




UNIVERSITI TEKNIKAL MALAYSIA MELAKA
FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

WORKSHOP 1
REPORT

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EXECUTIVE SUMMARY

The company events and training registration management system is a platform for company to increase their efficiency on collecting the events, tutor and staff information to encourage their staff to improve their soft skills. This project solves their problems by developing they management system from a traditional and manual methods to a seamless and secure digital method. This project significance is reducing the risk of miscommunication, improve event management efficiency and reach company's strategic goals which increasing company's reputation by holding the promise of transform event management into effective process. The user only needs to key in, update and find any information about the events. Hence, problems such as missing documents and misunderstanding will be preventing.

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CHAPTER 1: INTRODUCTION

1.1 Project Background

The Company events and training registration management system is designed to manage the registration process of various types of company events such as internal training, seminars, and workshop. This system provide efficiency to collect events details, tutors information and staff information. The purpose of creating a system for registration is to build a platform for people easy to search and apply events.

1.2 Problem Statement

Many organizers still rely on manual methods such as using paper-based registrations and email, to distribute event information. This may lead to mistakes and inefficiencies because the time required to distribute event information is longer. And mistakes are not allowed since it may result in confusion among tutors and staff and will even affect the event's reputation.

1.3 Objectives

- I. To study the problem that is faced by the company for managing the registration of educational events and training.
- II. To develop and design company events and training registration management system.
- III. To generate report for company events and training registration management system that was created for this project.

1.4 Scopes

1.4.1 System scope

1. Sign up/ Registration

Admin, tutors and staff can register their own information by using user ID, username, age, gender, phone number and password.

2. Login

Admin, tutors and staff can login by entering the correct username and password.

3. Add /Delete /Update

Admin able to add, delete, and update tutor, staff and events information. Tutors can add and update events and their own information in the system, while staff can only update their own information.

4. Display Table

Admin able to display all the records in the system. Tutors can view their events, tutors list, staff list and list of attendees that registered for their event. staff are only able to search and display the events list to registration.

1.4.2 User scope

1. Admin

- Add, update and delete information of tutors, staff and events.
- View all records in the system including tutors, staff and events.
- Able to generate a report and download into text file.

2. Tutor

- Able to view the event list, tutor list, staff list and attendees list based on the events that are created.
- Able to set up and update details of the events such as venue, and time.

3. Staff

- Able to view upcoming events and their schedule.
- Able to update their own information.

1.5 Project Significance

1. Reducing the risk of miscommunication

This project provides a platform that gathers all the information, even provides up-to-date information and ensures the accuracy of information. All the processes of registration are being simplified, so it would improve the experience of users using the system to register events.

2. Improving event management efficiency

The project improves capability and productiveness of events registration management process by providing a user-friendly system. The company can easily obtain the attendance tracking and monthly report.

3. Reach company's strategic goals

This project can be useful in helping company reach they long-term objectives that sets for themself. For example, expand their global footprint by targeting international markets.

1.6 Gantt Chart of Project Activities

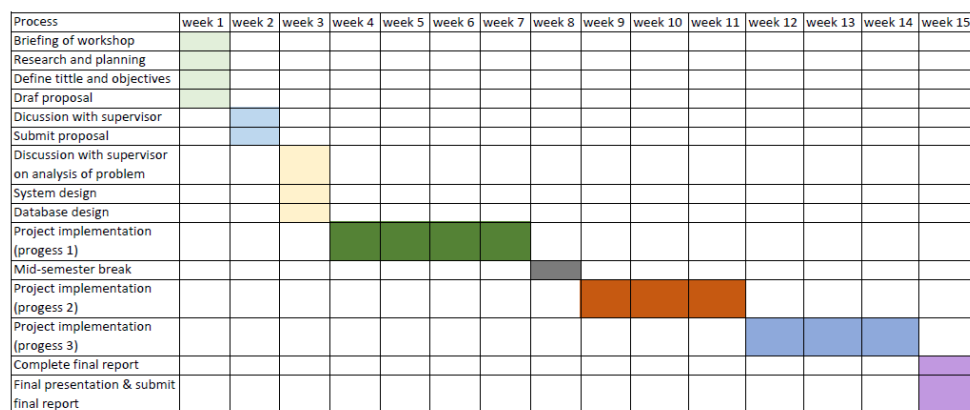


Figure 1.6 Gantt Chart

CHAPTER 2: ANALYSIS OF PROBLEM

2.1 Problem Description

As we know there are many companies still using manual methods to record the registration of the events such as seminars, workshop and internal training. A lot of time will be spent on managing the process of registration. Some mistakes might happen when using manual method, such as missing documents, since they mostly use paperwork to record and cause inefficiency.

2.2 Problem Decomposition

- Admin able to manage all information of admin, tutor, staff and events by add, delete and update.
- Tutor and staff can only manage their own information.
- Admin and tutor able to view total number of staff who attend the events that provide by company easily that have record by system.

