SECD 2523 Database

Section 09

PHASE 4:

Database Logical Design & SQL

< Pesta Tanglung UTM Management System>

<Team SKTT1>

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1.0   Introduction

This project discusses the development of a new data management system for Pesta Tanglung UTM which is a university student club that frequently holds the events, especially Mooncake Festival and Cultural Night at the outdoor venue. The purpose of this project is to assist the Pesta Tanglung Club in developing a new data management system that could function more efficiently than the existing approach used by the club committees. There are various flaws in the PTUTM Club's present process approach that become problematic when the volume of data entering increases year after year. These issues can result in an unproductive process and needless time consumption which would subsequently affect the data that was correctly saved.

Consequently, it is necessary for the new system to take the place of the existing process technique. This will allow the committees to more easily handle things like automatically updating or changing student information and avoiding data duplication in the club database. The information synchronization will let the committee access the information and activity planning of the members.

Phase 4 of the project will involve transforming the conceptual Entity Relationship Diagram (ERD) developed in Phase 3 into a logical ERD by removing non-relational features such as many-to-many relationships and complex relationships. From this logical ERD, the schema of the relation will be derived and the relations will be normalized up to Boyce-Codd Normal Form (BCNF). The final logical ERD will be drawn to represent the BCNF relations, and the data dictionary will be updated based on these normalized relations. The logical ERD will also be validated against the system's transaction requirements.

As a deliverable, a report will be produced containing the logical ERD (global data model), the relational database schemas after normalization, and the updated data dictionary for the normalized logical design. The report will also include SQL statements for Data Definition Language (DDL) and Data Manipulation Language (DML).

2.0   Overview of Project

The project is developed to design a database for the Pesta Tanglung Club in Universiti Teknologi Malaysia (UTM) to improve their student management system. The current system used is a manual and file-based system which could cause a lot of human error and low efficiency. To improve the current system, we proposed a new database which will store all the information related to student management.

Based on the requirement and information gathered from the interview section with the secretary of the club, we have known more about the user requirements, their system weakness and needs. Therefore, we designed the new proposed database system based on the user requirements. The proposed database allows the user to establish different categories of relations from the raw data according to the requirements in a short instant, unification of data and the most essential part in the new system is the maintenance of consistency and accuracy of data which could eliminate the human type in error.

3.0   Database conceptual design

3.1 Update business rule

Pesta Tanglung has one president, one vice president, one general secretary, two deputy secretaries, one general treasurer, and two deputy treasurers and a total of 10 teams exist in the club. These teams are the general affair team, design team, publicity team, sales team, venue team, event organizing team, fundraising team, cultural information team, entertainment team and multimedia team. Each team must have only one team leader. Each team must have only one team leader. Each team must have at least one member. Every member of the club must be assigned to only one team. Every member is managed by their team leader.

Pesta Tanglung Club is in charge of one lecturer in UTM. A UTM lecturer is only in charge of a club. The users of the proposed database could be members of the club and lecturer, The authority to update and control the database was given to the president, the vice president, the general secretary and every team leader. Other members could only view the data from the database. The proposals could be checked by one lecturer.

The users who wish to access the database have to sign up hence log in to the database. All of the members of the club are assigned to 1 of those 10 teams. Each team have a team leader. The responsibility of the team leader is to manage the team member.
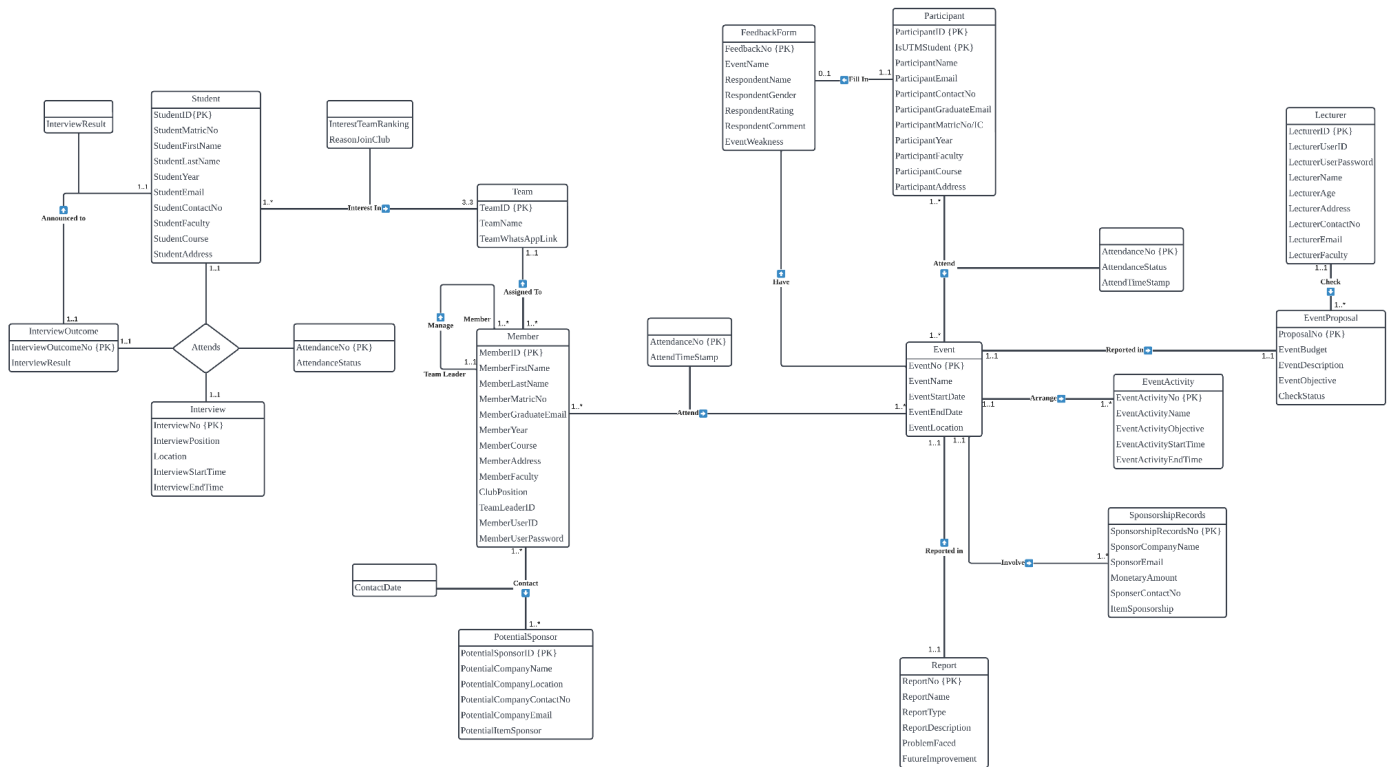
Every year, the club have an interview for a recruitment session. Each of the interviewees could choose the top 3 interest team he/she want to join. However, not all of the interviewees would pass the interview and join the most interesting team. The interviewees' attendance will be recorded. The interviewees who passed the interview will be assigned to a team suitable for their capability according to the decision of the 10 team leaders. The interview outcome will be announced to all of the interviewees no matter he/she passed or failed.

When an event such as Mooncake Festival and Cultural Night event is held, participant attendance will be recorded for analysis use and UTM merit purpose (for those who are UTM students), as well as a feedback form, will be distributed to gather the comment from the

participants so could overcome the event weakness. An event starts with an event proposal that has to submit to the UTM ACAD and wait for the approval. Many activities would be arranged in an event. All of the fundraisers in the club will start to find and contact the potential sponsor, and all of the fundraisers have the responsibility to follow up on the latest circumstances and the contact date will be recorded. Furthermore, for every event organized, each sponsorship will be recorded to know what the item/monetary amount the sponsorship sponsor is.

A report has to be generated after conducting every program for analysis purposes and submitted to HEP. Several analyses will be done in a report, such as the quantity of UTM students and the quantity of Non-UTM students. Lastly, from the feedback form gathered, the member is able to realize the problem faced to perform a future improvement.
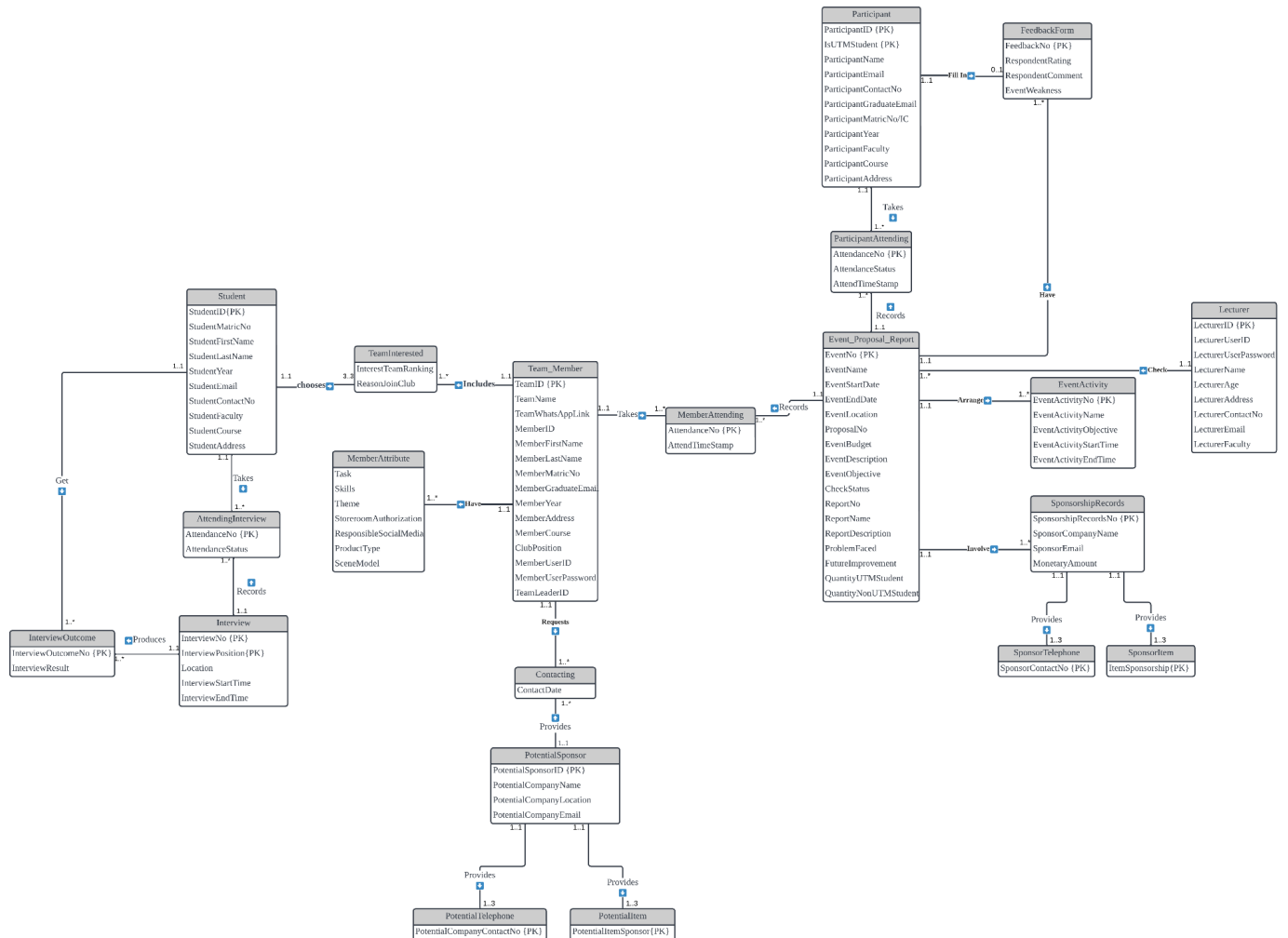
3.2 Conceptual ERD

