOptions column was created to store this information and it is changeable.

Ref.2 For this two tables was created, MembershipCard to store card information's and Activity to store activity details, member photo is stored in Member table, unique membership number is generated once member is created in Member table in column MemberID.

Ref.3 Database allow to change member, trainer details.

Ref.4 Database allow to retrieve not active members who ticked GDPR data box and show their details if company would like to contact them.

Ref.5 Database contain key entities and three more PersonalizedProgram, Activity, MembershipCard.

Ref.6a This information is stored in Member table in LetsGetFitText column holding value 1 if allow for contact or 0 if not wishing.

Ref.6b This information is stored in Member table in LetsGetFitData column holding value 1 to keep data or 0 delete after end of membership.

Ref.7a Parameterised stored procedure spCreateMemberAndProgram was created for this propose.

Ref.7b Parameterised stored procedure spCreateTrainer was created for this propose.

Ref.7c Parameterised stored procedure spHardDelete was created for this propose.

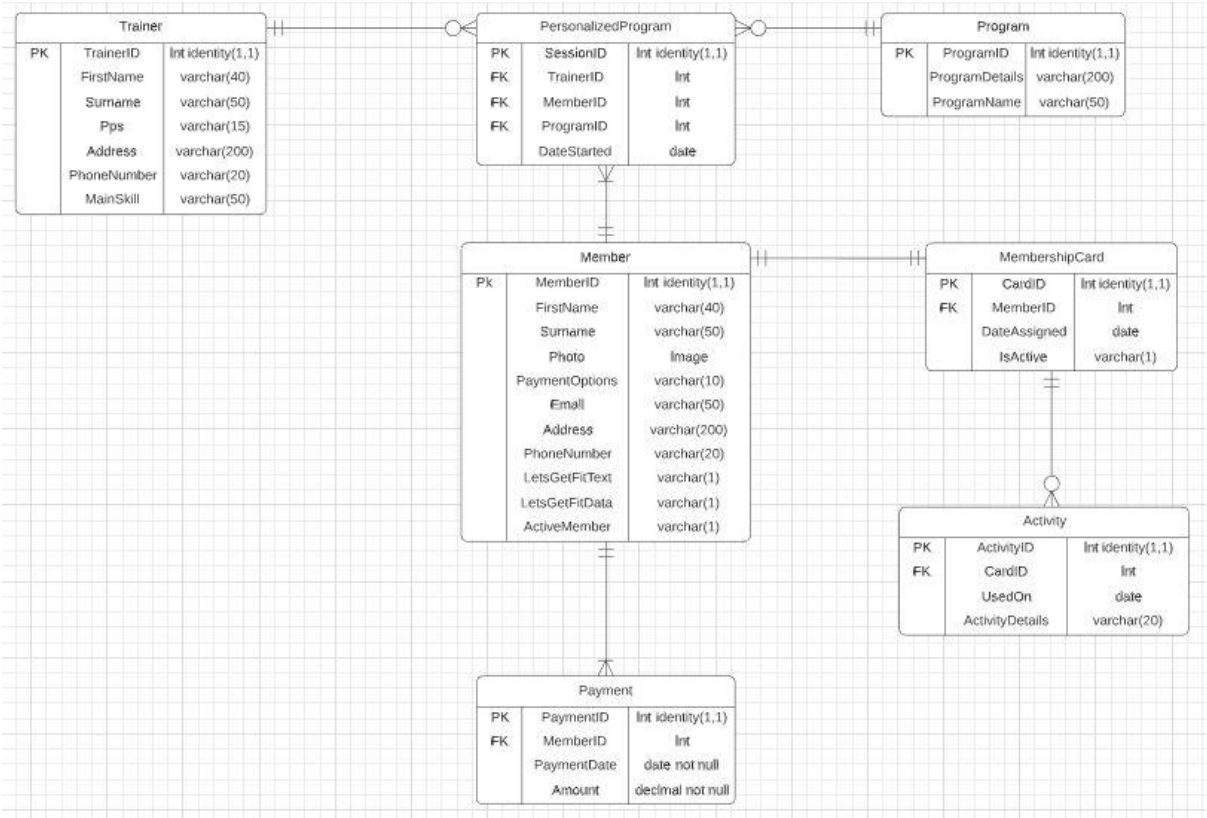
Ref.8 For this propose column ActiveMember in Member table was created, holding value 1 if active or 0 if not active.

Ref.9a SQL view was created viewActiveMembers.

Ref.10a SQL view was created viewNotActiveMembersGdprTicked.

All company requirements have been met.

2.Entity Relationship Diagram



3.Assumptions Made

Company listed 4 key entities and 3 additional was created:

1. MembershipCard table was created as each member have membership card assigned.
2. Activity was created as member activity need to be recorded.
3. PersonalizedProgram was created as each member when start gets his personalized program assigned

For Member table 11 columns was created to store member information's. Column ActiveMember was created so applications know if the member is active or not.

When creating tables Payment, MembershipCard and PersonalizedProgram MemberID column was set to null on deletion of Member to retain other information's critical for company.