2.3 Structure Chart

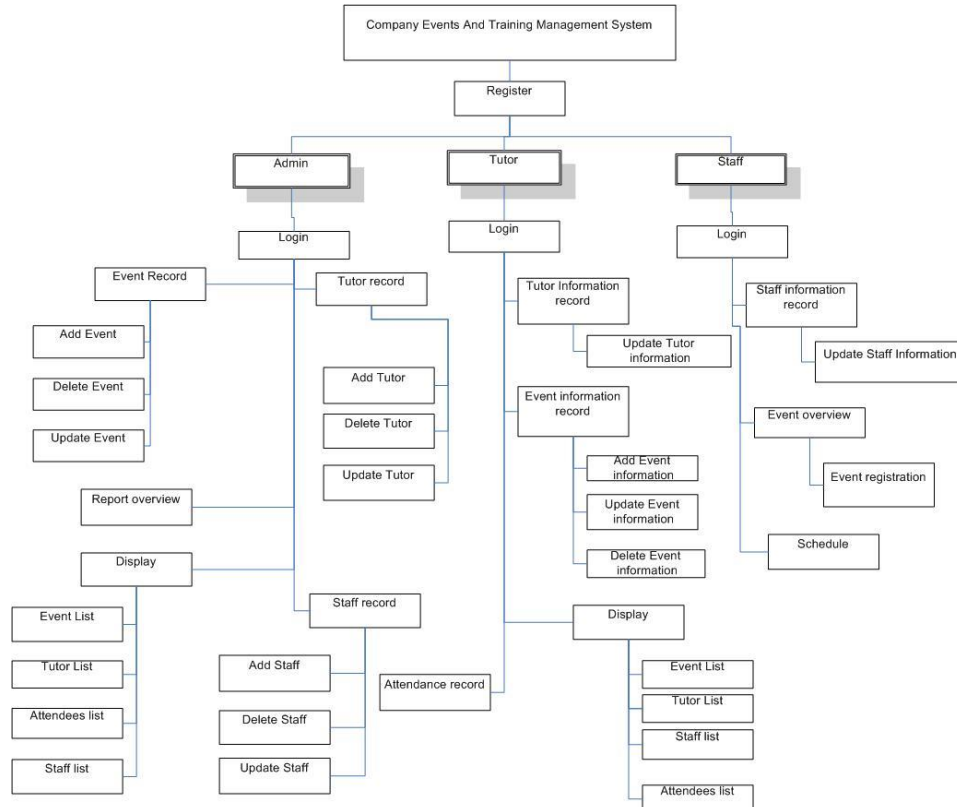


Figure 2.3 Structure chart

CHAPTER 3: SYSTEM DESIGN

3.1 Flowchart

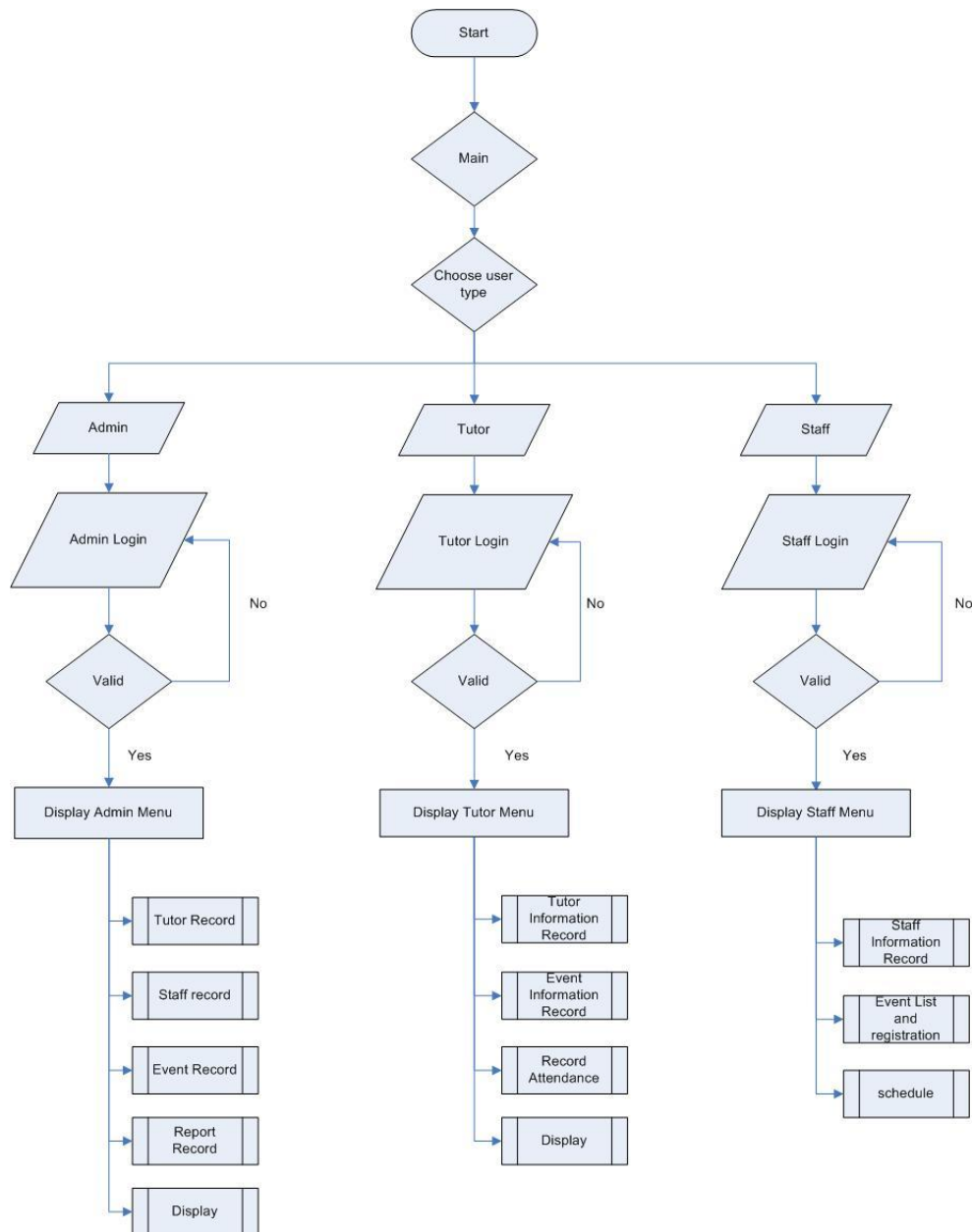


Figure 3.1 Flowchart

3.1.1 Flowchart for admin function

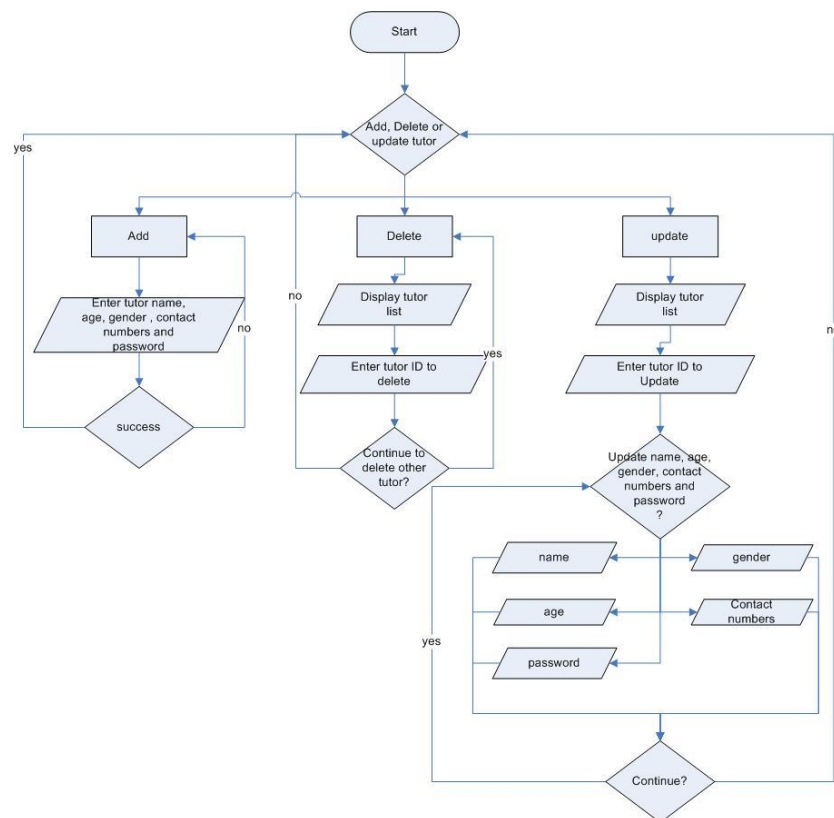


Figure 3.1.1(a) Tutor record

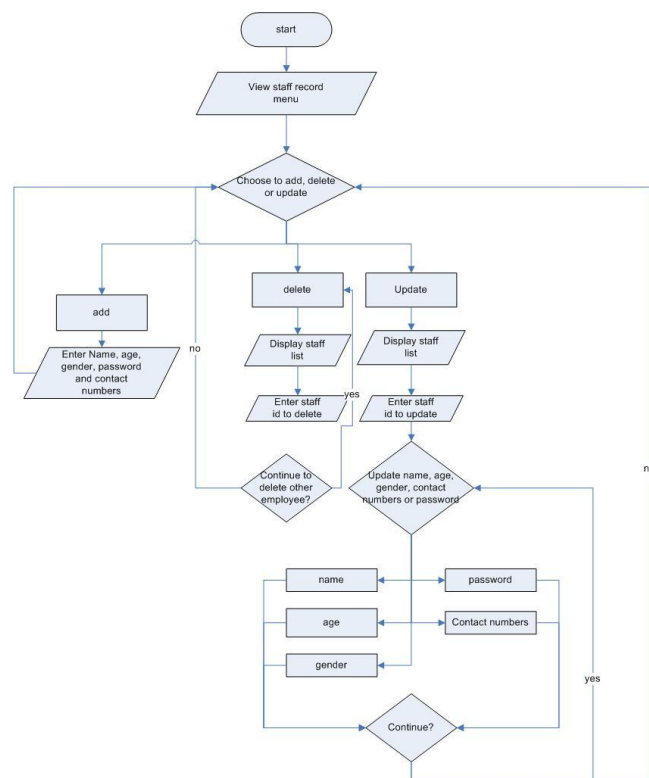


Figure 3.1.1 (b) staff record

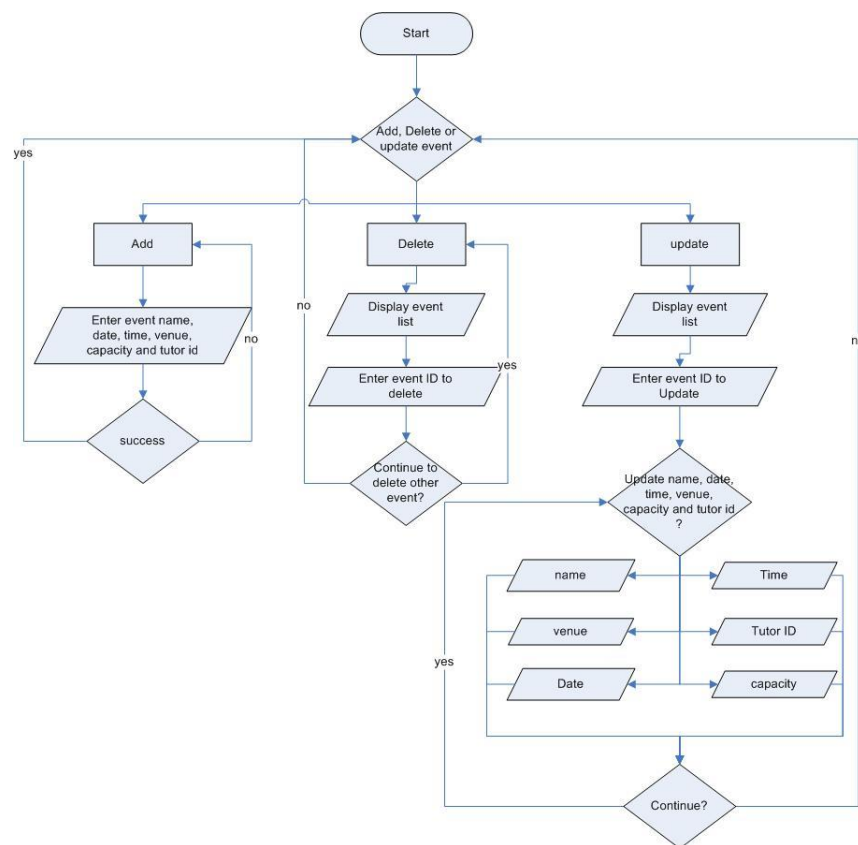


Figure 3.1.1(c) Event Record

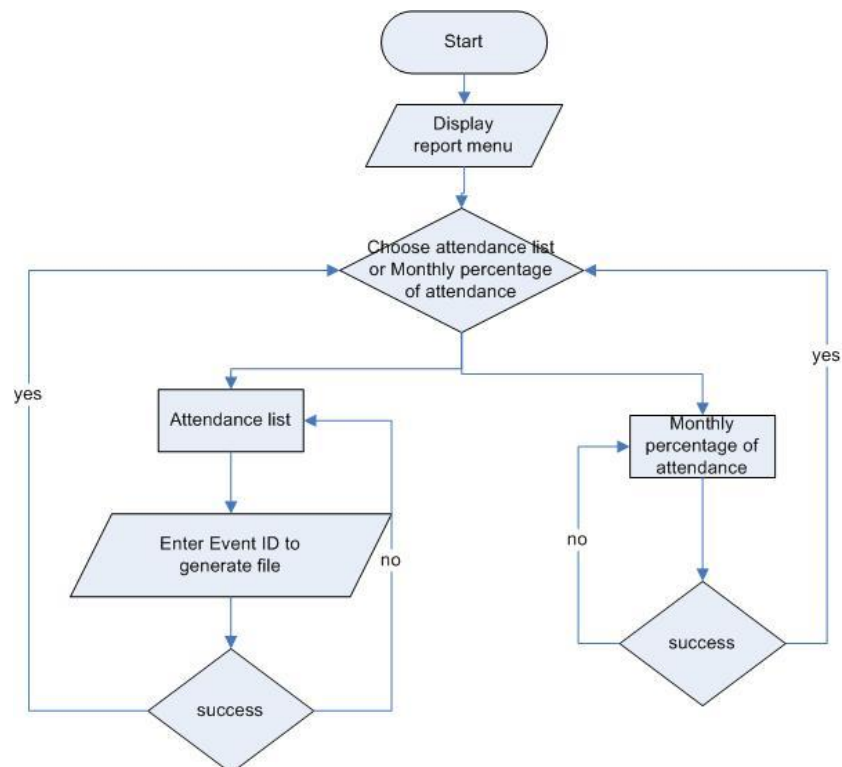


Figure 3.1.1.(d) Report record

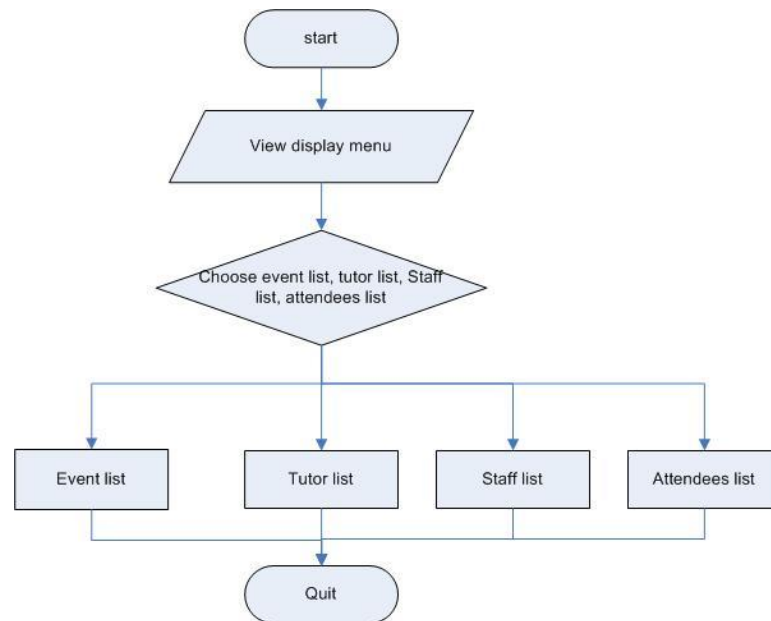