InterviewResult

Student
StudentID {PK}
StudentMatricNo
StudentFirstName
StudentLastName
StudentYear
StudentEmail
StudentContactNo
StudentFaculty
StudentCourse
StudentAddress

InterestTeamRanking
ReasonJoinClub

Team
TeamID {PK}
TeamName
TeamWhatsAppLink

FeedbackForm
FeedbackNo {PK}
EventName
RespondentName
RespondentGender
RespondentRating
RespondentComment
EventWeakness

Participant
ParticipantID {PK}
IsUTMStudent {PK}
ParticipantName
ParticipantEmail
ParticipantContactNo
ParticipantGraduateEmail
ParticipantMatricNo/IC
ParticipantYear
ParticipantFaculty
ParticipantCourse
ParticipantAddress

Lecturer
LecturerID {PK}
LecturerUserID
LecturerUserPassword
LecturerName
LecturerAddress
LecturerAge
LecturerAddress
LecturerContactNo
LecturerEmail
LecturerFaculty

InterviewOutcome
InterviewOutcomeNo {PK}
InterviewResult

Attends

AttendanceNo {PK}
AttendanceStatus

Interview
InterviewNo {PK}
InterviewPosition
Location
InterviewStartTime
InterviewEndTime

Member
MemberID {PK}
MemberFirstName
MemberLastName
MemberMatricNo
MemberGraduateEmail
MemberYear
MemberCourse
MemberAddress
MemberFaculty
ClubPosition
TeamLeaderID
MemberUserID
MemberUserPassword

AttendanceNo {PK}
AttendTimeStamp

Event
EventNo {PK}
EventName
EventStartDate
EventEndDate
EventLocation

AttendanceNo {PK}
AttendanceStatus
AttendTimeStamp

EventProposal
ProposalNo {PK}
EventBudget
EventDescription
EventObjective
CheckStatus

EventActivity
EventActivityNo {PK}
EventActivityName
EventActivityObjective
EventActivityStartTime
EventActivityEndTime

SponsorshipRecords
SponsorshipRecordsNo {PK}
SponsorCompanyName
SponsorEmail
MonetaryAmount
SponserContactNo
ItemSponsorship

ContactDate

PotentialSponsor
PotentialSponsorID {PK}
PotentialCompanyName
PotentialCompanyLocation
PotentialCompanyContactNo
PotentialCompanyEmail
PotentialItemSponsor

Report
ReportNo {PK}
ReportName
ReportType
ReportDescription
ProblemFaced
FutureImprovement

Relationships: Announced to, Interest In, Assigned To, Manage, Member, Team Leader, Attends, Have, Attend, Fill In, Attend, Reported in, Arrange, Reported in, Involve, Contact, Check

For a better view, please visit:

https://lucid.app/documents/view/61432891-b766-4c7a-a12e-3219ca42ec61

4.0 DB logical design

4.1 Logical ERD

For a better view, please visit:

https://lucid.app/documents/view/e5166a9d-4277-47a8-a43b-582323511a4c

4.2 Updated Data dictionary

Entity	Data to be stored	Description	Data Length & Type	Null	Multi-value
Team	● TeamID	Unique ID	10 variable characters	NO	NO
	● TeamName	Team's name	30 variable characters	NO	NO
	● TeamWhatsAppLink	Whatsapp application link	50 variable characters	NO	NO
	● MemberID	Unique ID	10 variable characters	NO	NO
	● MemberFirstName	First name of member	20 variable characters	NO	NO
	● MemberLastName	Last name of member	20 variable characters	NO	NO
	● MemberMatricNo	Unique matric no	10 variable characters	NO	NO
	● MemberGraduateEmail	Unique UTM email of member	30 variable characters	NO	NO
	● MemberYear	Degree year of member	Number	NO	NO
	● MemberCourse	Course of member	30 variable characters	NO	NO
	● MemberAddress	Address of member	80 variable characters	NO	NO
	● MemberFaculty	Faculty of member	50 variable characters	NO	NO
	● ClubPosition	Position of member in club	20 variable characters	NO	NO
	● MemberUserID	Unique ID	10 variable characters	NO	NO
	● MemberUserPassword	User password for member to access the system	15 variable characters	NO	NO
	● TeamLeaderID	UniqueID	10 variable characters	YES	NO
MemberAttribute	● Task	Task of each member	100 variable characters	YES	NO
	● Skills	Skills of each member	50 variable characters	YES	NO
	● Theme	Theme of entertainment	50 variable characters	YES	NO
	● StoreroomAuthorization	Member authority status of storeroom	1 variable characters	YES	NO
	● ResponsibleSocialMedia	Handle's social media	50 variable characters	YES	NO
	● ProductType	Type of product	50 variable characters	YES	NO
	● SceneModel	Production of scene props	50 variable characters	YES	NO
EventProposal	● ProposalNo	Unique NO	10 variable characters	NO	NO
	● EventBudget	Budget of event	Number	NO	NO
	● EventDescription	Description of event	200 variable characters	NO	NO
	● EventObjective	Objective of event	200 variable characters	NO	NO
	● CheckStatus	Status of checking	1 variable character	NO	NO
Student	● StudentID	Unique ID	10 variable characters	NO	NO
	● StudentMatricNo	Unique matric no of Student	10 variable characters	NO	NO
	● StudentFirstName	First name of Student	20 variable characters	NO	NO
	● StudentLastName	Last name of Student	20 variable characters	NO	NO
	● StudentYear	Degree year of Student	Number	NO	NO
	● StudentEmail	Email of Student	30 variable characters	NO	NO
	● StudentContactNo	Contact number of Student	Number	NO	NO
	● StudentFaculty	Faculty of Student	50 variable characters	NO	NO
	● StudentCourse	Course of Student	30 variable characters	NO	NO

	● StudentAddress	Address of Student	80 variable characters	NO	NO
Interview	● InterviewNo ● InterviewPosition ● StartTime ● EndTime ● Location	Unique ID Interview's club position Starting time for interview Ending time for interview Location of interview	10 variable characters 50 variable characters Timestamp Timestamp 80 variable characters	NO NO NO NO NO	NO NO NO NO NO
InterviewOutcome	● InterviewOutcomeNo ● InterviewComment ● InterviewStrength ● InterviewResult	Unique ID Comment of interviewee Strength of interviewee Result of interview	10 variable characters 100 variable characters 100 variable characters 1 variable characters	NO NO NO NO	NO NO NO NO
TeamInterested	● InterestTeamRanking ● ReasonJoinClub	Ranking of team interested Reason of joining club	Number 50 variable characters	NO NO	NO NO
AttendingInterview	● AttendanceNo ● AttendanceStatus	Unique NO Status of attendance	10 variable characters 1 variable characters	NO NO	NO NO
Lecturer	● LecturerID ● LecturerUserID ● LecturerUserPassword ● LecturerName ● LecturerAge ● LecturerAddress ● LecturerContactNo ● LecturerEmail ● LecturerFaculty	Unique ID Unique ID User password for lecturer to access the system Name of lecturer Age of lecturer Address of lecturer Contact number of lecturer Email of lecturer Faculty of lecturer	10 variable characters 10 variable characters 15 variable characters 40 variable characters Number 80 variable characters Number 30 variable characters 50 variable characters	NO NO NO NO NO NO NO NO NO	NO NO NO NO NO NO NO NO NO
Participant	● ParticipantID ● IsUTMStudent ● ParticipantName ● ParticipantEmail ● ParticipantContactNo ● ParticipantGraduateEmail ● ParticipantMatricNo/IC ● ParticipantYear ● ParticipantFaculty ● ParticipantCourse ● ParticipantAddress	Unique ID Whether the Participant is UTM Student Participant's name Participant's email address Participant's contact number Participant's UTM email address Participant's MatricNo/IC Participant's degree year Participant's faculty Participant's course Participant's address	10 variable characters 1 variable characters 40 variable characters 30 variable characters Number 30 variable characters 15 variable characters Number 50 variable characters 30 variable characters 80 variable characters	NO NO NO NO NO YES YES YES YES YES YES	NO NO NO NO NO NO NO NO NO NO NO
FeedbackForm	● FeedbackNo ● RespondentRating ● RespondentComment ● EventWeakness	Unique NO Respondent's rating Respondent's comment Event's weakness	10 variable characters Number 200 variable characters 200 variable characters	NO NO YES YES	NO NO NO NO
Event	● EventNo	Unique NO	10 variable characters	NO	NO

	● EventName ● EventStartDate ● EventEndDate ● EventLocation	Event's name Event's start date and time Event's end date and time Event held location	50 variable characters Timestamp Timestamp 100 variable characters	NO NO NO NO	NO NO NO NO
MemberAttending	● AttendanceNo ● AttendTimeStamp	Unique NO Time of the member attend	10 variable characters Timestamp	NO NO	NO NO
ParticipantAttending	● AttendanceNo ● AttendTimeStamp ● AttendanceStatus	Unique NO Time of the participant attend Status of attendance	10 variable characters Timestamp 1 variable characters	NO NO NO	NO NO NO
EventActivity	● EventActivityNo ● EventActivityName ● EventActivityObjective ● EventActivityDescription ● EventActivityStartTime ● EventActivityEndTime	Unique NO Event activity name Object of event activity Event activity's description Event activity's start time Event activity's end time	10 variable characters 50 variable characters 100 variable characters 100 variable characters Timestamp Timestamp	NO NO NO NO NO NO	NO NO NO NO NO NO
Report	● ReportNo ● ReportName ● ReportType ● ReportDescription ● ProblemFaced ● FutureImprovement ● QuantityUTMStudent ● QuantityNonUTMStudent	Unique NO Report's name Report's type Report's description Problem faced during event Future Improvement of event Amount of UTM student Amount of non-UTM student	10 variable characters 50 variable characters 30 variable characters 300 variable characters 300 variable characters 300 variable characters Number Number	NO NO NO NO NO NO NO NO	NO NO NO NO NO NO NO NO
PotentialSponsor	● PotentialSponsorID ● PotentialCompanyName ● PotentialCompanyLocation ● PotentialCompanyEmail	Unique ID Names of potential sponsoring company Location of potential sponsoring company Email address of potential sponsoring company	10 variable characters 50 variable characters 80 variable characters 30 variable characters	NO NO NO NO	NO NO NO NO
PotentialTelephone	● PotentialCompanyContactNo	Contact number of potential sponsoring company	Number	NO	YES
PotentialItem	● PotentialItemSponsor	Potential item sponsored by company	80 variable characters	NO	YES
Reading	● ReadDate	Reading proposal's date	Date	NO	NO
SponsorshipRecords	● SponsorshipRecordsNo ● SponsorCompanyName ● SponsorEmail ● MonetaryAmount	Unique NO The name of the sponsoring company The email address of the sponsor Amount of sponsorship	10 variable characters 50 variable characters 50 variable characters Number	NO NO NO YES	NO NO NO NO

