



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

**Sem.1 2022/2023**

## **SECD 2523 Database**

**Section 09**

### **PHASE 2:**

### **Database Requirement**

**< 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.

In this project report, we will state the current business process to build a future state that satisfies the requirements of the employees conducting the process by using the scenario and workflow. The current business rules help us to decide what steps should be followed in certain circumstances as well as to stop specific actions from occurring. The data requirements and transaction requirements were stated to give an assistant to produce the entity relationship diagram for PTUTM's current business processes.

## **2.0 Requirement Analysis (based on AS-IS analysis)**

### **2.1 Current business process (scenarios, workflow)**

#### **Scenario**

Before initiating the recruitment session, the head of departments would plan the recruitment. They would list out the requirements of their own departments including the estimated amount of new committees in demand, and the type of demands they require from new committees like speciality, experiences, achievement and others. Then, they would plan the flow of the recruitment session and determine the schedule of the flow including the duration of opening for interview registration, the time of the interview session and others

After planning the recruitment session, the Committee of the Pesta Tanglung club makes a recruitment poster with a QR code. Those students who are interested could scan the QR code and link to a google form. After the students fill in the google form, a link will be provided for them to join a WhatsApp group. The data collected has names, matric numbers, UTM graduate emails, years, courses, addresses and interested teams. Hence, the committee will release the interview details to the group including the date and time, and venue.

During the interview session, the interviewer records the session for later decision-making. The interviewee's information is temporarily recorded on paper. Later the discussion with each team leader decides whether the interviewee passed the interview and entered a certain team or failed the interview. The rating areas are Experience, Communication Skills, Characteristics and Attitude. After the confirmation, the interview result will be announced in the WhatsApp group that gathered all interviewees. Each committee can only be involved in one team and each team only can have one team leader. After that, the club's secretary manually updates the committee database present in the excel file with the new committee members' information. Then, the secretary would create a recruitment report based on the details of the recruitment sessions like the number of new committees in every department, their assigned categories and others.

One of the income of the Pesta Tanglung Club is Merchandise such as clothes. They will make clothes and sell them to students. The funds will be used for the future Mooncake Festival and Cultural Night event.