Figure 3.1.1 (e) Display

3.1.2 Flowchart for tutor function

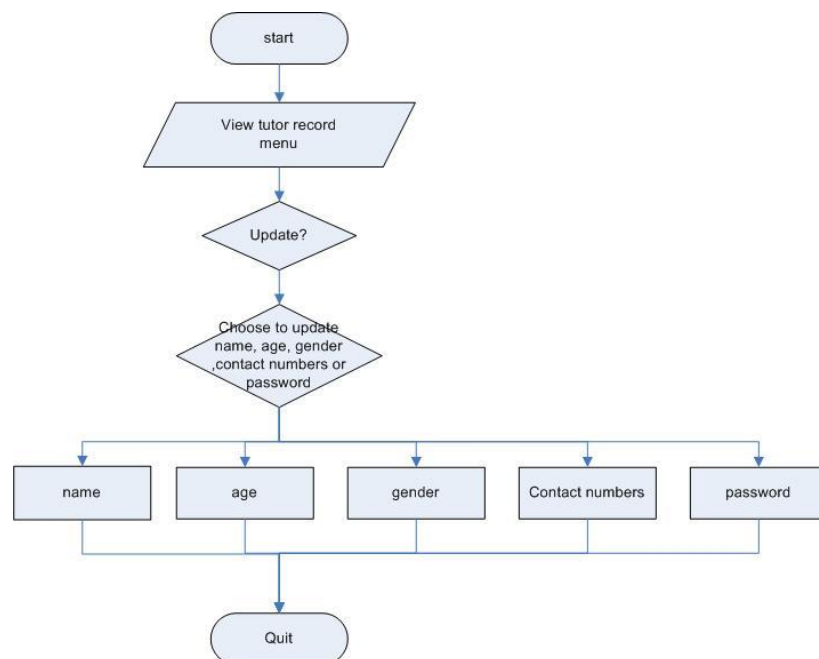


Figure 3.1.2 (a) Tutor information record

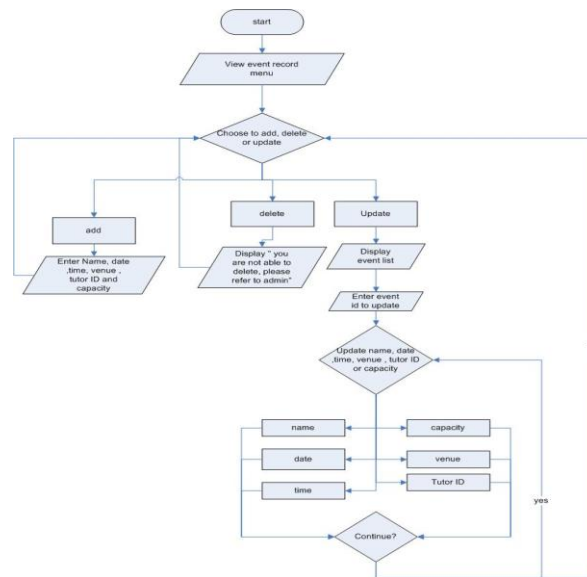


Figure 3.1.2 (b) Event information record

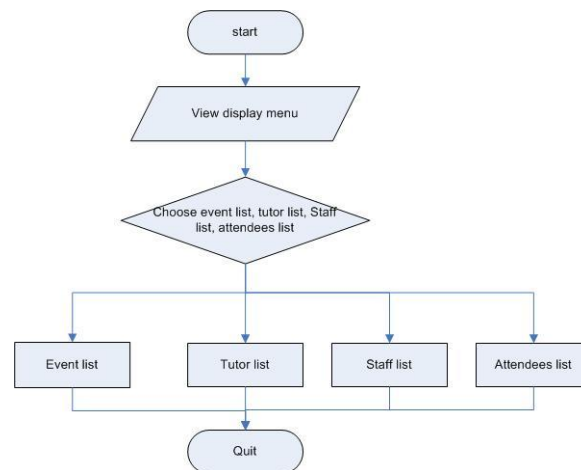


Figure 3.1.2 (c)Tutor Display

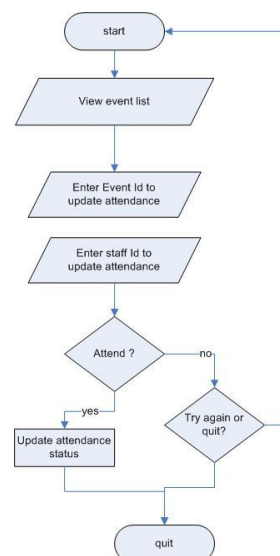


Figure 3.1.2 (d) Attendance record

3.1.3 Flowchart for staff function

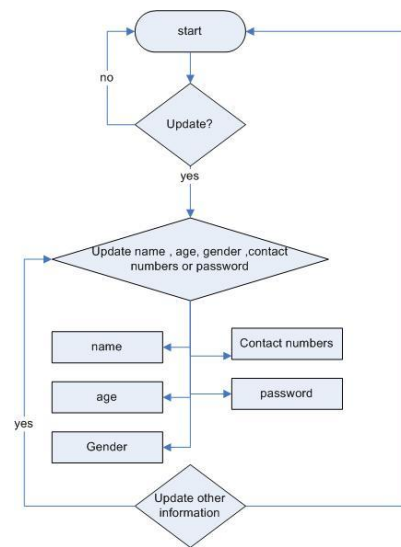


Figure 3.1.3 (a) Staff information record

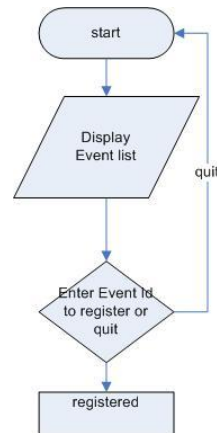