SponsorTelephone	● SponsorContactNo	Contact number of the sponsor	Number	NO	YES
SponsorItem	● ItemSponsorship	Item of sponsor	80 variable characters	NO	YES
Contacting	● ContactDate	Date of contacting	Date	NO	NO

4.3 Normalization

UNF

FeedbackNo	StudentMatricNo	StudentFirstName	StudentLastName	StudentYear	StudentEmail
StudentContactNo	StudentFaculty	StudentCourse	StudentAddress	AttendanceNo	
AttendanceStatus	InterviewNo	InterviewPosition	Location	InterviewStartTime	
InterviewEndTime	InterviewOutcomeNo	InterviewResult	InterestTeamRanking	ReasonJoinClub	
TeamID	TeamName	TeamWhatsAppLink	MemberID	MemberFirstName	
MemberLastName	MemberMatricNo	MemberGraduateEmail	MemberYear	MemberAddress	
MemberCourse	ClubPosition	MemberUserID	MemberUserPassword	TeamLeaderID	
Task	Skills	Theme	StoreroomAuthorization	ResponsibleSocialMedia	
ProductType	SceneModel	ContactDate	PotentialSponsorID	PotentialCompanyName	
PotentialCompanyLocation	PotentialCompanyEmail	PotentialCompanyContactNo	PotentialItemSponsor	AttendanceNo	
AttendTimeStamp	EventNo	EventName	EventStartDate	EventEndDate	
EventLocation	ProposalNo	EventBudget	EventDescription	EventObjective	
CheckStatus	ReportNo	ReportName	ReportType	ReportDescription	
ProblemFaced	FutureImprovement	QuantityUTMStudent	QuantityNonUTMStudent	QuantityInterviewee	
QuantityIntervieweePass	AttendanceNo	AttendanceStatus	AttendTimeStamp	ParticipantID	
IsUTMStudent	ParticipantName	ParticipantEmail	ParticipantContactNo	ParticipantGraduateEmail	
ParticipantMatricNo/IC	ParticipantYear	ParticipantFaculty	ParticipantCourse		
ParticipantAddress	FeedbackNo	RespondentRating	RespondentComment	EventWeakness	
LecturerID	LecturerUserID	LecturerUserPassword	LecturerName	LecturerAge	
LecturerAddress	LecturerContactNo	LecturerEmail	LecturerFaculty		
EventActivityNo	EventActivityName	EventActivityObjective	EventActivityStartTime	EventActivityEndTime	
SponsorshipRecordsNo	SponsorCompanyName	SponsorEmail	MonetaryAmount	SponsorContactNo	
ItemSponsorship					

1NF

FeedbackNo	StudentMatricNo	StudentFirstName	StudentLastName	StudentYear	StudentEmail
StudentContactNo	StudentFaculty	StudentCourse	StudentAddress	AttendanceNo	
AttendanceStatus	InterviewNo	InterviewPosition	Location	InterviewStartTime	
InterviewEndTime	InterviewOutcomeNo	InterviewResult	InterestTeamRanking	ReasonJoinClub	
TeamID	TeamName	TeamWhatsAppLink	MemberID	MemberFirstName	

MemberLastName	MemberMatricNo	MemberGraduateEmail	MemberYear	MemberAddress
MemberCourse	ClubPosition	MemberUserID	MemberUserPassword	TeamLeaderID
Task	Skills	Theme	StoreroomAuthorization	ResponsibleSocialMedia
ProductType	SceneModel	ContactDate	PotentialSponsorID	PotentialCompanyName
PotentialCompanyLocation	PotentialCompanyEmail	PotentialCompanyContactNo	PotentialItemSponsor	AttendanceNo
AttendTimeStamp	EventNo	EventName	EventStartDate	EventEndDate
EventLocation	ProposalNo	EventBudget	EventDescription	EventObjective
CheckStatus	ReportNo	ReportName	ReportType	ReportDescription
ProblemFaced	FutureImprovement	QuantityUTMStudent	QuantityNonUTMStudent	QuantityInterviewee
QuantityIntervieweePass	AttendanceNo	AttendanceStatus	AttendTimeStamp	ParticipantID
IsUTMStudent	ParticipantName	ParticipantEmail	ParticipantContactNo	ParticipantGraduateEmail
ParticipantMatricNo/IC	ParticipantYear	ParticipantFaculty		ParticipantCourse
ParticipantAddress	FeedbackNo	RespondentRating	RespondentComment	EventWeakness
LecturerID	LecturerUserID	LecturerUserPassword	LecturerName	LecturerAge
LecturerAddress	LecturerContactNo	LecturerEmail		LecturerFaculty
EventActivityNo	EventActivityName	EventActivityObjective	EventActivityStartTime	EventActivityEndTime
SponsorshipRecordsNo	SponsorCompanyName	SponsorEmail	MonetaryAmount	SponsorContactNo
ItemSponsorship				

MemberID, EventNo => MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, clubPosition, MemberUserID, MemberUserPassword, TeamLeaderID, TeamID, TeamName, TeamWhatsAppLink, Task, Skills, Theme, StoreroomAuthorization, ResponsibleSocialMedia, ProductType, SceneModel, StudentID, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress, IntineresetTeamRanking, ReasonJoinClub, InterviewNo, InterviewPosition,InterviewStartTime, InterviewEndTime, Location, AttendanceNo, AttendanceStatus, InterviewOutcomeNo, InterviewResult, PotentialSponsorID, PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail, PotentialCompanyContactNo, PotentialCompanySponsor, ContactDate, ProposalNo, EventBudget, EventDescription, EventObjective, CheckStatus, ReportNo, ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent, LecturerID, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly, EventNo, EventName, EventStartDate, EventEndDate, EventLocation, AttendTimeStamp, ParticipantID, IsUTMStudent, ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC,

ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress, AttendanceTimeStamp, FeedbackNo, RespondentRating, RespondentComment, EventWeakness, EventActivityNo, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime, SponsorshipRecordsNo, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount, SponsorContactNo, ItemSponsorship
(Primary Key)

Second Normal Form (2NF):

FD 1:

MemberID, EventNo => MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, clubPosition, MemberUserID, MemberUserPassword, TeamLeaderID, TeamID, TeamName, TeamWhatsAppLink, Task, Skills, Theme, StoreroomAuthorization, ResponsibleSocialMedia, ProductType, SceneModel, StudentID, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress, InteresetTeamRanking, ReasonJoinClub, InterviewNo, InterviewPosition,InterviewStartTime, InterviewEndTime, Location, AttendanceNo, AttendanceStatus, InterviewOutcomeNo, InterviewResult, PotentialSponsorID, PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail, PotentialCompanyContactNo, PotentialCompanySponsor, ContactDate, ProposalNo, EventBudget, EventDescription, EventObjective, CheckStatus, ReportNo, ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent, LecturerID, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly, EventNo, EventName, EventStartDate, EventEndDate, EventLocation, AttendTimeStamp, ParticipantID, IsUTMStudent, ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress, AttendanceTimeStamp, FeedbackNo, RespondentRating, RespondentComment, EventWeakness, EventActivityNo, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime, SponsorshipRecordsNo, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount, SponsorContactNo, ItemSponsorship
(Primary Key)

FD 2:

MemberID => TeamID, MemberFirstName, MemberLastName, MemberMatricNo,
MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, ClubPosition,
MemberUserID, MemberUserPassword, TeamLeaderID
(Partial Dependency)

FD 3:

EventNo => EventName, EventStartDate, EventEndDate, EventLocation, ProposalNo, ReportNo
(Partial Dependency)

FD 4:

TeamID => TeamName, TeamWhatsAppLink
(Transitive Dependency)

FD 5:

StudentID => StudentMatricNo, StudentFirstName, StudentLastName, StudentYear,
StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress
(Transitive Dependency)

FD 6:

TeamID, StudentID => InteresetTeamRanking, ReasonJoinClub
(Transitive Dependency)

FD 7:

InterviewNo, InterviewPosition, InterviewStartTime => Location, InterviewEndTime
(Transitive Dependency)

FD 8:

InterviewStartTime, InterviewPosition => Location
(Non-candidate key)

FD 9:

StudentID, AttendanceNo, InterviewNo, InterviewPosition => AttendanceStatus
(Transitive Dependency)

FD 10:

StudentID, InterviewNo, InterviewOutcomeNo => InterviewResult
(Transitive Dependency)

FD 11:

PotentialSponsorID => PotentialCompanyName, PotentialCompanyLocation,
PotentialCompanyEmail
(Transitive Dependency)

FD 12:

PotentialCompanyContactNo => PotentialSponsorID
(Transitive Dependency)

FD 13:

PotentialCompanySponsor, PotentialSponsorID => {}
(Transitive Dependency)

FD 14:

MemberID, PotentialSponsorID => ContactDate
(Transitive Dependency)

FD 15:

ProposalNo => EventBudget, EventDescription, EventObjective, CheckStatus, LecturerID
(Transitive Dependency)

FD 16:

ReportNo => ReportName, ReportDescription, ProblemFaced, FutureImprovement,
QuantityUTMStudent, QuantityNonUTMStudent
(Transitive Dependency)

FD 17:

LecturerID => LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge,
LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)
(Transitive Dependency)

FD 18:

ParticipantID, IsUTMStudent => ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress
(Transitive Dependency)

FD 19:

EventNo, ParticipantID, IsUTMStudent, AttendanceNo => AttendanceStatus, AttendanceTimeStamp
(Transitive Dependency)

FD 20:

FeedbackNo, EventNo => RespondentRating, RespondentComment, EventWeakness, ParticipantID, IsUTMStudent
(Transitive Dependency)

FD 21:

EventActivityNo, EventNo => EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime
(Transitive Dependency)

FD 22:

SponsorshipRecordsNo, EventNo=> SpnsorCompanyNmae, SponsorEmail, MonetaryAmount,
(Transitive Dependency)

FD 23:

SponsorContactNo => SponsorshipRecordsNo
(Transitive Dependency)

FD 24:

ItemSponsorship, SponsorshipRecordsNo => {}
(Transitive Dependency)