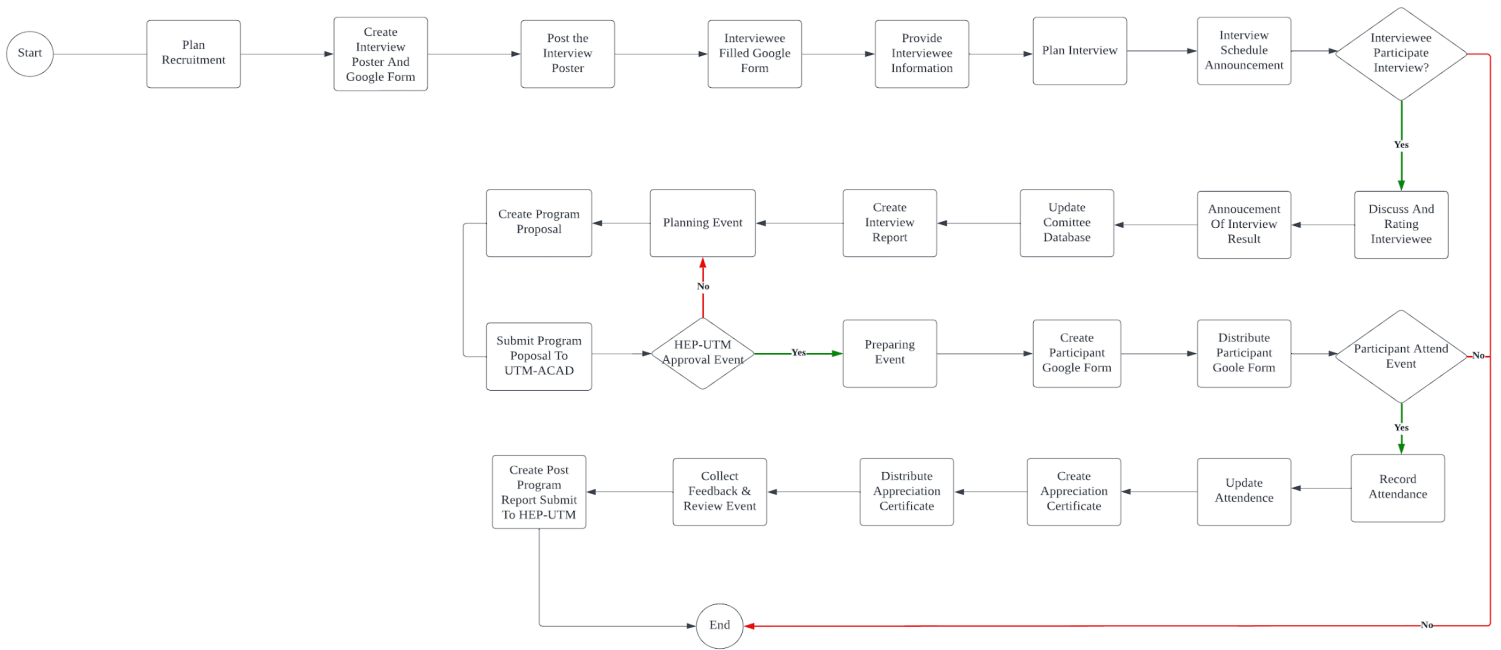
Every year, the club holds an annual Mooncake Festival and Cultural Night. First of all, a program proposal would be prepared by the secretary, the proposal includes but not only events held, estimated budget, committee list, sponsor, date and time, venue, etc. The program proposal hence submitted to the UTM-ACAD and wait for HEP approval. Once approved means the program can be hosted. If not, the event would be replanned and the proposal would be prepared by following the modification in the plan. The Fundraising team in the club would write a fundraising plan and find the sponsors. They would record the sponsor's name, email, phone number, the product/service its sponsor also the details of it.

Within the preparation event phase, If found the equipment/device such as an audio equipment error, the committee in charge would contact the UTM staff to maintain. The team would have different groups for assigning different tasks. Each team would update their current situation, problem, and progress rate and others in the WhatsApp group for all the committee to follow up. They would also have a meeting to update each team's progress, requirements, etc., and the secretary will record the minute of the meeting.

Once the event ends, the club has to generate a post-program report for HEP. The report includes the event outcome, future improvement, event data such as how many participants UTM students or people outside campus, races and other data. A feedback form would be prepared for the participants to fill in and the committee would have a review meeting.

A Google Form will be created and distributed to UTM students to do the attendance recording. Later, the clerical team would update the student's attendance in the myUTM system. Furthermore, the clerical team would generate the e-certificate for the participants.

## Workflow



### **3.0 Current business rule**

Pesta Tanglung Club 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 at least one member. Every member of the club must be assigned to only one team.

Pesta Tanglung Club is in charge of one lecturer in UTM. A UTM lecturer only has in charge of a club.

The secretary of the club manages the member's information in the Excel File stored on the secretary's computer, with the backup in the deputy secretary's local computer. Secretary will update and edit the member's information if anything needs to be modified, such as a new member joining the club, position shift, changes of personal information, etc.

Next, every team is assigned a specific scope of tasks. The first team is the general affair team. All members of the general affair team can manage the inventory. That inventory is managed by all members of this team. The next team is the design team. This team is responsible for poster design. All members will design each poster and each poster can be designed by all members. Then, the publicity team will do the social media management. All members can manage each social media. The fourth team is the sales team. The sales team will manage the sales product. All members will sell each product. The last team is the fundraising team. The members of this team will manage the club property.