Figure 3.1.3(b) Event list and registration

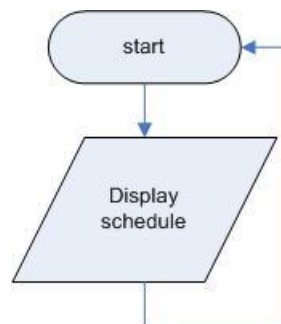
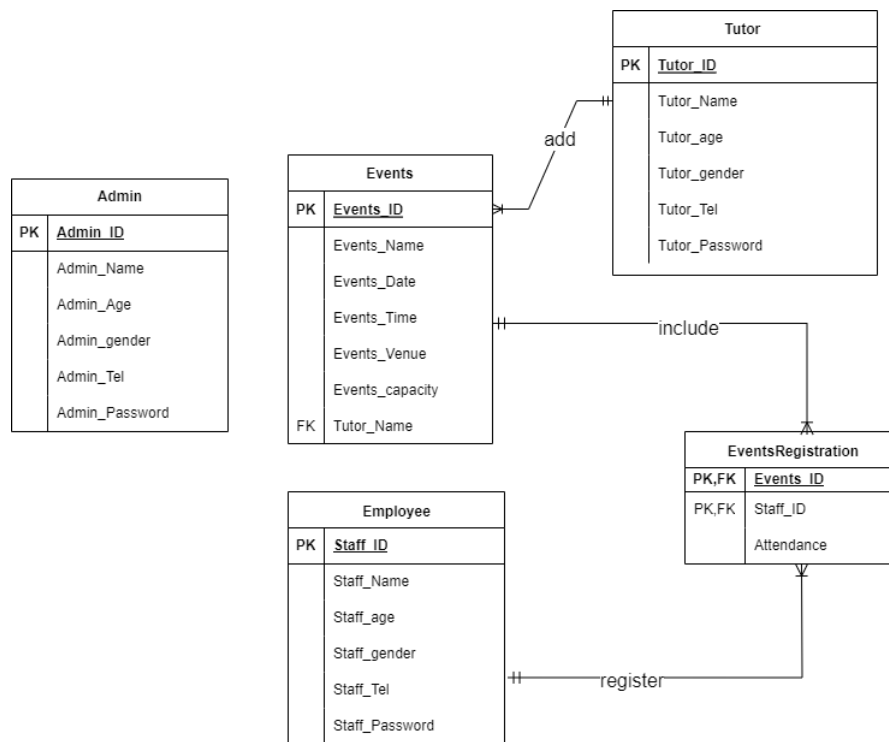


Figure 3.1.3 (c) Schedule

3.2 Entity Relation Diagram (ERD)



3.3 Business Rule

- Each tutor can add one or many events.
- Each event can be added by one tutor only.
- Each event included in one or many events registration.
- Each event registration includes only one event with one staff.
- Each staff registers one or many events in event registration.
- Each event registration registered one staff with one event only.