2NF Relations:

From FD 2:

MemberAttributeTeam(**MemberID**, MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, ClubPosition, MemberUserID, MemberUserPassword,TeamID, TeamName, TeamWhatsAppLink, TeamLeaderID, Task, Skills, Theme, StoreroomAuthorization, ResponsibleSocialMedia, ProductType, SceneModel)

From FD 3:

EventProposalReport(**EventNo**, EventName, EventStartDate, EventEndDate, EventLocation, ProposalNo, EventBudget, EventDescription, EventObjective, CheckStatus, ReportNo, ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent)

The Rest:

InterviewStudentParticipantAttendEventSponsor(**MemberID, EventNo**, , StudentID, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress, InteresetTeamRanking, ReasonJoinClub, InterviewNo, InterviewPosition,InterviewStartTime, InterviewEndTime, Location, AttendanceNo, AttendanceStatus, InterviewOutcomeNo, InterviewResult, PotentialSponsorID, PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail, PotentialCompanyContactNo, PotentialCompanySponsor, ContactDate, LecturerID, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly, AttendTimeStamp, ParticipantID, IsUTMStudent, ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress, AttendanceTimeStamp, FeedbackNo, RespondentRating, RespondentComment, EventWeakness, EventActivityNo, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime, SponsorshipRecordsNo, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount, SponsorContactNo, ItemSponsorship

Third Normal Form (3NF) :

FD 4:

TeamID => TeamName, TeamWhatsAppLink
(Transitive Dependency)

FD 5:

StudentID => StudentMatricNo, StudentFirstName, StudentLastName, StudentYear,
StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress
(Transitive Dependency)

FD 6:

TeamID, StudentID => InteresetTeamRanking, ReasonJoinClub
(Transitive Dependency)

FD 7:

InterviewNo, InterviewPosition, InterviewStartTime => Location, InterviewEndTime
(Transitive Dependency)

 FD 9:

StudentID, AttendanceNo, InterviewNo, InterviewPosition => AttendanceStatus
(Transitive Dependency)

FD 10:

StudentID, InterviewNo, InterviewOutcomeNo => InterviewResult
(Transitive Dependency)

FD 11:

PotentialSponsorID => PotentialCompanyName, PotentialCompanyLocation,
PotentialCompanyEmail
(Transitive Dependency)

FD 12:

PotentialCompanyContactNo => PotentialSponsorID
(Transitive Dependency)

FD 13:

PotentialCompanySponsor, PotentialSponsorID => {}
(Transitive Dependency)

FD 14:

MemberID, PotentialSponsorID => ContactDate
(Transitive Dependency)

FD 15:

ProposalNo => EventBudget, EventDescription, EventObjective, CheckStatus, LecturerID
(Transitive Dependency)

FD 16:

ReportNo => ReportName, ReportDescription, ProblemFaced, FutureImprovement,
QuantityUTMStudent, QuantityNonUTMStudent
(Transitive Dependency)

FD 17:

LecturerID => LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge,
LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)
(Transitive Dependency)

 FD 18:

ParticipantID, IsUTMStudent => ParticipantName, ParticipantEmail, ParticipantContactNo,
ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty,
ParticipantCourse, ParticipantAddress
(Transitive Dependency)

FD 19:

EventNo, ParticipantID, IsUTMStudent, AttendanceNo => AttendanceStatus,
AttendanceTimeStamp
(Transitive Dependency)

FD 20:

FeedbackNo, EventNo => RespondentRating, RespondentComment, EventWeakness,
ParticipantID, IsUTMStudent
(Transitive Dependency)

 FD 21:

EventActivityNo, EventNo => EventActivityName, EventActivityObjective,
EventActivityStartTime, EventActivityEndTime
(Transitive Dependency)

FD 22:

SponsorshipRecordsNo, EventNo=> SpnsorCompanyNmae, SponsorEmail, MonetaryAmount,
(Transitive Dependency)

FD 23:

SponsorContactNo => SponsorshipRecordsNo
(Transitive Dependency)

FD 24:

ItemSponsorship, SponsorshipRecordsNo => {}
(Transitive Dependency)

3NF Relations:

From FD 4:

Team(**TeamID**, TeamName, TeamWhatsAppLink)
(Transitive Dependency)

From FD 5:

Student(**StudentID**, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress)
(Transitive Dependency)

From FD 6:

TeamInterested(**TeamID, StudentID**, InteresetTeamRanking, ReasonJoinClub)
(Transitive Dependency)

From FD 7:

Interview(**InterviewNo, InterviewPosition,** Location, InterviewStartTime, InterviewEndTime)
(Transitive Dependency)

From FD 9:

AttendingInterview(**StudentID, AttendanceNo, InterviewNo**, InterviewPosition =>
AttendanceStatus)
(Transitive Dependency)

From FD 10:

InterviewOutcome(**StudentID, InterviewNo, InterviewOutcomeNo**, InterviewResult)
(Transitive Dependency)

From FD 11:

PotentialSponsor(**PotentialSponsorID,** PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail)
(Transitive Dependency)

From FD 12:

PotentialTelephone(**PotentialCompanyContactNo**, PotentialSponsorID)
(Transitive Dependency)

From FD 13:

PotentialItem(**PotentialCompanySponsor, PotentialSponsorID**)
(Transitive Dependency)

From FD 14:

Contacting(**MemberID, PotentialSponsorID,** ContactDate)
(Transitive Dependency)

From FD 15:

EventProposal(**ProposalNo**, EventBudget, EventDescription, EventObjective, CheckStatus,
LecturerID)
(Transitive Dependency)

From FD 16:

ProgramReport(**ReportNo**, ReportName, ReportDescription, ProblemFaced,
FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent)
(Transitive Dependency)

From FD 17:

Lecturer(**LecturerID**, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge,
LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)
(Transitive Dependency)

From FD 18:

Participant(**ParticipantID, IsUTMStudent**, ParticipantName, ParticipantEmail,
ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear,
ParticipantFaculty, ParticipantCourse, ParticipantAddress)
(Transitive Dependency)

From FD 19:

ParticipantAttending(**EventNo, ParticipantID, IsUTMStudent, AttendanceNo,** AttendanceStatus, AttendanceTimeStamp)
(Transitive Dependency)

From FD 20:

FeedbackForm(**FeedbackNo, EventNo**, RespondentRating, RespondentComment, EventWeakness, ParticipantID, IsUTMStudent)
(Transitive Dependency)

From FD 21:

EventActivity(**EventActivityNo, EventNo**, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime)
(Transitive Dependency)

From FD 22:

SponsorshipRecords(**SponsorshipRecordsNo, EventNo**, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount)
(Transitive Dependency)

 Form FD 23:

SponsorTelephone(**SponsorContactNo**, SponsorshipRecordsNo)
(Transitive Dependency)

From FD 24:

SponsorItem(**ItemSponsorship, SponsorshipRecordsNo**)
(Transitive Dependency)

After 3NF:

Team(**TeamID**, TeamName, TeamWhatsAppLink)

Student(**StudentID**, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress)

TeamInterested(**TeamID, StudentID**, InteresetTeamRanking, ReasonJoinClub)

Interview(**InterviewNo, InterviewPosition, InterviewStartTime**, Location, InterviewEndTime)

Member(**MemberID**, MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, ClubPosition, MemberUserID, MemberUserPassword,TeamID,TeamLeaderID)

Event(**EventNo**, EventName, EventStartDate, EventEndDate, EventLocation, ProposalNo, ReportNo)

AttendingInterview(**StudentID, AttendanceNo, InterviewNo**, InterviewPosition => AttendanceStatus)

InterviewOutcome(**StudentID, InterviewNo, InterviewOutcomeNo**, InterviewResult)

PotentialSponsor(**PotentialSponsorID**, PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail)

PotentialTelephone(**PotentialCompanyContactNo**, PotentialSponsorID)

PotentialItem(**PotentialCompanySponsor**, PotentialSponsorID)

Contacting(**MemberID, PotentialSponsorID**, ContactDate)

EventProposal(**ProposalNo**, EventBudget, EventDescription, EventObjective, CheckStatus, LecturerID)

ProgramReport(**ReportNo**, ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent)

Lecturer(**LecturerID**, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)

Participant(**ParticipantID, IsUTMStudent**, ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress)

ParticipantAttending(**EventNo, ParticipantID, IsUTMStudent, AttendanceNo**, AttendanceStatus, AttendanceTimeStamp)

FeedbackForm(**FeedbackNo, EventNo**, RespondentRating, RespondentComment, EventWeakness, ParticipantID, IsUTMStudent)

EventActivity(**EventActivityNo, EventNo**, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime)

SponsorshipRecords(**SponsorshipRecordsNo, EventNo**, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount)

SponsorTelephone(**SponsorContactNo**, SponsorshipRecordsNo)

SponsorItem(**ItemSponsorship**, SponsorshipRecordsNo)

MemberAttending(**MemberID, EventNo, AttendanceNo,** AttendTimeStamp)

Boyce Codd Normal Form (BCNF)

FD 8:

InterviewStartTime, InterviewPosition => Location
(Non-candidate key)

BCNF Relations:

From FD 8:

InterviewLocation(**InterviewStartTime, InterviewPosition**, Location)

After BCNF:

Team(**TeamID**, TeamName, TeamWhatsAppLink)

Student(**StudentID**, StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress)

TeamInterested(**TeamID, StudentID**, InteresetTeamRanking, ReasonJoinClub)

Interview(**InterviewNo, InterviewPosition, InterviewStartTime**, InterviewEndTime)

InterviewLocation(**InterviewStartTime, InterviewPosition**, Location)

Member(**MemberID**, MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, ClubPosition, MemberUserID, MemberUserPassword,TeamID,TeamLeaderID)

Event(**EventNo**, EventName, EventStartDate, EventEndDate, EventLocation, ProposalNo, ReportNo)

AttendingInterview(**StudentID, AttendanceNo, InterviewNo**, InterviewPosition => AttendanceStatus)

InterviewOutcome(**StudentID, InterviewNo, InterviewOutcomeNo**, InterviewResult)

PotentialSponsor(**PotentialSponsorID**, PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail)

PotentialTelephone(**PotentialCompanyContactNo**, PotentialSponsorID)

PotentialItem(**PotentialCompanySponsor, PotentialSponsorID**)

Contacting(**MemberID, PotentialSponsorID**, ContactDate)

EventProposal(**ProposalNo**, EventBudget, EventDescription, EventObjective, CheckStatus, LecturerID)

ProgramReport(**ReportNo**, ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent)

Lecturer(**LecturerID**, LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)

Participant(**ParticipantID, IsUTMStudent**, ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress)

ParticipantAttending(**EventNo, ParticipantID, IsUTMStudent, AttendanceNo**, AttendanceStatus, AttendanceTimeStamp)

FeedbackForm(**FeedbackNo, EventNo**, RespondentRating, RespondentComment, EventWeakness, ParticipantID, IsUTMStudent)