#### 4.0 Data requirement

Entity	Input	Description
Member	<ul style="list-style-type: none"><li>• MemberCName</li><li>• MemberENAME</li><li>• MemberMatricNo</li><li>• MemberGraduateEmail</li><li>• MemberYear</li><li>• MemberCourse</li><li>• MemberAddress</li><li>• MemberFaculty</li><li>• Position</li><li>• TeamName</li></ul>	MemberMatricNo is unique and not null
Interviewee	<ul style="list-style-type: none"><li>• IntervieweeMatricNo</li><li>• IntervieweeFirstName</li><li>• IntervieweeLastName</li><li>• IntervieweeYear</li><li>• IntervieweeEmail</li><li>• IntervieweeContactNumber</li><li>• IntervieweeFaculty</li><li>• IntervieweeCourse</li><li>• IntervieweeAddress</li><li>• InterestTeamRanking</li><li>• ReasonJoinDepartment</li></ul>	IntervieweeMatricNo is not null and unique  InterestTeamRanking is the top three team that the interviewee interested in.
Participant	<ul style="list-style-type: none"><li>• ParticipantName</li><li>• ParticipantEmail</li><li>• ParticipantMatricNo/IC</li><li>• ParticipantGraduateEmail</li><li>• ParticipantYear</li><li>• ParticipantFaculty</li><li>• ParticipantCourse</li><li>• PArticipantAddress</li></ul>	ParticipantMatricNo/IC is unique and not null
Attendance	<ul style="list-style-type: none"><li>• UTMStudMatricNo/IC</li><li>• AttendDate</li><li>• ContactNo</li></ul>	UTMStudMatricNo/IC is unique and not null
FeedbackForm	<ul style="list-style-type: none"><li>• EventName</li><li>• RespondentName</li><li>• RespondentGender</li><li>• RespondentRating</li><li>• RespondentComment</li></ul>	EventName is unique and not null

	<ul style="list-style-type: none"> <li>• EventWeakness</li> </ul>	
Team	<ul style="list-style-type: none"> <li>• TeamName</li> </ul>	TeamName is unique and not null
Interview	<ul style="list-style-type: none"> <li>• Location</li> <li>• InterviewDate</li> <li>• StartTime</li> <li>• EndTime</li> </ul>	DepartmentName is not null and unique
InterviewOutcome	<ul style="list-style-type: none"> <li>• StudMatricNo</li> <li>• StudFirstName</li> <li>• StudLastName</li> <li>• StudComment</li> <li>• StudCourse</li> <li>• StudStrengths</li> </ul>	StudMatricNo is unique and not null
InterviewResult	<ul style="list-style-type: none"> <li>• StudMatricNo</li> <li>• TeamAssigned</li> </ul>	StudMatricNo is unique and not null
Cultural Informant	<ul style="list-style-type: none"> <li>• CulturalTask</li> </ul>	CulturalTask is not null
Designer	<ul style="list-style-type: none"> <li>• CreationType</li> <li>• DesignSoftware</li> <li>• DesignStyle</li> </ul>	CreationType is the types of product that created by designer, not null
Publicizer	<ul style="list-style-type: none"> <li>• ResponsibleSocialMedia</li> <li>• PromoteArea</li> <li>• PromoteMethod</li> </ul>	ResponsibleSocialMedia is not null
Venue Planner	<ul style="list-style-type: none"> <li>• SceneModel</li> </ul>	SceneModel is the production and beautification of scene props, not null
Entertainment Planner	<ul style="list-style-type: none"> <li>• Theme</li> <li>• ActivityFlow</li> </ul>	Theme is the entertainment theme that planner responsible to handle, is not null
Fundraiser	<ul style="list-style-type: none"> <li>• FundRaiseTask</li> </ul>	FundRaiseTask is not null
General Affair	<ul style="list-style-type: none"> <li>• GeneralAffairTask</li> <li>• StoreroomAuthorization</li> </ul>	GeneralAffairTask is not null