When creating stored procedure spHardDelete was done few checks so is impossible to delete active member or member who ticked GDPR box. Also, when member left gym and ticked GDPR box is set to not active member for external applications.

4.Data Dictionary

All Data Dictionary based on ERD above.

Member

Attribute	Datatype	Required	Description
MemberID	Int identity (1,1)	Yes	Unique number for each member generated automatically
FirstName	Varchar (40)	No	Member first name
Surname	Varchar (50)	No	Member surname
Photo	Image	No	Member photo
PaymentOptions	Varchar (10)	No	Payment type made by member
Email	Varchar (50)	No	Member email
Address	Varchar (200)	No	Member address
PhoneNumber	Varchar (20)	No	Member phone number
LetsGetFitText	Varchar (1)	No	For GDPR if member tick box, agree to send emails and text
LetsGetFitData	Varchar (1)	No	For GDPR if member tick box to retain their information after they leave and keep contact with them
ActiveMember	Varchar (1)	No	For soft delete so applications know if member is active or not

Trainer

Attribute	Datatype	Required	Description
TrainerID	Int identity (1,1)	Yes	Unique number for each trainer generated automatically
FirstName	Varchar (40)	No	Trainer first name
Surname	Varchar (50)	No	Trainer surname
Pps	Varchar (15)	No	Trainer pps number
Address	Varchar (200)	No	Trainer address
PhoneNumber	Varchar (20)	No	Trainer phone number
MainSkill	Varchar (50)	No	Trainer main skill

Program

Attribute	Datatype	Required	Description
ProgramID	Int identity (1,1)	Yes	Unique number for each Program generated automatically
ProgramDetails	Varchar (200)	No	Program details
ProgramName	Varchar (50)	No	Program name

Payment

Attribute	Datatype	Required	Description
PaymentID	Int identity (1,1)	Yes	Unique payment number generated automatically
MemberID	Int	No	Member unique number
PaymentDate	Date	Yes	Payment date
Amount	Decimal	Yes	Payment amount

MembershipCard

Attribute	Datatype	Required	Description
CardID	Int identity (1,1)	Yes	Unique card number generated automatically
MemberID	Int	No	Member unique number
DateAssigned	Date	No	When card was assigned to member
IsActive	Varchar (1)	No	Is card active

Activity

Attribute	Datatype	Required	Description
ActivityID	Int identity (1,1)	Yes	Unique activity number generated automatically
CardID	Int	No	Card number used
UsedOn	Date	No	Date when card was used
ActivityDetails	Varchar (20)	No	Activity details like door number

PersonalizedProgram

Attribute	Datatype	Required	Description
SesionID	Int identity (1,1)	Yes	Unique sesion number generated automatically
TrainerID	Int	No	Unique TrainerID number
MemberID	Int	No	Unique MemberID number
ProgramID	Int	No	Unique ProgramID number
DateStarted	Date	No	Date when personalized program starts

5.Technology Used

Microsoft SQL Server Management Studio 18

Microsoft SQL Server Express 2017

Lucidchart.com website for ERD

6.Test Plan

Table 1 – the test plan

Item Tested	Test Run	Expected Result	Actual Result
View viewActiveMembers	Select * from viewActiveMembers	See all active members, their program details and trainer informatio n's	This same as expected result
View viewNotActiveMembersGdp rTicked	Select * from viewNotActiveMembersGdprTicked	See all not active members, their informatio n's who ticked GDPR box	This same as expected result
Stored procedure spCreateTrainer	execute spCreateTrainer'Neptun','Uranus','8763	Trainer created	Trainer created

	53421','256 Park road, Indoskin','+3675271821','Machines';		
Stored procedure spCreateMemberAndProgram	execute spCreateMemberAndProgram 'Gudin','Mostano',null,'Monthly', 'Gudin@email.com','85 Kand road, Mustarke, Nidelka','+432535463',1,1,1,3,7, '2020/11/11';	Member created and their Personalized Program	Member created and their Personalized Program
Stored procedure spHardDelete against member who left gym and didn't tick GDPR box	execute spHardDelete 9;	Member is deleted and all foreign key, retaining critical data	As expected,
Stored procedure spHardDelete against active member	execute spHardDelete 1;	Member is not deleted, displaying info "Member is active"	As expected,
Stored procedure spHardDelete against not active member who ticked GDPR box	execute spHardDelete 3;	Member is not deleted, displaying info "Member ticked GDPR box and is already not active"	As expected,
Stored procedure spHardDelete against active member who ticked GDPR data box but left gym (soft delete)	execute spHardDelete 10;	Member is not deleted, column ActiveMember in Member table is set to 0(not active), displaying info "Member ticked GDPR data box, set member as not active"	As expected,

Stored procedure spHardDelete against not existing member	execute spHardDelete 20;	Displaying info" Member doesnt exist, Member doesnt have Payment Options set, MemberID doesnt exist"	As expected,

7.Reflections on Learning

On this assignment I have learn a lot of new things, this was great exercise to design and build new database for gym.

8.References

https://www.w3schools.com/ to understand some of statements

https://stackoverflow.com/ to understand some of the concepts

School Moodle materials

9. SQL

All SQL code is in Zipped up folder.