EventActivity(**EventActivityNo, EventNo**, EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime)

SponsorshipRecords(**SponsorshipRecordsNo, EventNo**, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount)

SponsorTelephone(**SponsorContactNo**, SponsorshipRecordsNo)

SponsorItem(**ItemSponsorship, SponsorshipRecordsNo**)

MemberAttending(**MemberID, EventNo, AttendanceNo,** AttendTimeStamp)

5.0   Relational DB Schemas (after normalization)

Team(**TeamID**, TeamName, TeamWhatsAppLink)

Member(**MemberID**, TeamID, MemberFirstName, MemberLastName, MemberMatricNo, MemberGraduateEmail, MemberYear, MemberAddress, MemberCourse, ClubPosition, MemberUserID, MemberUserPassword, TeamLeaderID)

MemberAttribute(Task, Skills, Theme, StoreroomAuthorization, ResponsibleSocialMedia, ProductType, SceneModel, MemberID)

Student(**StudentID,** StudentMatricNo, StudentFirstName, StudentLastName, StudentYear, StudentEmail, StudentContactNo, StudentFaculty, StudentCourse, StudentAddress)

TeamInterested(**StudentID, TeamID,** InteresetTeamRanking, ReasonJoinClub)

Interview(**InterviewNo, InterviewPosition, InterviewStartTime**, InterviewEndTime)

InterviewLocation(**InterviewNo, InterviewPosition,** Location)

AttendingInterview(**StudentID, AttendanceNo, InterviewNo, InterviewPosition** AttendanceStatus)

InterviewOutcome(**StudentID, InterviewNo, InterviewPosition, InterviewOutcomeNo,** InterviewResult)

PotentialSponsor(**PotentialSponsorID,** PotentialCompanyName, PotentialCompanyLocation, PotentialCompanyEmail)

PotentialTelephone(**PotentialCompanyContactNo,** PotentialSponsorID)

PotentialItem(**PotentialCompanySponsor,** PotentialSponsorID)

Contacting(**MemberID, PotentialSponsorID,** ContactDate)

EventProposal(**ProposalNo**, EventBudget, EventDescription, EventObjective, CheckStatus, LecturerID)

ProgramReport(**ReportNo,** ReportName, ReportDescription, ProblemFaced, FutureImprovement, QuantityUTMStudent, QuantityNonUTMStudent)

Lecturer(**LecturerID,** LecturerUserID, LecturerUserPassword, LecturerName, LecturerAge, LecturerAddress, LecturerContactNo, LecturerEmail, LecturerFacutly)

Event(**EventNo,** EventName, EventStartDate, EventEndDate, EventLocation, ProposalNo, ReportNo)

MemberAttending(**MemberID, EventNo, AttendanceNo,** AttendTimeStamp)

Participant(**ParticipantID, IsUTMStudent,** ParticipantName, ParticipantEmail, ParticipantContactNo, ParticipantGraduateEmail, ParticipantMatricNo/IC, ParticipantYear, ParticipantFaculty, ParticipantCourse, ParticipantAddress)

ParticipantAttending(**EventNo, ParticipantID, IsUTMStudent, AttendanceNo,** AttendanceStatus, AttendanceTimeStamp)

FeedbackForm(**FeedbackNo**, RespondentRating, RespondentComment, EventWeakness, ParticipantID, IsUTMStudent, EventNo)

EventActivity(**EventActivityNo,** EventActivityName, EventActivityObjective, EventActivityStartTime, EventActivityEndTime, EventNo)

SponsorshipRecords(**SponsorshipRecordsNo**, SpnsorCompanyNmae, SponsorEmail, MonetaryAmount, EventNo)

SponsorTelephone(**SponsorContactNo,** SponsorshipRecordsNo)

SponsorItem(**ItemSponsorship,** SponsorshipRecordsNo)

6.0   SQL Statements (DDL & DML)

```
CREATE TABLE Team(

    TeamID VARCHAR2(10) NOT NULL,

    TeamName VARCHAR2(30) NOT NULL,

    TeamWhatsAppLink VARCHAR2(50) NOT NULL,

    CONSTRAINT PK_Team PRIMARY KEY (TeamID)

);


CREATE TABLE Member(

    MemberID VARCHAR2(10) NOT NULL,

    MemberFirstName VARCHAR2(20) NOT NULL,

    MemberLastName VARCHAR2(20) NOT NULL,

    MemberMatricNo VARCHAR2(10) NOT NULL,

    MemberGraduateEmail VARCHAR2(30) NOT NULL,

    MemberYear NUMBER NOT NULL,

    MemberAddress VARCHAR2(80) NOT NULL,

    MemberCourse VARCHAR2(30) NOT NULL,

    ClubPosition VARCHAR2(20) NOT NULL,

    MemberUserID VARCHAR2(10) NOT NULL,

    MemberUserPassword VARCHAR2(15) NOT NULL,

    TeamLeaderID VARCHAR2(10) NOT NULL,

    TeamID VARCHAR2(10) NOT NULL,

    CONSTRAINT PK_Member PRIMARY KEY (MemberID),
```

```sql
        CONSTRAINT fk_MemberTeam FOREIGN KEY (TeamID) REFERENCES
TEAM(TeamID)
);


CREATE TABLE MemberAttribute(

    Task VARCHAR2(100),

    Skills VARCHAR2(50),

    Theme VARCHAR2(50),

    StoreroomAuthorization VARCHAR2(1),

    ResponsibleSocialMedia VARCHAR2(50),

    ProductType VARCHAR2(50),

    SceneModel VARCHAR2(50),

    MemberID VARCHAR2(10),

    CONSTRAINT FK_MemberID FOREIGN KEY (MemberID) REFERENCES
Member(MemberID)
);


CREATE TABLE Student(

    StudentID VARCHAR2(10) NOT NULL,

    StudentMatricNo VARCHAR2(10) NOT NULL,

    StudentFirstName VARCHAR2(20) NOT NULL,

    StudentLastName VARCHAR2(20) NOT NULL,

    StudentYear NUMBER NOT NULL,
```

```sql
    StudentEmail VARCHAR2(50) NOT NULL,

    StudentContactNo NUMBER NOT NULL,

    StudentFaculty VARCHAR2(50) NOT NULL,

    StudentCourse VARCHAR2(30) NOT NULL,

    StudentAddress VARCHAR2(80) NOT NULL,

    CONSTRAINT PK_Student PRIMARY KEY(StudentID)

);


CREATE TABLE TeamInterested(

    StudentID VARCHAR2(10) NOT NULL,

    TeamID VARCHAR2(10) NOT NULL,

    InteresetTeamRanking NUMBER NOT NULL,

    ReasonJoinClub VARCHAR2(80) NOT NULL,

    CONSTRAINT FK_StudentID FOREIGN KEY (StudentID) REFERENCES
Student(StudentID),

    CONSTRAINT FK_TeamID FOREIGN KEY (TeamID) REFERENCES Team(TeamID),

    CONSTRAINT PK_TeamInterested PRIMARY KEY(StudentID, TeamID)

);


CREATE TABLE Interview(

    InterviewNo VARCHAR2(10) NOT NULL,

    InterviewPosition VARCHAR2(50) NOT NULL,

    InterviewStartTime TIMESTAMP NOT NULL,

    interviewEndTime TIMESTAMP NOT NULL,
```

```sql
        CONSTRAINT  PK_Interview  PRIMARY  KEY(InterviewNo,  InterviewPosition,
InterviewStartTime)

);


CREATE TABLE INTERVIEWLOCATION

(

   InterviewNo VARCHAR2(10) NOT NULL,

   InterviewPosition VARCHAR2(50) NOT NULL,

   Location VARCHAR2(80) NOT NULL,

           CONSTRAINT   PK_InterviewLocation   PRIMARY   KEY  (InterviewNo,
InterviewPosition)

   );


CREATE TABLE AttendingInterview

(

   StudentID VARCHAR2(10) NOT NULL,

   InterviewNo VARCHAR2(10) NOT NULL,

   InterviewPosition VARCHAR2(50) NOT NULL,

InterviewStartTime TIMESTAMP NOT NULL,

   AttendanceNo VARCHAR2(10) NOT NULL,

   AttendanceStatus VARCHAR2(1) NOT NULL,

    CONSTRAINT  FK_InterviewStudentID FOREIGN KEY(StudentID) REFERENCES
Student(StudentID),
```

```sql
        CONSTRAINT  FK_InterviewNo  FOREIGN  KEY(InterviewNo, InterviewPosition,
InterviewStartTime)      REFERENCES      Interview(InterviewNo,      InterviewPosition,
InterviewStartTime),

        CONSTRAINT  PK_AInterview  PRIMARY  KEY(StudentID,  InterviewNo,
InterviewPosition, InterviewStartTime,  AttendanceNo)

);


CREATE TABLE InterviewOutcome(

    StudentID VARCHAR2(10) NOT NULL,

    InterviewNo VARCHAR2(10) NOT NULL,

    InterviewPosition VARCHAR2(50) NOT NULL,

InterviewStartTime TIMESTAMP NOT NULL,

    InterviewOutcomeNo VARCHAR2(10) NOT NULL,

    InterviewResult VARCHAR2(1) NOT NULL,

        CONSTRAINT  PK_InterviewOutcome  PRIMARY  KEY(StudentID,  InterviewNo,
InterviewPosition, InterviewStartTime,  InterviewOutcomeNo),

    CONSTRAINT  FK_OutcomeStudentID  FOREIGN  KEY(StudentID)  REFERENCES
Student(StudentID),

        CONSTRAINT  FK_OutcomeInterviewNo  FOREIGN  KEY(InterviewNo,
InterviewPosition,    InterviewStartTime)    REFERENCES    Interview(InterviewNo,
InterviewPosition, InterviewStartTime)

);


CREATE TABLE PotentialSponsor(

    PotentialSponsorID VARCHAR2(10) NOT NULL,

    PotentialCompanyName VARCHAR2(50) NOT NULL,
```

```sql
    PotentialCompanyLocation VARCHAR2(80) NOT NULL,

    PotentialCompanyEmail VARCHAR2(50) NOT NULL,

    CONSTRAINT PK_PotentialSponsor PRIMARY KEY(PotentialSponsorID)

);


CREATE TABLE PotentialTelephone(

    PotentialCompanyContactNo NUMBER NOT NULL,

    PotentialSponsorID VARCHAR2(10) NOT NULL,

    CONSTRAINT PK_PTelephone PRIMARY KEY(PotentialCompanyContactNo),

    CONSTRAINT FK_PSponsorID FOREIGN KEY(PotentialSponsorID) REFERENCES
PotentialSponsor(PotentialSponsorID)

);


CREATE TABLE PotentialItem(

    PotentialCompanySponsor VARCHAR2(80) NOT NULL,

    PotentialSponsorID VARCHAR2(10) NOT NULL,

CONSTRAINT      PK_PItem      PRIMARY      KEY      (PotentialCompanySponsor,
PotentialSponsorID),

CONSTRAINT      FK_PItemSponsorID      FOREIGN      KEY(PotentialSponsorID)
REFERENCES PotentialSponsor(PotentialSponsorID)

);


CREATE TABLE Contacting(

    MemberID VARCHAR2(10) NOT NULL,
```

```sql
    PotentialSponsorID VARCHAR2(10) NOT NULL,

    ContactDate DATE NOT NULL,

     CONSTRAINT FK_ContactMemberID FOREIGN KEY(MemberID) REFERENCES
Member(MemberID),

        CONSTRAINT FK_ContactSponsorID FOREIGN KEY(PotentialSponsorID)
REFERENCES PotentialSponsor(PotentialSponsorID),

    CONSTRAINT PK_Contacting PRIMARY KEY(MemberID, PotentialSponsorID)

);


CREATE TABLE Lecturer(

LecturerID VARCHAR2(10) NOT NULL,

LecturerUserID VARCHAR2(10) NOT NULL,

        LecturerUserPassword VARCHAR2(15) NOT NULL,

LecturerName VARCHAR2(40) NOT NULL,

LecturerAge NUMBER NOT NULL,

LecturerAddress VARCHAR2(80) NOT NULL,

LecturerContactNo NUMBER NOT NULL,

LecturerEmail VARCHAR2(30) NOT NULL,

LecturerFaculty VARCHAR2(50) NOT NULL,

CONSTRAINT PK_LecturerID PRIMARY KEY (LecturerID)

);


CREATE TABLE EventProposal(

ProposalNo VARCHAR(10) NOT NULL,
```

```sql
    EventBudget NUMBER NOT NULL,

    EventDescription VARCHAR2(200) NOT NULL,

    EventObjective VARCHAR2(200) NOT NULL,

    CheckStatus VARCHAR2(1) NOT NULL,

    LecturerID VARCHAR2(10) NOT NULL,

    CONSTRAINT PK_EventProposal PRIMARY KEY (ProposalNo),

    CONSTRAINT FK_LecturerID FOREIGN KEY (LecturerID) REFERENCES Lecturer(LecturerID)

);


CREATE TABLE PROGRAMREPORT

(

    ReportNo VARCHAR2(10) NOT NULL,

    ReportName VARCHAR2(50) NOT NULL,

    ReportDescription VARCHAR2(300) NOT NULL,

    ProblemFaced VARCHAR2(300) NOT NULL,

    FutureImprovement VARCHAR2(300) NOT NULL,

    QuantityUTMStudent NUMBER NOT NULL,

    QuantityNonUTMStudent NUMBER NOT NULL,

    CONSTRAINT pk_ProgramReport PRIMARY KEY (ReportNo)

);


CREATE TABLE EVENT

(
```

```sql
    EventNo VARCHAR2(10) NOT NULL,

    EventName VARCHAR(50) NOT NULL,

    EventStartDate TIMESTAMP NOT NULL,

    EventEndDate TIMESTAMP NOT NULL,

    EventLocation VARCHAR2(100) NOT NULL,

    ProposalNo VARCHAR2(10) NOT NULL,

    ReportNo VARCHAR2(10) NOT NULL,

    CONSTRAINT pk_Event PRIMARY KEY (EventNo),

        CONSTRAINT fk_EventProposal FOREIGN KEY (ProposalNo) REFERENCES
EVENTPROPOSAL(ProposalNo),

        CONSTRAINT fk_EventReport FOREIGN KEY (ReportNo) REFERENCES
PROGRAMREPORT(ReportNo)

);


CREATE TABLE PARTICIPANT

(

    ParticipantID VARCHAR2(10) NOT NULL,

    IsUTMStudent VARCHAR2(1) NOT NULL,

    ParticipantName VARCHAR2(40) NOT NULL,

    ParticipantEmail VARCHAR2(50) NOT NULL,

    ParticipantContactNo NUMBER NOT NULL,

    PariticipantGraduateEmail VARCHAR2(50),

    ParticipantMatricNo_IC VARCHAR2(15),

    ParticipantYear NUMBER,
```

```sql
    ParticipantFaculty VARCHAR2(50),

    ParticipantCourse VARCHAR2(30),

    ParticipantAddress VARCHAR2(80),

    CONSTRAINT pk_Participant PRIMARY KEY (ParticipantID,IsUTMStudent)

);


CREATE TABLE PARTICIPANTATTENDING

(

    AttendanceNo VARCHAR2(10) NOT NULL,

    AttendTimeStamp TIMESTAMP NOT NULL,

    AttendanceStatus VARCHAR2(1) NOT NULL,

    ParticipantID VARCHAR2(10),

    IsUTMStudent VARCHAR2(1),

    EventNo VARCHAR2(10),

        CONSTRAINT pk_ParticipantAttending PRIMARY KEY (AttendanceNo,
ParticipantID, IsUTMStudent, EventNo),

        CONSTRAINT fk_ParticipnatAttending FOREIGN KEY (ParticipantID,
IsUTMStudent) REFERENCES PARTICIPANT(ParticipantID, IsUTMStudent),

        CONSTRAINT fk_ParticipnatAttendingEvent FOREIGN KEY (EventNo)
REFERENCES EVENT(EventNo)

);


CREATE TABLE FEEDBACKFORM

(
```