<b>Event Organizer</b>	<ul style="list-style-type: none"> <li>• OrganizerTask</li> </ul>	<b>OrganizerTask is not null</b>
<b>Salesman</b>	<ul style="list-style-type: none"> <li>• ProductType</li> <li>• SalesMethod</li> </ul>	<b>ProductType is product salesman responsible to sales, is not null</b>
<b>Multimedia Specialist</b>	<ul style="list-style-type: none"> <li>• Skills</li> </ul>	
<b>Report</b>	<ul style="list-style-type: none"> <li>• ReportName</li> <li>• ReportType</li> <li>• EventDate</li> <li>• EventLocation</li> <li>• ProblemFaced</li> <li>• FutureImprovement</li> </ul>	<b>ReportName is unique and not null</b> <b>ReportType is type of the report(PostProgramReport/InterviewReport)</b>
<b>PostProgramReport</b>	<ul style="list-style-type: none"> <li>• QuantityUTMStudent</li> <li>• QuantityNonUTMStudent</li> </ul>	<b>QuantityUTMStudent in not null</b> <b>QuantityNonUTMStudent is not null</b>
<b>InterviewReport</b>	<ul style="list-style-type: none"> <li>• QuantityInterviewee</li> <li>• QuantityIntervieweePass</li> </ul>	<b>QuantityInterviewee is not null</b> <b>QuantityIntervieweePass is not null</b>
<b>EventProposal</b>	<ul style="list-style-type: none"> <li>• EventName</li> <li>• EventDate</li> <li>• EventLocation</li> <li>• EventBudget</li> </ul>	<b>EventName is unique and not null</b>
<b>EventActivity</b>	<ul style="list-style-type: none"> <li>• EventActivitiesConducted</li> <li>• EventObjective</li> </ul>	<b>EventActivitiesConducted is unique and not null</b>
<b>PotentialSponsor</b>	<ul style="list-style-type: none"> <li>• PotentialCompanyName</li> <li>• PotentialCompanyLocation</li> <li>• PotentialCompanyContactNo</li> <li>• PotentialItemSponsor</li> </ul>	<b>PotentialCompanyName is unique and not null</b>
<b>SponsorshipRecords</b>	<ul style="list-style-type: none"> <li>• SponsorCompanyName</li> <li>• SponsorEmail</li> <li>• Person-In-Charge</li> <li>• MonetaryAmount</li> <li>• ItemSponsorship</li> </ul>	<b>SponsorCompanyName is unique and not null</b>

## 5.0 Transaction requirement (data entry, data update/delete, data queries)

### 5.1 Data entry

Entity	Data entry
Participant	Enter new participant information (such as name, matric number, email, etc)
Interviewee	Enter new interviewee information (such as name, matric number, email,etc.)
Member	Enter the new member's personal information (such as name, matric number, email, etc)
Team	Enter Team information (such as the name of the Team)
Interview Outcome	Enter the interview outcome (such as rating, comment, strengths)
Interview Result	Enter the interview result (such as matric number, the department assigned)
Interview attendance form	Enter the attendance of interviewee
Attendance	Enter the attendance record
Sponsorship	Enter the sponsorship record (such as sponsor company name, contact number, item sponsor)
Event proposal	Enter the event proposal information (such as event name, event date)
Feedback Form	Enter the feedback form information (such as name, rating, comment)
Event Meeting Report	Enter the meeting report (such as meeting date)