3.4 Data Dictionary

Table 3.4.1 Admin

Admin

Attribute name	Data type and size	Range	Not null?	Default value	Unique?	PK or FK	FK reference table
Admin_ID	INT (11)		Yes		Yes	PK	
Admin_Name	VARCHAR2 (50)		Yes				
Admin_Age	INT(3)		Yes				
Admin_Gender	VARCHAR2 (7)		Yes				
Admin_Tel	VARCHAR2 (20)		Yes				
Admin_Password	VARCHAR2 (20)		Yes		Yes		

Table 3.4.2 Tutor

Tutor

Attribute name	Data type and size	Range	Not null?	Default value	Unique?	PK or FK	FK reference table
Tutor_ID	INT (11)				Yes	PK	
Tutor_Name	VARCHAR2 (50)		Yes				
Tutor_Age	INT(3)		Yes				
Tutor_Gender	VARCHAR2 (7)		Yes				
Tutor_Tel	VARCHAR2 (20)		Yes				
Tutor_Password	VARCHAR2 (20)		Yes		Yes		

Table 3.4.3 Staff

Staff

Attribute name	Data type and size	Range	Not null ?	Default value	Unique ?	PK or FK	FK reference table
Staff_ID	INT (11)				Yes	PK	
Staff_Name	VARCHAR 2 (50)		Yes				
Staff_Age	INT (3)		Yes				
Staff_Gender	VARCHAR 2 (7)		Yes				
Staff_Tel	VARCHAR 2 (20)		Yes				
Staff_Password	VARCHAR 2 (20)		Yes		Yes		

Table 3.4.4 Events

Events

Attribute name	Data type and size	Range	Not null?	Default value	Unique?	PK or FK	FK reference table
Events_ID	INT(11)				Yes	PK	
Events_Name	VARCHAR2 (50)		Yes				
Events_Date	VARCHAR2 (20)		Yes				
Events_Time	VARCHAR2 (20)		Yes				
Events_Venue	VARCHAR2 (100)		Yes				
Events_capacity	INT (11)		Yes				
Tutor_ID	INT(11)		Yes			FK	Tutor

Table 3.4.5 Events Registration

EventsRegistration

Attribute name	Data type and size	Range	Not null?	Default value	Unique?	PK or FK	FK reference table
Events_ID	INT(11)					PK,FK	Events
Staff_ID	INT(11)					PK,FK	Staff
Attendance	INT(3)		Yes				

3.5 Interface Design

1. Main Menu

```

| Welcome to Company Events and Training Registration Management System |
=====
|1. Admin
|2. Tutor
|3. Staff
|4. Exit
=====

```

2. Admin Main Menu

```

=====
|                               ADMIN MAIN MENU                               |
=====
|1. Admin Login
|2. Admin Register
|3. Back
=====
Enter 1 to login or 2 to register: |

```

3. Admin Menu

```

=====
|                               Admin Menu                               |
=====
|1.Tutor record
|2.Staff record
|3.Event record
|4.Report record
|5.Display
|6.Back
=====
Your choice : |

```

4. Admin Login

```

=====
|                               Welcome Admin                               |
=====
Please insert following information to login:

Your Name: low xiao qian

Your Password:lxq
=====
Your ID is 1
=====

```

5. Admin Register

```

=====
|                               Welcome Admin                               |
=====
Please insert following information to register:
1.Name       : example
2.Age        : 12
3.Gender     : f
4.Phone Number : 0167889098
5.Password    : example
Enter the secret key:123
=====
Your ID number is 3
=====
Press Enter To Continue to Admin Menu...

```

6. Tutor record page

```

=====
|                               Tutor record                               |
=====
|1.Add
|2.Delete
|3.Update
|4.Back to Admin Menu
=====
Your choice : |

```

7. Add Tutor

```

=====
                        Please fill in the information to add Tutor...
=====
1.Name       : 1
2.Age        : 30
3.Gender     : male
4.Phone Number : 0148876865
5.Password   : #####

Record Inserted
=====
Do you want to continue add Tutor(Y/N):

```

8. Delete Tutor

```

=====
                        Tutors List
=====
ID      Name      Age  Gender  Contact numbers
100     Jennifer Liew 37   male   0198875663
101     Chong Jia Wen 35   female 0167990885
102     Alisah Binti 30   female 0197665450
103     Melisah     40   female 0145778980
104     Jessy Lim    30   female 0146778670
111     Washil bin Muhammad 38   male   0168994454
112     Loww       23   male   0167774838

Insert the Tutor ID to delete his/her information:|

```

9. Update Tutor

```

=====
                        Update Tutor information
=====
ID      Name      Age  Gender  Contact numbers
100     Jennifer Liew 33   male   0198875663
101     Chong Jia Wen 35   female 0167990885
102     Alisah Binti 30   female 0197665450
103     Melisah     40   female 0145778980
104     Jessy Lim    30   female 0146778670
111     Washil bin Muhammad 38   male   0168994454
112     chong       23   male   0167774838
114     www        1    1      1
117     1         30   male   0148876865

Please select the TutorID that you want to update his/her information

```

10. Staff Record

```

=====
                        Staff record
=====
|1.Add
|2.Delete
|3.Update
|4.Back to Admin Menu
=====
Your choice : |

```

11. Add Staff

```

=====
                        Please fill in the information to add Staff...
=====
1.Name       : example
2.Age        : 23
3.Gender     : male
4.Contact numbers : 0145883940
5.Password (Your password should contain letter and number) : abc123

Record Inserted
=====
Do you want to continue add Staff(Y/N):

```

12. Delete staff

```

=====
                        Staffs List
=====
ID      Name      Age  Gender      Contact numbers
200     Elly       23   Female      0128995058
201     kenny      33   male        0168990670
202     Aqilah      25   female      0167889393
203     Wei Dong    36   male        0149446959
205     Jun Ming    44   male        0165778439
206     Anson Chong 46   female      0162776363
207     Aimi        24   female      0165447970
208     Intan       30   female      0149885057
211     Jing Ming   23   female      0167223839
212     employee    34   male        0163738274
216     example     23   male        0145883940

Insert the Staff ID to delete his/her information:|

```

13. Update staff

```

=====
                        Staff List
=====
ID      Name      Age  Gender      Contact numbers
200     Elly       23   Female      0128995058
201     kenny      33   male        0168990670
202     Aqilah      25   female      0167889393
203     Wei Dong    36   male        0149446959
205     Jun Ming    44   male        0165778439
206     Anson Chong 46   female      0162776363
207     Aimi        24   female      0165447970
208     Intan       30   female      0149885057
211     Jing Ming   23   female      0167223839
212     employee    34   male        0163738274
216     example     23   male        0145883940

Insert the StaffID that you want to update his/her information

```

14. Event record

```

=====
|                               Event record                               |
=====
|1.Add
|2.Delete
|3.Update
|4.Back
=====
Your choice: |

```

15. Add event

```

=====
|                               Add Event                               |
=====

Please write down the information of event that you want to add:
1.Event Name:example

2.Event Date(ex:01/01/2024):xx

3.Event Time:xx

4.Event Venue:xx

5.Event capacity:xx

4.Event tutor ID:xx

The information are correct? (y/n):|

```

16. Delete event

```

=====
                        Events List
=====
Event ID      Name      Date      Time      Venue      capacityTutor ID
301           Coding Class  2024-01-23 2:00p.m. - 3:00p.m.  Dewan Shah Bandar  28  100
302 Creative Development Workshop  2024-01-29 3:00p.m. - 5:00p.m.  Dewan seminar  27  101
303           Creative Thinking  2024-01-05 2:00p.m. - 3:00p.m.  Dewan Rasah Prima  27  100
304           workshop1  2024-03-13 1:00p.m. - 3:00p.m.  Dewan  27  102
311           workshop 2  2024-05-03 2:00p.m. - 4:00p.m.  dewan1  27  101
312 Graphic Design Workshops  2024-08-0211:00a.m. - 1:00p.m.  Meeting Room 1  28  100

Insert the event ID to delete the event information:|