FeedbackNo VARCHAR2(10) NOT NULL,

RespondentRating NUMBER NOT NULL,

RespondentComment VARCHAR2(200),

EventWeakness VARCHAR2(200),

EventNo VARCHAR2(10),

ParticipantID VARCHAR2(10),

IsUTMStudent VARCHAR2(1),

CONSTRAINT pk_FeedbackForm PRIMARY KEY (FeedbackNo),

CONSTRAINT fk_FeedbackFormEvent FOREIGN KEY (EventNo) REFERENCES EVENT(EVentNo),

CONSTRAINT fk_FeedbackParticipant FOREIGN KEY (ParticipantID, IsUTMStudent) REFERENCES PARTICIPANT(ParticipantID, IsUTMStudent)

);

CREATE TABLE MEMBERATTENDING

(

AttendanceNo VARCHAR2(10) NOT NULL,

AttendTimeStamp TIMESTAMP NOT NULL,

MemberID VARCHAR2(10),

EventNo VARCHAR2(10),

CONSTRAINT pk_MemberAttending PRIMARY KEY (AttendanceNo, MemberID, EventNo),

CONSTRAINT fk_MemberAttendingTeam FOREIGN KEY (MemberID) REFERENCES MEMBER(MemberID),

```
    CONSTRAINT fk_MemberAttendingEvent FOREIGN KEY (EventNo) REFERENCES
EVENT(EventNo)

);


CREATE TABLE EVENTACTIVITY

(

EventActivityNo VARCHAR2(10) NOT NULL,

EventActivityName VARCHAR2(50) NOT NULL,

EventActivityObjective VARCHAR2(100) NOT NULL,

EventActivityStartTime TIMESTAMP NOT NULL,

EventAvtivityEndTime TIMESTAMP NOT NULL,

EventNo VARCHAR(10),

CONSTRAINT pk_EventActivity PRIMARY KEY (EventActivityNo),

    CONSTRAINT fk_EventActivity FOREIGN KEY (EventNo) REFERENCES
EVENT(EventNo)

);


CREATE TABLE SPONSORSHIPRECORDS

(

SponsorshipRecordsNo VARCHAR2(10) NOT NULL,

SponsorsCompanyName VARCHAR2(50) NOT NULL,

SponsorEmail VARCHAR2(50) NOT NULL,

MonetaryAmount NUMBER,

EventNo VARCHAR(10),
```

CONSTRAINT pk_SponsorshipRecords PRIMARY KEY (SponsorshipRecordsNo),

CONSTRAINT fk_SponsorshipRecords FOREIGN KEY (EventNo) REFERENCES EVENT(EventNo)

);

CREATE TABLE SPONSORTELEPHONE

(

SponsorContactNo NUMBER NOT NULL,

SponsorshipRecordsNo VARCHAR2(10),

CONSTRAINT pk_SponsorTelephone PRIMARY KEY (SponsorContactNo),

CONSTRAINT fk_SponsorTelephone FOREIGN KEY (SponsorshipRecordsNo) REFERENCES SPONSORSHIPRECORDS(SponsorshipRecordsNo)

);

CREATE TABLE SPONSORITEM

(

ItemSponsorship VARCHAR2(80) NOT NULL,

SponsorshipRecordsNo VARCHAR2(10),

CONSTRAINT pk_SponsorItem PRIMARY KEY (ItemSponsorship, SponsorshipRecordsNo),

CONSTRAINT fk_SponsorItem FOREIGN KEY (SponsorshipRecordsNo) REFERENCES SPONSORSHIPRECORDS(SponsorshipRecordsNo)

);

—INSERT—

INSERT NEW DATA INTO Member TABLE
INSERT INTO Member
VALUES('MB0003', 'Loh', 'Qian Eng', 'A21EC0100', 'lohqian@graduate.utm.my', '2', 'KTR', 'SECJH', 'member', 'lohqian', '33819383', 'MB0002', '04');

INSERT NEW DATA INTO Contacting TABLE

INSERT INTO Contacting
VALUES ('MB0016', 'POTSPON20', DATE'2022-04-26');

INSERT NEW DATA INTO Student TABLE

INSERT INTO Student
VALUES('stud005','A20CE0005','Jun Jie','Lim', 3,'junjie@gradaute.utm.my', 60198619263,'Faculty of civil engineering','SKAW', 'KRP');

INSERT NEW DATA INTO TeamInterested TABLE

INSERT INTO TeamInterested
VALUES ('stud007','01',1,'I want to have fun and enjoy myself');

INSERT NEW DATA INTO SPONSORSHIPRECORDS TABLE

INSERT INTO SPONSORSHIPRECORDS
VALUES ('SPONREC01', 'SPA PARAGON', 'SPAPARAGON@GMAIL.COM', 1000, 'EVT001');

–UPDATE–

UPDATE Interview End Time

```
UPDATE Interview
    SET interviewEndTime=TIMESTAMP '2022-10-12 14:00:00'
    WHERE InterviewPosition = 'Multimedia Specialist'
        AND
        interviewEndTime=TIMESTAMP '2022-10-12 12:00:00'
```

UPDATE Participant 's Status

```
UPDATE Participant
SET IsUTMStudent = 'Y'
    WHERE  ParticipantID =  'PART0025';
```

UPDATE Student 's Contact Number

```
UPDATE Student
SET StudentContactNo = 60123456789
WHERE StudentID ='stud020';
```

Update Member 's Club Position

```
UPDATE Member
SET ClubPosition ='Vice President'
WHERE MemberID = 'MB0040';
```

Update Sponsorship Record

```
UPDATE SPONSORSHIPRECORDS
SET MonetaryAmount = 500
WHERE SponsorshipRecordsNo = 'SPONREC01';
```