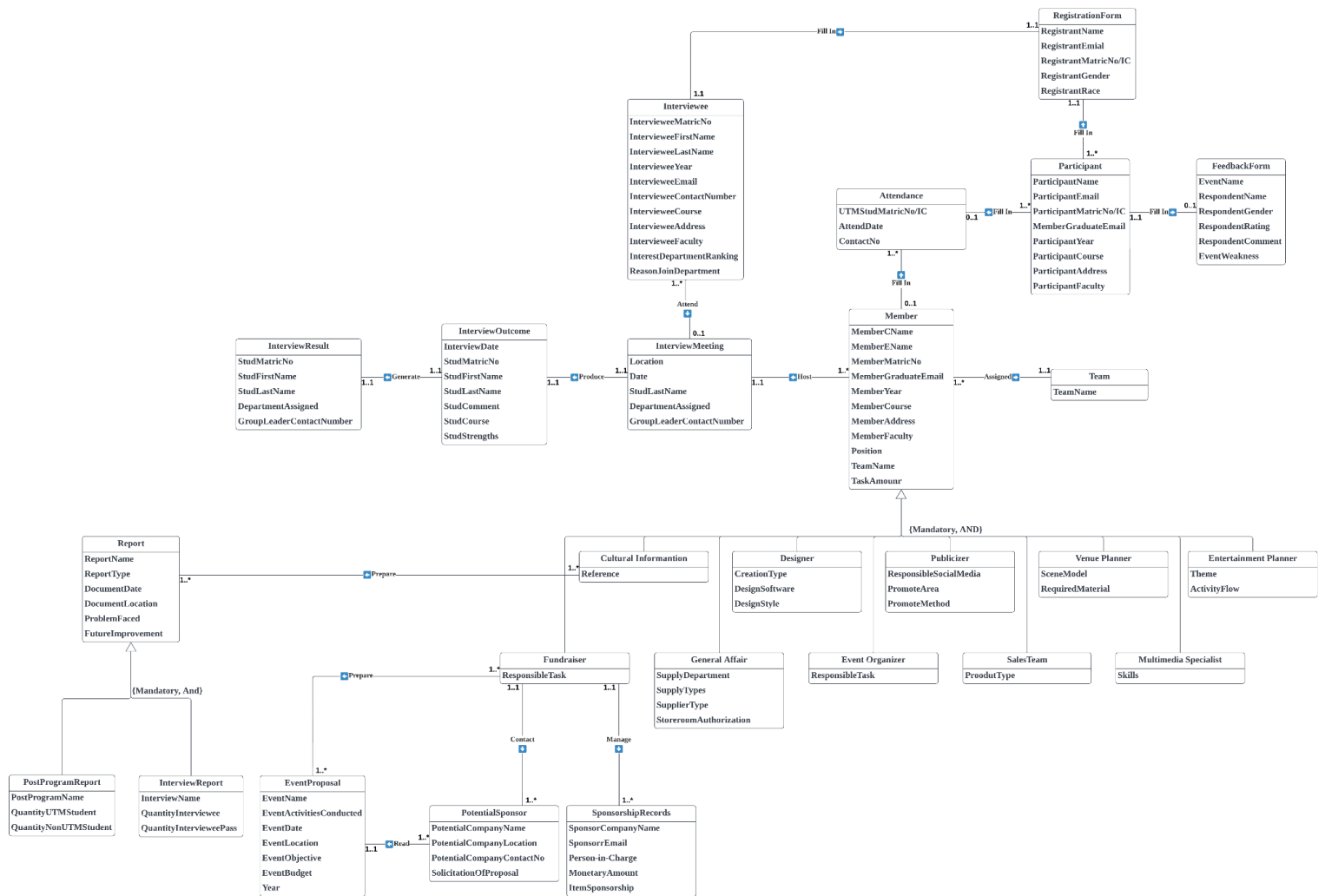
## **5.2 Data Update/Delete**

1. Update/Delete the interview information
2. Update/Delete the student/participant information
3. Update/Delete the interviewee's information
4. Update/Delete member information
5. Update/Delete sponsorship status/information
6. Update/Delete event attendance record
7. Update/Delete event meeting/post program report
8. Update/Delete team information
9. Update/Delete the interview outcome
10. Update/Delete the event proposal information