```

17. Update event

```

=====
Events List
=====
ID          Name          Date          Time          Venue          capacityTutor ID
301          Coding Class    2024-01-23 2:00p.m. - 3:00p.m.    Dewan Shah Bandar    28    100
302 Creative Development Workshop 2024-01-29 3:00p.m. - 5:00p.m.    Dewan seminar        27    101
303          Creative Thinking 2024-01-05 2:00p.m. - 3:00p.m.    Dewan Rasah Prima    27    100
304          workshop1      2024-03-13 1:00p.m. - 3:00p.m.    Dewan                27    102
311          workshop 2     2024-05-03 2:00p.m. - 4:00p.m.    dewan1               27    101
312          Graphic Design Workshops 2024-08-02 11:00a.m. - 1:00p.m.    Meeting Room 1       20    100
Select the event Id that you wish to update:|

```

18. Report record

```

=====
|                                     Report                                     |
=====
1.Attendance List
2.Monthly percentage of attendance
3.Back
Select a list to save the report:|

```

19. Display Menu

```

=====
|                                     Display Menu                                     |
=====
|Select a list that you want to display:
|1.Event List
|2.Tutor List
|3.Staff List
|4.Attendees List
|5.Back
=====
choose: |

```

20. Event List

```

=====
Events List
=====
ID          Name          Date          Time          Venue          capacity Tutor ID
301          Coding Class    2024-01-23 2:00p.m. - 3:00p.m.    Dewan Shah Bandar    28    100
302 Creative Development Workshop 2024-01-29 3:00p.m. - 5:00p.m.    Dewan seminar        27    101
303          Creative Thinking 2024-01-05 2:00p.m. - 3:00p.m.    Dewan Rasah Prima    27    100
304          workshop1      2024-03-13 1:00p.m. - 3:00p.m.    Dewan                27    102
311          workshop 2     2024-05-03 2:00p.m. - 4:00p.m.    dewan1               27    101
312          Graphic Design Workshops 2024-08-02 11:00a.m. - 1:00p.m.    Meeting Room 1       20    100
Enter Q to back:|

```

21. Tutors List

```

=====
Tutors List
=====
Tutor ID    Tutor Name    Age    Gender    Tutor Phone Number
100          Jennifer Liew 33     male     0198875663
101          Chong Jia Wen 35     female   0167990885
102          Alisah Binti 30     female   0197665450
103          Kelisah      40     female   0145778980
104          Jessy Lim    30     female   0146778670
111          Washil bin Muhammad 38     male     0168994454
112          chong        23     male     0167774838
Enter Q to back:|

```

22. Staff List

```

=====
Staff List
=====
Staff ID    Staff Name    Age    Gender    Contact numbers
200          Elly          23     Female    0128995058
201          kenny         33     male      0168990670
202          Aqilah        25     female    0167889393
203          Wei Dong      36     male      0149446959
205          Jun Ming      44     male      0165778439
206          Anson Chong   46     female    0162776363
207          Aimi          24     female    0165447970
208          Intan         30     female    0149885057
211          Jing Ming     23     female    0167223839
212          employee      34     male      0163738274
216          example       23     male      0145883940
Enter Q to back:|

```

23. Attendees list

Attendees list				
Events ID	Staff ID	Attendees	Contact numbers	
301	200	Elly	0128995058	
301	202	Aqilah	0167889393	
301	203	Wei Dong	0149446959	
301	205	Jun Ming	0165778439	
301	206	Anson Chong	0162776363	

Enter Q to back:|

24. Tutor Main Menu

```

=====
|                                     TUTOR MAIN MENU                                     |
=====
|1. Tutor Login
|2. Tutor Register
|3. Back
=====
Enter 1 to login or 2 to register: |

```

25. Tutor Login

```

=====
Welcome Tutor
=====
Please insert following information to login:

Your Name: jennifer lieu
Your Password: j123
=====
Your ID is 100
=====
Press enter to continue...|

```

26. Tutor Menu

```

=====
|                                     Tutor Menu                                     |
=====
|1.Tutor information record
|2.Event information record
|3.Display
|4.record attendance
|5.Back
=====
Your choice : |

```

27. Tutor Register

```

=====
Welcome Tutor
=====
Please insert following information to register:
1.Name      : tutor 1
2.Age       : 30
3.Gender    : male
4.Phone Number : 0165224878
5.Password  : *****
=====
Your ID number is 113
=====
Press Enter To Continue to Tutor Menu...

```

28. Tutor information record

```

=====
|                                     Tutor record                                     |
=====
|1.Update
|2.Back to Tutor Menu
=====
Your choice: |

```

29. Tutor's delete events page

```

=====
|                                     |
|                               Event record                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
|1.Add|
|2.Delete|
|3.Update|
|4.Back|
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
Your choice: 2
You are not able to delete event, please refer to admin to delete the events.
Press any key to continue . . . |

```

30. Update Tutor Information

```

=====
|                               Update Tutor information                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
Your information :
ID          Name      Age      Gender      Contact numbers      Password
100         Jennifer Liew 33      male        0198875663          J123

1.Name
2.Age
3.Gender
4.Phone Number
5.Password
4.Back
Choose the information that you want to update:|

```

31. Tutor's update event page

```

=====
|                               Event list                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
Event ID      Name      Date      Time      Venue      capacityTutor name
301           Coding Class 2024-01-23 2:00p.m. - 3:00p.m. Dewan Shah Bandar 28 100
303           Creative Thinking 2024-01-05 2:00p.m. - 3:00p.m. Dewan Rasah Prima 27 100
312           Graphic Design Workshops 2024-08-02 11:00a.m. - 1:00p.m. Meeting Room 1 20 100

Insert the event ID to update the event information or Q to back to Tutor Menu:
303

-----
1.Name
2.Date
3.Time
4.Venue
5.capacity
-----
Choose the information that you want to update:|

```

32. Tutor's events list

```

=====
|                               Events List                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
ID      Name      Date      Time      Venue      capacity Tutor ID
301     Coding Class 2024-01-23 2:00p.m. - 3:00p.m. Dewan Shah Bandar 28 100
303     Creative Thinking 2024-01-05 2:00p.m. - 3:00p.m. Dewan Rasah Prima 27 100
312     Graphic Design Workshops 2024-08-02 11:00a.m. - 1:00p.m. Meeting Room 1 20 100

Enter Q to back:|

```

33. Attendance record

```

=====
|                               Event list                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
Event ID      Name      Date      Time      Venue      capacity Tutor ID
301           Coding Class 2024-01-23 2:00p.m. - 3:00p.m. Dewan Shah Bandar 28 100
303           Creative thinking 2024-01-05 2:00p.m. - 3:00p.m. Dewan Rasah Prima 27 100
312           Graphic Design Workshops 2024-08-02 11:00a.m. - 1:00p.m. Meeting Room 1 28 100
313           workshop 1 2024-06-04 3:00p.m. - 4:00p.m. DEwan 20 100

Enter the event ID to insert the attendances record : 301
Enter the staff ID :200
Do he/she attend the event? (y/n)