—DELETE—

DELETE THE MEMBER FROM ARE YEAR 4 FROM MEMBER TABLE

```sql
DELETE FROM MEMBER
WHERE MemberYear = 4
```

DELETE THE STUDENT FROM STUDENT TABLE

```sql
DELETE FROM STUDENT
WHERE StudentMatricNo = 'A21EC0001'
```

DELETE THE LECTURER FROM LECTURER TABLE

```sql
DELETE FROM LECTURER
WHERE LecturerName = 'Dr. John Doe'
```

DELETE THE EVENT ACTIVITY FROM EVENTACTIVITY TABLE

```sql
DELETE FROM EVENTACTIVITY
WHERE EventActivityName = 'Food Bazaar'
```

DELETE THE REPORT FROM PROGRAMREPORT TABLE

```sql
DELETE FROM PROGRAMREPORT
WHERE ReportName = 'Mooncake Festival 2018 Report'
```

—SELECT—

DISPLAY ALL THE TEAM ID AND TEAM NAME

```
SELECT TEAMID, TEAMNAME
FROM TEAM
```

TEAMID	TEAMNAME
01	Multimedia Specialist
02	Entertainment Planning
03	GeneralAffair
04	Design
05	Publicity
06	Event Organizing
07	Venue Planning
08	Sales
09	Cultural Information
10	Fundraising

DISPLAY THE EVENT ACTIVITY NAME AND OBJECTIVE HELD IN EVENT = 'EVT001'

```sql
SELECT EventActivityName, EventActivityObjective
FROM EVENTACTIVITY
WHERE EventNo = 'EVT001'
```

EVENTACTIVITYNAME	EVENTACTIVITYOBJECTIVE
Mooncake Making Competition	To promote cultural encourage participation in traditional activities during the Mooncake Festival
Lantern Decorating Workshop	To educate participants on the significance and traditional methods of lantern making
Dragon Dance Performance	To showcase traditional Chinese performances and entertain guests
Food Bazaar	To provide a diverse range of traditional food options for guests to enjoy
Cultural Night	To showcase traditional performances and dances from various cultures

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5 rows selected.

DISPLAY THE SPONSOR COMPANY NAME AND EMAIL WHO SPONSOR MORE THAN 1000 MONETARY

```sql
SELECT SponsorsCompanyName,SponsorEmail
FROM SponsorshipRecords
WHERE MonetaryAmount > 1000
```

SPONSORSCOMPANYNAME	SPONSOREMAIL
EXPLORATION KIDS	EXPLORATIONKIDS@GMAIL.COM
LUXURY HOTEL	LUXURYHOTEL@GMAIL.COM
ART GALLERY	ARTGALLERY@HOTMAIL.COM
HEALTHCARE PROVIDER	HEALTHCAREPROVIDER@GMAIL.COM
FASHION RETAILER	FASHIONRETAILER@GMAIL.COM

Download CSV

5 rows selected.

DISPLAY THE LECTURER INFORMATION

```sql
SELECT *
FROM LECTURER
```

LECTURERID	LECTURERUSERID	LECTURERUSERPASSWORD	LECTURERNAME	LECTURERAGE	LECTURERADDRESS	LECTURERCONTACTNO	LECTUREREMAIL	LECTURERFACULTY
LECT001	JohnDoe	password123	Dr. John Doe	35	1, Jalan Universiti, Skudai, Johor	167867678	johndoe@utm.my	Faculty of Engineering

DISPLAY THE MEMBER INFORMATION WHO IN YEAR 2

```sql
SELECT *
FROM MEMBER
WHERE MEMBERYEAR = '2'
```

MEMBERID	MEMBERFIRSTNAME	MEMBERLASTNAME	MEMBERMATRICNO	MEMBERGRADUATEEMAIL	MEMBERYEAR	MEMBERADDRESS	MEMBERCOURSE	CLUBPOSITION	MEMBERUSERID	MEMBERUSERPASSWORD	TEAMLEADERID	TEAMID
MB0001	Gan	Heng Lai	A21EC0176	ganlai@graduate.utm.my	2	KTDI	SECVH	member	ganlai	82736321	-	01
MB0002	Liew	Kai Zheng	A21EC0100	liewkai@graduate.utm.my	2	KTHO	SECBH	treasurer	liewkai	21939173	-	04
MB0003	Loh	Qian Eng	A21EC0100	lohqian@graduate.utm.my	2	KTR	SECJH	member	lohqian	33819383	MB0002	04
MB0006	Lim	Siew Yee	A21EC0125	limsiew@graduate.utm.my	2	KTF	SECOH	member	limsiew	87654321	-	05
MB0009	Kee	Chew Chen	A21EC0115	keechew@graduate.utm.my	2	KTHO	SEAWH	member	keechew	34567812	-	08
MB0011	Lim	Kok Heng	A21EC0126	limkok@graduate.utm.my	2	KTF	SECOH	member	limkok	31083913	-	10
MB0014	Kee	Sze Ming	A21EC0116	keesze@graduate.utm.my	2	KTHO	SEAWH	member	keesze	29123312	MB0005	03
MB0016	Lim	Wei Ling	A21EC0127	limwei@graduate.utm.my	2	KTF	SECOH	Vice President	limwei	73193719	MB0011	10
MB0019	Kee	Wei Seng	A21EC0117	keewei@graduate.utm.my	2	KTHO	SEAWH	member	keewei	92167133	MB0002	04
MB0022	Ooi	Boon Kiat	A21EC0129	ooiboon@graduate.utm.my	2	KTHO	SECBH	committee	ooiboon	98765432	MB0002	04
MB0025	Ng	Wei Seng	A21EC0133	ngwei@graduate.utm.my	2	KTHO	SEAWH	member	ngwei	45678901	MB0010	09
MB0028	Foo	Boon Kiat	A21EC0151	fooboon@graduate.utm.my	2	KTHO	SECBH	committee	fooboon	78901234	MB0007	06
MB0031	Mu Lan	Hua	A21EC0020	hualan@graduate.utm.my	2	KRP	SKAW	member	muhua	4567898	MB0001	01
MB0032	Heng Lai	Gan	A21EC0002	ganlai@graduate.utm.my	2	KTHO	SECVH	member	henlai	5678910	MB0002	04
MB0038	Wu Xian	Wei	A21CE0011	weixian@graduate.utm.my	2	KRP	SKAW	member	wuxian	1234567	MB0010	09
MB0039	Chang Sheng	Chen	A21CE0015	chensheng@graduate.utm.my	2	KTDI	SKAW	member	chasheng	2345678	MB0004	02

—JOIN—

DISPLAY STUDENT(S) WHO ATTEND THE INTERVIEW

```sql
SELECT StudentMatricNo, StudentFirstName, StudentLastName
FROM STUDENT
JOIN ATTENDINGINTERVIEW
USING (StudentID)
WHERE ATTENDANCESTATUS = 'Y'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME
A21EC0001	Chin Hong	Lew
A21EC0002	Heng Lai	Gan
A20ET0003	James	Parker
A19ME0004	Jia Le	Lee
A21EE0006	Xiao Mei	Huang
A20CE0007	Xiao Shuai	Tan
A21ME0008	Ji Eun	Lee
A19EC0009	Isabella	Han
A19ET0010	Zi Yang	Neo
A21CE0011	Wu Xian	Wei
A20ME0012	Wang Ji	Lan
A21EC0013	Ning	Wen
A21ET0014	Elizabeth	Kuo
A21CE0015	Chang Sheng	Chen
A20CE0016	Xuan De	Lew
A19EC0018	Yi De	Chong
A19ET0019	Zi Long	Zhao
A21CE0020	Mu Lan	Hua

DISPLAY STUDENT(S) WHO ATTEND TO THE INTERVIEW THAT RECUIRT THE DESIGNER

```
SELECT StudentMatricNo, StudentFirstName, StudentLastName
FROM STUDENT
JOIN ATTENDINGINTERVIEW
USING (StudentID)
WHERE InterviewPosition = 'Designer'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME
A21EC0002	Heng Lai	Gan
A21ET0014	Elizabeth	Kuo

DISPLAY STUDENT(S) WHO PASSED THE INTERVIEW

```sql
SELECT StudentMatricNo, StudentFirstName, StudentLastName
FROM STUDENT
JOIN INTERVIEWOUTCOME
USING (StudentID)
WHERE InterviewResult = 'Y'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME
A21EC0002	Heng Lai	Gan
A20ET0003	James	Parker
A19ME0004	Jia Le	Lee
A20CE0007	Xiao Shuai	Tan
A19EC0009	Isabella	Han
A21CE011	Wu Xian	Wei
A21CE0015	Chang Sheng	Chen
A20CE0016	Xuan De	Lew
A19EC0018	Yi De	Chong
A21CE0020	Mu Lan	Hua

Download CSV

10 rows selected.

DISPLAY STUDENT WHO PASSED THE INTERVIEW FOR EVENT ORGANIZER RECRUITMENT

```sql
SELECT StudentMatricNo, StudentFirstName, StudentLastName
FROM STUDENT
JOIN INTERVIEWOUTCOME
USING (StudentID)
WHERE InterviewResult = 'Y' AND InterviewPosition = 'Event Organizer'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME
A19EC0018	Yi De	Chong

Download CSV

DISPLAY THE STUDENT'S NAME, THE REASON JOIN THE CLUB AND THE TEAM NAME FOR THOSE WHOSE THE FIRST CHOICE IS TEAMID = 07

```sql
SELECT StudentMatricNo, StudentFirstName, StudentLastName, ReasonJoinClub, TeamName
FROM TEAMINTERESTED
JOIN STUDENT
USING (STUDENTID)
JOIN TEAM
USING (TeamID)
WHERE InteresetTeamRanking = 1 AND TeamID = '07'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME	REASONJOINCLUB	TEAMNAME
A21EC0001	Chin Hong	Lew	I want to meet new people and make friends	Venue Planning
A21ME0008	Ji Eun	Lee	I want to develop a sense of belonging	Venue Planning
A21CE011	Wu Xian	Wei	I want to develop new interests	Venue Planning
A19EC0018	Yi De	Chong	I want to improve my resume or college application	Venue Planning

Download CSV

4 rows selected.

DISPLAY ALL 3 INTERESTED TEAM AND THEIR REASON TO JOIN THE CLUB FOR THE STUDENT WHO MATRIC NO IS A21EC0002

```
SELECT StudentMatricNo, StudentFirstName, StudentLastName, InteresetTeamRanking,
ReasonJoinClub, TeamName
FROM TEAMINTERESTED
JOIN STUDENT
ON TEAMINTERESTED.StudentID = STUDENT.StudentID
JOIN TEAM
ON TEAMINTERESTED.TeamID = TEAM.TeamID
WHERE StudentMatricNo = 'A21EC0002'
ORDER BY InteresetTeamRanking
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME	INTERESETTEAMRANKING	REASONJOINCLUB	TEAMNAME
A21EC0002	Heng Lai	Gan	1	I want to learn new skills and hobbies	Entertainment Planning
A21EC0002	Heng Lai	Gan	2	I want to be part of a group with shared values or beliefs	GeneralAffair
A21EC0002	Heng Lai	Gan	3	I want to improve my stress management skills	Multimedia Specialist

Download CSV

3 rows selected.