### **5.3 Data Queries**

1. List the student details who fills in the interview form
2. List the student details who participates in the interview
3. List the student's details numerically by matric no
4. List the group leader details based on department
5. Identify the member information based on degree year equal to 4
6. Identify the student details who own a transportation
7. Display the participant information who is a UTM student
8. Display the participant information by race
9. Display the participant information by gender
10. List the student's details based on the rating rated within interview session
11. List the student information who pass the interview
12. List the sponsorship details based on the likelihood of successful sponsorship
13. Display the sponsors who are willing to provide sponsorship
14. List the interviewee details who were recruited by the assigned departments
15. List the interviewee details who were recruited numerically by student matric no
16. List the feedback form filed by the participate
17. List the members' names who attended the meeting based on the date
18. List out the activities that would be held in the event
19. List out the interviewee who pass the interview meetings
20. List out the schedule and location of the interview meetings

## 6.0 ERD



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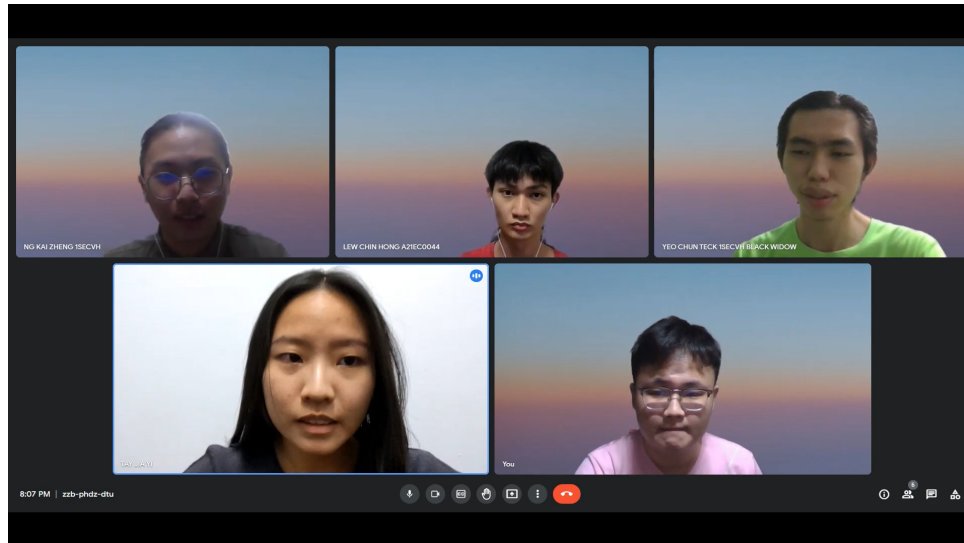
## 7.0 Summary

In the phase of data gathering, we use an interview method to collect the problems existing in the current system. There are two types of questionnaires used in the interview which are open-ended questions and closed questions. The user's thoughts and experiences are extremely important for us to find out the user's needs and make some modifications to the to-be system in order to create an effective new system. After having the interview with the stakeholder, Ms Tay Jia Yi, we discovered that the present system had several flaws like the committee of the club has to manually update the information of each interviewee during the interview and entry to their club, update or delete the member information, passing documents to other teams, update the planning of events and record the attendance of the participants' information and feedback form. In the interview, we requested the user specifications they desired to see in the new system proposal. There are several requirements stated by the stakeholder such as updating and deleting the member details directly using matric numbers, preventing duplication of member data after data entry from multiple sources and providing a filtered interviewee list after recruitment activities.

After gathering user opinions and needs for the existing system, we created a flow diagram based on the existing business process to clearly show how the workflow of the existing system operates. By listing down the workflow and scenario, we are able to assess the present system's effectiveness and validate its features. Additionally, we stated the data input, data update, data deletion, and data query requirements for the present system's transactions. Lastly, a model of entity relationships based on the data requirements of each entity was created.