```

34. Staff Main Menu

```

=====
|                               Staff MAIN MENU                               |
|=====|=====|=====|=====|=====|=====|=====|=====|=====|
|1. Staff Login|
|2. Staff Register|
|3. Back|
|=====|=====|=====|=====|=====|=====|=====|=====|=====|

Enter 1 to login or 2 to register: |

```


35. Staff Login

```

=====
                               Welcome Staff
=====
Please insert following information to login:

Your Name: anson chong

Your Password: AAA123
=====
                               Your ID is 206
=====
Press enter to continue....|

```

36. Staff Menu

```

=====
|                               Staff Menu                               |
=====
|1.Staff information record
|2.Search event and registration
|3.Schedule
|4.Back
=====
Your choice: |

```

37. Staff Information Record

```

=====
|                               Staff Information Record                   |
=====
|1.Update
|2.Back to Staff Menu
=====
Your choice : |

```

38. Update staff Information

```

=====
|                               Update Staff information                     |
=====
Your information :
ID          Name      Age   Gender      Contact numbers      Password
206         Anson Chong  46   female      0162776363          AAA123

1.Name
2.Age
3.Gender
4.Contact numbers
5.Password
6.Back
Choose the information that you want to update:|

```

39. Event list and registration

```

=====
                               Event list
=====
Event ID    Name      Date      Time      Venue      capacity  Tutor name
301         Coding Class  2024-01-23  2:00p.m. - 3:00p.m.  Dewan Shah Bandar  28  Jennifer Liew
302 Creative Development Workshop  2024-01-29  3:00p.m. - 5:00p.m.  Dewan seminar  27  Chong Jia Wen
303         Creative thinking  2024-01-05  2:00p.m. - 3:00p.m.  Dewan Rasah Prima  27  Jennifer Liew
304         workshop1  2024-03-13  1:00p.m. - 3:00p.m.  Dewan  27  Alisah Binti
311         workshop 2  2024-05-03  2:00p.m. - 4:00p.m.  dewan1  27  Chong Jia Wen
312 Graphic Design Workshops  2024-08-02  11:00a.m. - 1:00p.m.  Meeting Room 1  20  Jennifer Liew

Enter event ID to register or '0' to back to Employee Menu:|

```

40. Schedule

```

=====
                               Schedule
=====
ID          Name      Date      Time      Venue      capacity  Tutor ID
303         Creative thinking  2024-01-05  2:00p.m. - 3:00p.m.  Dewan Rasah Prima  27  100
301         Coding Class  2024-01-23  2:00p.m. - 3:00p.m.  Dewan Shah Bandar  28  100
302 Creative Development Workshop  2024-01-29  3:00p.m. - 5:00p.m.  Dewan seminar  27  101
304         workshop1  2024-03-13  1:00p.m. - 3:00p.m.  Dewan  27  102
311         workshop 2  2024-05-03  2:00p.m. - 4:00p.m.  dewan1  27  101

Press any key to continue . . .

```

```
void MainMenu()
{
    system("cls");
    char user;
    cout << "\t\t===== " << endl;
    cout << "\t\t| Welcome to Company Events and Training Registration Management System |" << endl;
    cout << "\t\t===== " << endl;
    cout << "\t\t|1. Admin" << endl;
    cout << "\t\t|2. Tutor" << endl;
    cout << "\t\t|3. Staff" << endl;
    cout << "\t\t|4. Exit" << endl;
    cout << "\t\t===== " << endl << endl;
    cout << "\t\tChoice: ";
    cin >> user;

    switch (user)
    {
        case '1':
            AdminMainMenu();
            break;
        case '2':
            TutorMainMenu();
            break;
        case '3':
            StaffMainMenu();
            break;
        case '4':
            cout << "Exiting..." << endl;
            exit(0);
        default:
            cout << endl << "Please enter a number between 1 - 4 to continue."<<endl;
            system("pause");
            system("cls");
    }
}
```

```

void AdminMenu()
{
    do{system("cls");
    int A_Menu;
    cout << "\t\t" << endl;
    cout << "\t\t" << "Admin Menu" << endl;
    cout << "\t\t" << endl;
    cout << "\t\t1.Tutor record" << endl;
    cout << "\t\t2.Staff record" << endl;
    cout << "\t\t3.Event record" << endl;
    cout << "\t\t4.Report record" << endl;
    cout << "\t\t5.Display" << endl;
    cout << "\t\t6.Back" << endl;
    cout << "\t\t" << endl;
    cout << "\t\tYour choice : ";

    cin >> A_Menu;
    if (A_Menu == 1) {
        record("Tutor");
    }
    else if (A_Menu == 2) {
        record("Staff");
    }
    else if (A_Menu == 3) {
        eventrecord("Admin");
    }
    else if (A_Menu == 4) {
        report();
        cin.ignore();
    }
    else if (A_Menu == 5) {
        display("Admin");
    }
}
}

```

This code is design to prompt user what function that he/she want to do by using one of the selection types, if...else.

4.4 Function

```
void AdminMainMenu();
void TutorMainMenu();
void StaffMainMenu();
void MainMenu();
void AdminMenu();
void StaffMenu();
void record(string);
void userMenu(string);
void TutorMenu();
void tutorrecord();
void Staffrecord();
void eventrecord(string);
void display(string);
void eventdisplay();
void report();
```

In my source.cpp file, I use a variety of functions with void return type. With void return type, the function will not return value.

```
class myclass {
private:
    string usertype, ID, Name, Tel, Password, Date, Venue, capacity, age, gender;
    int check = 0; char conti = 'y';
public:
    int userID=0;
    int qstate = 0;
    MYSQL* conn = nullptr;
    MYSQL_ROW row = nullptr;
    MYSQL_RES* res = nullptr;
    int Register(string user);
    int login(string user);
    char add(string user);
    char deleteData(string user);
    char UpdateData(string user, string object);
    string total_capacity(string ID);
    double Mtotal_capacity(string month);
    double total_eventPM(string month);
    double total_attend(string month);
    string EventName(int ID);
};
#endif
```

In header file, there are variety of functions that takes parameters such as string ID and return a value such as return a integer value.

4.5 Calculation

```

else if (pilihan == 2)
{
    ofstream file("Monthly_percentage_of_attendance.txt");
    int month = 1;

    file << "-----" << endl;
    file << "Monthly percentage of attendance" << endl;
    file << "-----" << endl;

    file << setw(10) << "Month" << setw(25) << "Total organized events" << setw(25) << "Overall capacity" << setw(25) << "Numbers of attendees" << setw(25) << "Percentage of attendance" << endl;
    do
    {
        double TotalCapacity = C.Total_capacity(to_string(month));
        double TotalEvent = C.Total_eventPM(to_string(month));
        double TotalAttend = C.Total_attend(to_string(month));
        double ave = (TotalAttend / TotalCapacity) * 100;
        if (isnan(ave)) {
            ave = 0;
        }
        ostringstream tempStream;
        tempStream << fixed << setprecision(2) << ave;
        file << setw(5) << month << setw(25) << TotalEvent << setw(25) << TotalCapacity << setw(25) << TotalAttend << setw(25) << tempStream.str() << endl;
        month++;
    } while (month <= 12);
    cout << "Report generated successfully." << endl;
    system("pause");
    file.close();
    report();
}

```

To generate a report about monthly average attendances, I use the code to calculate how many percentages of total attendees from the total capacity that the events provide per month.