DISPLAY STUDENT MATRIC NO, FIRSTNAME, LASTNAME AND REASON FOR JOINING THE CLUB FOR THOSE WHO CHOOSE THE ENTERTAINMENT PLANNING TEAM AS THEIR FIRST RAKING OF THE INTERESTED TEAM

```
SELECT StudentMatricNo, StudentFirstName, StudentLastName, ReasonJoinClub
FROM TEAMINTERESTED
JOIN STUDENT
ON (TEAMINTERESTED.StudentID = STUDENT.StudentID)
JOIN TEAM
ON (TEAMINTERESTED.TeamID = TEAM.TeamID)
WHERE InteresetTeamRanking = 1 AND TeamName = 'Entertainment Planning'
```

STUDENTMATRICNO	STUDENTFIRSTNAME	STUDENTLASTNAME	REASONJOINCLUB
A21EC0002	Heng Lai	Gan	I want to learn new skills and hobbies
A21EE0006	Xiao Mei	Huang	I want to make a difference in the community
A20ME0012	Wang Ji	Lan	I want to gain access to resources and opportunities
A20CE0016	Xuan De	Lew	I want to improve my self-confidence

Download CSV

4 rows selected.

DISPLAY ALL THE MEMBERID AND NAME IN SALES TEAM

```
SELECT MemberID, MemberFirstName, MemberLastName
FROM MEMBER
JOIN TEAM
ON MEMBER.TeamID = TEAM.TeamID
WHERE TeamName = 'Sales'
```

MEMBERID	MEMBERFIRSTNAME	MEMBERLASTNAME
MB0009	Kee	Chew Chen
MB0020	Tan	Kok Weng
MB0026	Lee	Kok Weng
MB0036	Isabella	Han

Download CSV

4 rows selected.

DISPLAY EACH TEAM HAVE HOW MANY MEMBER

```sql
SELECT Team.TeamName, COUNT(Member.TeamID) as MemberCount
FROM Team
JOIN Member ON Team.TeamID = Member.TeamID
GROUP BY Team.TeamName
```

TEAMNAME	MEMBERCOUNT
Publicity	3
Sales	4
Event Organizing	5
Multimedia Specialist	4
Entertainment Planning	5
GeneralAffair	4
Cultural Information	4
Design	5
Fundraising	3
Venue Planning	3

Download CSV

10 rows selected.

DISPLAY THE POTENTIAL SPONSOR HAS A POTENTIAL TO SPONSOR MONETARY TO THE CLUB

```sql
SELECT PotentialCompanyName, PotentialCompanyEmail
FROM PotentialSponsor
JOIN PotentialItem
ON PotentialSponsor.PotentialSponsorID = PotentialItem.PotentialSponsorID
WHERE PotentialCompanySponsor = 'Monetary'
ORDER BY PotentialCompanyName
```

POTENTIALCOMPANYNAME	POTENTIALCOMPANYEMAIL
ART GALLERY	ARTGALLERY@HOTMAIL.COM
CONSTRUCTION COMPANY	CONSTRUCTIONCOMPANY@GMAIL.COM
EXPLORATION KIDS	EXPLORATIONKIDS@GMAIL.COM
FASHION RETAILER	FASHIONRETAILER@GMAIL.COM
FINANCIAL SERVICES	FINANCIALSERVICES@HOTMAIL.COM
HEALTHCARE PROVIDER	HEALTHCAREPROVIDER@GMAIL.COM
LUXURY HOTEL	LUXURYHOTEL@GMAIL.COM
REAL ESTATE AGENCY	REALESTATEAGENCY@HOTMAIL.COM
SPA PARAGON	SPAPARAGON@GMAIL.COM

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9 rows selected.

DISPLAY THE EVENT WHICH THE BUDGET IS MORE THAN RM10000

```sql
SELECT  EventNo, EventName, EventBudget
FROM EventProposal
JOIN Event
ON EventProposal.ProposalNo = Event.ProposalNo
WHERE EventBudget >= 10000
```

EVENTNO	EVENTNAME	EVENTBUDGET
EVT001	Mooncake Festival 2018	15000
EVT002	Mid-Autumn Festival 2019	10000
EVT005	Mid-Autumn Family Fun Day 2022	18000

DISPLAY THE NUMBER OF PARTICIPANTS WHO FILLED OUT THE FEEDBACK FORM

```sql
SELECT Event.EventNo, Event.EventName, COUNT(FeedbackForm.ParticipantID) as FeedbackCount
FROM Event
JOIN FeedbackForm ON Event.EventNo = FeedbackForm.EventNo
GROUP BY Event.EventNo, Event.EventName
ORDER BY Event.EventNo
```

EVENTNO	EVENTNAME	FEEDBACKCOUNT
EVT001	Mooncake Festival 2018	4
EVT002	Mid-Autumn Festival 2019	4
EVT003	Mid-Autumn Cultural Night 2020	4
EVT004	Mid-Autumn Festival Night 2021	16
EVT005	Mid-Autumn Family Fun Day 2022	2

DISPLAY EACH EVENT HAVE HOW MANY PARTICIPANT IS UTMSTUDENT THAT SUBMIT FEEDBACK FORM

```sql
SELECT Event.EventNo, Event.EventName, COUNT(FeedbackForm.ParticipantID) as FeedbackCount
FROM Event
JOIN FeedbackForm
ON Event.EventNo = FeedbackForm.EventNo
JOIN Participant
ON FeedbackForm.ParticipantID = Participant.ParticipantID
AND FeedbackForm.IsUTMStudent = Participant.IsUTMStudent
WHERE Participant.IsUTMStudent = 'Y'
GROUP BY Event.EventNo, Event.EventName
ORDER BY Event.EventNo
```

EVENTNO	EVENTNAME	FEEDBACKCOUNT
EVT001	Mooncake Festival 2018	2
EVT002	Mid-Autumn Festival 2019	2
EVT003	Mid-Autumn Cultural Night 2020	1
EVT004	Mid-Autumn Festival Night 2021	9
EVT005	Mid-Autumn Family Fun Day 2022	1

Download CSV

5 rows selected.

DISPLAY EACH EVENT HAVE HOW MANY PARTICIPANT IS UTMSTUDENT THAT SUBMIT FEEDBACK FORM WITH RATING HIGHER THAN 3

```sql
SELECT Event.EventNo, Event.EventName, COUNT(FeedbackForm.ParticipantID) as FeedbackCount
FROM Event
JOIN FeedbackForm
ON Event.EventNo = FeedbackForm.EventNo
JOIN Participant
ON FeedbackForm.ParticipantID = Participant.ParticipantID
AND FeedbackForm.IsUTMStudent = Participant.IsUTMStudent
WHERE Participant.IsUTMStudent = 'Y'
AND FeedbackForm.RespondentRating > 3
GROUP BY Event.EventNo, Event.EventName
ORDER BY Event.EventNo
```

EVENTNO	EVENTNAME	FEEDBACKCOUNT
EVT001	Mooncake Festival 2018	2
EVT004	Mid-Autumn Festival Night 2021	5

Download CSV

2 rows selected.

DISPLAY THE NUMBER OF PARTICIPANTS WHO ARE UTM STUDENTS ATTENDING THE EVENTNAME = 'MID-AUTUMN FESTIVAL 2019'.

```sql
SELECT EventName, COUNT(ParticipantID) AS CountParticipant
FROM ParticipantAttending
JOIN Event
ON (ParticipantAttending.EventNo = Event.EventNo)
WHERE EventName = 'Mid-Autumn Festival 2019'
GROUP BY EventName
```

EVENTNAME	COUNTPARTICIPANT
Mid-Autumn Festival 2019	5

Download CSV

DISPLAY THE EVENT ACTIVITY NAME AND OBJECTIVE HELD IN EVENT = 'EVT001'

```sql
SELECT EventActivityName, EventActivityObjective
FROM EVENTACTIVITY
WHERE EventNo = 'EVT001'
```

EVENTACTIVITYNAME	EVENTACTIVITYOBJECTIVE
Mooncake Making Competition	To promote cultural encourage participation in traditional activities during the Mooncake Festival
Lantern Decorating Workshop	To educate participants on the significance and traditional methods of lantern making
Dragon Dance Performance	To showcase traditional Chinese performances and entertain guests
Food Bazaar	To provide a diverse range of traditional food options for guests to enjoy
Cultural Night	To showcase traditional performances and dances from various cultures

Download CSV

5 rows selected.

DISPLAY THE SPONSOR COMPANY NAME AND EMAIL WHO SPONSOR MORE THAN 1000 MONETARY.

```sql
SELECT SponsorsCompanyName,SponsorEmail
FROM SponsorshipRecords
WHERE MonetaryAmount > 1000
```

SPONSORSCOMPANYNAME	SPONSOREMAIL
EXPLORATION KIDS	EXPLORATIONKIDS@GMAIL.COM
LUXURY HOTEL	LUXURYHOTEL@GMAIL.COM
ART GALLERY	ARTGALLERY@HOTMAIL.COM
HEALTHCARE PROVIDER	HEALTHCAREPROVIDER@GMAIL.COM
FASHION RETAILER	FASHIONRETAILER@GMAIL.COM

DISPLAY ALL OF THE CONTACT NO OF THE COMPANY NAME = 'LUXURY HOTEL'

```sql
SELECT SponsorsCompanyName, SponsorContactNo
FROM SponsorTelephone
JOIN SponsorshipRecords
ON (SponsorTelephone.SponsorshipRecordsNo = SponsorshipRecords.SponsorshipRecordsNo)
WHERE SponsorsCompanyName = 'LUXURY HOTEL'
```

SPONSORSCOMPANYNAME	SPONSORCONTACTNO
LUXURY HOTEL	60123456793
LUXURY HOTEL	60123456794

7.0   Summary

The main focus of the phase 4 project was to design the logical structure of the database for the Pesta Tanglung UTM Club. This included transforming the conceptual ERD from phase 3 into a logical ERD by removing non-relational features such as many-to-many relationships and complex relationships. The relations schema was then derived from the logical ERD and the relations were normalized up to BCNF. The final logical ERD was drawn to represent the BCNF relations, and the data dictionary was updated based on the normalized relations. The logical ERD was also validated against the system's transaction requirements.

The deliverables for this phase included a report containing the following:
- Logical ERD (global data model)
- Relational database schemas (normalized up to BCNF)
- Data dictionary for the normalized logical design
- SQL statements for data definition and manipulation

The report was used to assess the logical design of the database and ensure that it was able to meet the needs of the Pesta Tanglung UTM Club. The report was also used to document the design process and provide information on the normalized relations and data dictionary for future reference.