## Appendix

### Interview With Ms Tay Jai Yi, Secretary of Club Pesta Tanglung



### Questions asked during the interview:

#### # Workflow & Business Rules

- > Will there be any links in the association, and what kind of process will each link go through
  - For example, the recruiting link, the event planning link, the registration of student information, etc.
- > Could you lend us the slide from the "Fresh Guys" show? In this way, it is easier for us to understand the internal information of the society
- > How do different departments interact and discuss cooperation
- > About data classification and processing, what kind of work is usually done

#### # Event Participation

- > What kind of information will the association record when students sign up for activities
  - such as payment method

- > Why record these data
- > Will more information be collected due to some factors in the event arrangement, such as whether there is transportation, etc. If yes, can you list them
- > Is the job of key-in attendance, and certificate, those are all done by the committee?
- > May I ask if the teacher in charge of the Mid-Autumn Festival club is responsible for any work?
- > What is the process of the key in attendance and member appreciation certificate?

### **#Sponsor**

- > I would like to ask if there is a record of the sponsor and what information will be recorded
- > Do you keep records of their past sponsors
- > Will there be records related to the sponsor's discussion with the sponsor before?
  - For example, things that can be sponsors
- > Will these sponsor items be marked to indicate whether they have received these sponsors now?

### **#Expectation**

- > Is there any data that you want to add to record and process in the future?
- > What operations and functions do you want to add in the future?

### **# Department Member Management**

- > May I know what kind of data will be recorded when different departments of the club manage and process each member's data?



> Will every member of all departments keep records of the details of the different activities they are involved in?

- For example, the name of the activity they joined as a working committee, the position they hold in their activity, what department they come from, the type of work they are responsible for, and the details of their work

> Is there any member who has experience involving more than two departments at the same time

> I want to know whether different departments of the association will evaluate different projects for members in their departments

- For example, their enthusiasm for participating in club activities, their ratings in various aspects, and their majors or skills

- An assessment of what the member will do

> In this case, will the head of the department give relevant comments on the performance of each member?

> For the club's activity plan, have you collected opinions and suggestions from each member on the current activities?

- For example, activities to improve progress and the like

> You can know what kind of process different departments of the club will follow in the process of recruiting members, what criteria will be based on or what priorities and backgrounds will be used to screen and interview students

- For example, resume, good skills, interesting job content, why you joined the club, interview position

> How many people will be in charge of the screening work? Will everyone screen each applicant together, or will everyone have their own list to screen

> How will clubs inform students of their interview details after screening

> Do different departments make reports on the details of their department members?

- For example, members' work experience, skills and technology, etc.

> In addition to these, will there be any other information in the report?

- Will there be a detailed summary of member activities, such as what activity records they have, what positions they are responsible for, their participation and contribution, their evaluation and evaluation, and their achievements

- Will there be data about how active members are in the club, how many activities they participate in on average, and their interest in specific activities?

> In addition, have different departments also statistically reported members' thoughts and suggestions on the future development of the association and current activities?

> I want to know if the club has a project similar to the year-end party to reward those members who perform well in the club and make great contributions

### **# Club Management and Event Planning**

> Wondering whether different departments will report details of their organization

- For example, the job details of the current department, human resource allocation, job planning and size for the coming year, and the list of candidates

- Discuss the transfer of members between departments and the subsequent development of its parts

> Will different departments also report their work details?

- For example, let other departments and the upper management know the work they can be responsible for, and let the upper management confirm whether their work is suitable for the department and whether it should be included in the scope of work of the department

- Also let others know the current centre of the department and the assignment of members in different activities

> In addition, will the departments also report on the progress of their activities and progress assessment

- For example, when holding a certain event, do all department members need to update the preparation status of their respective departments? For example, the photography team checks the equipment status, the game team reports the upcoming activities, etc.

- Or some projects require members to vote to decide whether each department will count the number of votes for each project and its voting results

> wonder who these reports are given to review or know

> Is it needed to upload membership report/activity report to Head of the club (teacher)?