4.6 Error Handling

```

if (!C.qstate)
{
    cout << "-----" << endl;
    cout << "Event list" << endl;
    cout << "-----" << endl;
    cout << setw(12) << "Event ID" << setw(10) << "Name" << setw(15) << "Date" << setw(22) << "Time" << setw(10) << "Venue" << setw(15) << "Capacity" << setw(25) << "Tutor Name" << endl;
    C.res = mysql_store_result(C.conn);
    while (C.res = mysql_fetch_row(C.res))
    {
        cout << setw(11) << C.res[0] << setw(10) << C.res[1] << setw(15) << C.res[2] << setw(22) << C.res[3] << setw(10) << C.res[4] << setw(15) << C.res[5] << setw(25) << C.res[6] << endl;
    }
}
cout << "\nEnter event ID to register or '0' to back to Staff Menu:";
cin >> reg;

if (reg == 0)
{
    StaffMenu();
}
else {
    string check_query = "SELECT * FROM eventregistration WHERE events_ID = " + to_string(reg) + " AND Staff_ID = " + to_string(C.userID);
    const char* check_query_cstr = check_query.c_str();
    C.qstate = mysql_query(C.conn, check_query_cstr);
    if (C.qstate == 0)
    {
        C.res = mysql_store_result(C.conn);
        if (C.res != nullptr && mysql_num_rows(C.res) > 0)
        {
            cin.ignore();
            cout << "\nYou are already registered for this event. Please choose another event.\n";
            cout << "\nPress enter to select another event." << endl;
            cin.get();
            eventdisplay();
            return;
        }
    }
}

```

In the event display function, I use error handling to check did user repeating register same event or not. The system will show “You already registered for this event. Please choose another event” to prompt user choose other event.

```

}
cout << "===== " << endl;
cout << "                                Event list                                " << endl;
cout << "===== " << endl;
cout << setw(11) << "Event ID" << setw(30) << "Name" << setw(20) << "Date" << setw(20) << "Time" << setw(20) << "Venue" << setw(10) << "Capacity" << setw(10) << "Tutor name" << endl;
C.res = mysql_store_result(C.conn);
while (C.row = mysql_fetch_row(C.res))
{
    cout << setw(11) << C.row[0] << setw(30) << C.row[1] << setw(20) << C.row[2] << setw(20) << C.row[3] << setw(20) << C.row[4] << setw(10) << C.row[5] << setw(10) << C.row[6] << endl;
}
}
else
{
    cout << "Query execution failed. Error: " << mysql_error(C.conn) << endl;
}
cout << "\nInsert the event ID to delete the event information or enter Q to back to Tutor Menu: ";
cin >> ID;
if (ID.empty()) {
    cout << "\nInvalid event ID. Please enter a valid ID." << endl;
    cin >> ID;
}
else if (ID == "q" || ID == "Q") {
    back = 'n';
    break;
}
cout << "\nAre you sure you want to delete? (Y/N):";
cin >> del;
if (del == 'y' || del == 'Y')
{
    string deletequery = "Delete from events where events_ID=" + ID;
    const char* query = deletequery.c_str();
    C.qstate = mysql_query(C.conn, query);
    if (!C.qstate) {
        cout << "\nData delete successfully.....\n";
        cout << "\n\nDo you want to delete other event ? (Y/N):";
        cin >> back;
    }
    else {
        cout << "This event has been registered by employees. It cannot be deleted." << endl;
        cout << "\nDo you want to try again? (Y/N): ";
        cin >> back;
    }
}
}
}

```

To delete information of events, tutor or staff, the system will ask user to enter the ID of the events, tutor or staff to delete. If the ID selected in not exist in the database, the system will show “Invalid event ID. Please enter a valid ID.” and ask the user to insert the ID again. Figure above is one of the examples of error handling that use in delete function.

```

}
cout << "\nInsert the " + user + " ID to delete his/her information:";
cin >> ID;
if (ID.empty()) {
    cout << "\nInvalid " + user + " ID. Please enter a valid ID." << endl;
    cin >> ID;
}
cout << "\nAre you sure you want to delete? (Y/N):";
cin >> del;
if (del == 'y' || del == 'Y')
{
    string deletequery = "Delete from " + user + " where " + user + "_ID=" + ID + "";
    const char* query = deletequery.c_str();
    C.qstate = mysql_query(C.conn, query);
    if (!C.qstate) {
        cout << "\n\n" + user + " data delete successfully.....\n";
        system("pause");
    }
    else {
        cout << "This " + user + " has register a event. He/she informations cannot be delete.";
    }
}
else {
    cout << "\nPlease enter Y to try again or enter Q to back to " + user + " record menu:";
    cin >> back;
}
}
}

```

This code is an example of deleting tutor or staff information and check whether the tutor or staff registered an event or not. This is because this function is mostly used to delete the tutor or staff especially when the tutor or staff is no longer associated with the company.

4.7 Control

```

if (T_record == 1)
{
    cin.ignore(256, '\n');
    char add = C.add(user);
    while (add == 'y' || add == 'Y')
    {
        add = C.add(user);
    }
    if (add == 'n' || add == 'N')
    {
        system("cls");
        cout << "\n\tPress enter to back to " + user + " record menu....." << endl;
        cout << "=====";
        cin.get();
        record(user);
    }
}
else if (T_record == 2)
{
    char cont;
    do {
        char back = C.deleteData(user);
        if (back == 'Q' || back == 'q')
        {
            record(user);
        }
        else if (back == 'T' || back == 't')
        {
            back = C.deleteData(user);
        }

        cout << "\n\nDo you want to delete other " + user + "? (Y/N):";
        cin >> cont;
    } while (cont == 'y' || cont == 'Y');
    system("cls");
    cout << "\n\tPress enter to back to " + user + " record menu....." << endl;
    cout << "=====";
    cin.get();
    record(user);
}

```

Control is used in this system to control the order in which statements are executed. In this code, I use loops like ‘while’ and ‘do... while’ to make sure the system is continued while user wish to continue add user or delete by asking “Do you want to delete another user? (Y/N)” which ‘Y’ is for yes and ‘N’ is for no.

```

else if (E_Menu == 3) {
    system("cls");
    cout << "=====Schedule===== " << endl;
    cout << " " << endl;
    string displayquery = "select e.events_ID, e.Events_Name, e.Events_date , e.events_time, e.Events_Venue, e.Events_capacity, e.Tutor_ID from events e join eventsregistration a on e.events_ID = a.events_id where a.employee_ID = " + to_string(C.userID) + " order by e.events_date";
    cout << "===== " << endl;
    cout << "Query = " << displayquery << endl;
    C.query = mysql_query(C.conn, query);
    if (!C.query)
    {
        cout << seta(12) << "ID" << seta(13) << "Name" << seta(14) << "Date" << seta(15) << "Time" << seta(16) << "Venue" << seta(17) << "Capacity" << seta(18) << "Tutor ID" << endl;
        C.res = mysql_store_result(C.conn);
        while (C.res = mysql_fetch_row(C.res))
        {
            cout << seta(12) << C.res[0] << seta(13) << C.res[1] << seta(14) << C.res[2] << seta(15) << C.res[3] << seta(16) << C.res[4] << seta(17) << C.res[5] << seta(18) << C.res[6] << endl;
        }
    }
    system("pause");
    EmployeeMenu();
}

```

In addition, while loop also used to print out the output from database row by row.

CHAPTER 5: CONCLUSION

5.1 Conclusion

In conclusion, the Company Events Registration Management System is a user-friendly system that is programmed for people to simplify managing the process of registering company events. This system can reduce time taken on collecting data of events and information of staff. Hence, Admin and tutor can oversee details of company events and list of staff easily to make an accurate arrangement.

5.2 Suggestion

The system can be improved by categorizing the event type to increase the convenience for users to search the event that they are interested in. Besides, by adding categories of event, the report can be more specific to show the result of which categories of event are more popular so company can base on the result to provide and conduct the event.

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