

# **System Design Specification**

**For**

**AU Open House**

**Version 1.0**

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# Revision History

Name	Date	Reason For Changes	Version

# 1 SYSTEM OVERVIEW

There are three main of user:

- High School student
- Admin
- Staff

The High School student can select the events that they are interested in. Staff also can manage the events that they would like to do by using ours application. Admin can manipulate all the function. The system will show the information of each faculty and make the event flow easier, there are some minigame for student to collect the score and exchange the reward.

# 2 DEVELOPMENT ENVIRONMENT AND TOOLS

*The technologies that will be used to develop the application*

*Front End*

- *Ionic Framework (Hybrid Application)*

*Back End*

- *Node.js & Express (RESTful Web Services)*
- *MySql (Relational Database)*
- *Firebase (Authentication & Real-Time Database)*

*Hosting*

- *Firebase (Client Side Applications)*
- *Heroku (Database and RESTful Web Services)*

*API*

- *Google Map*

# 3 DESIGN SPECIFICATION

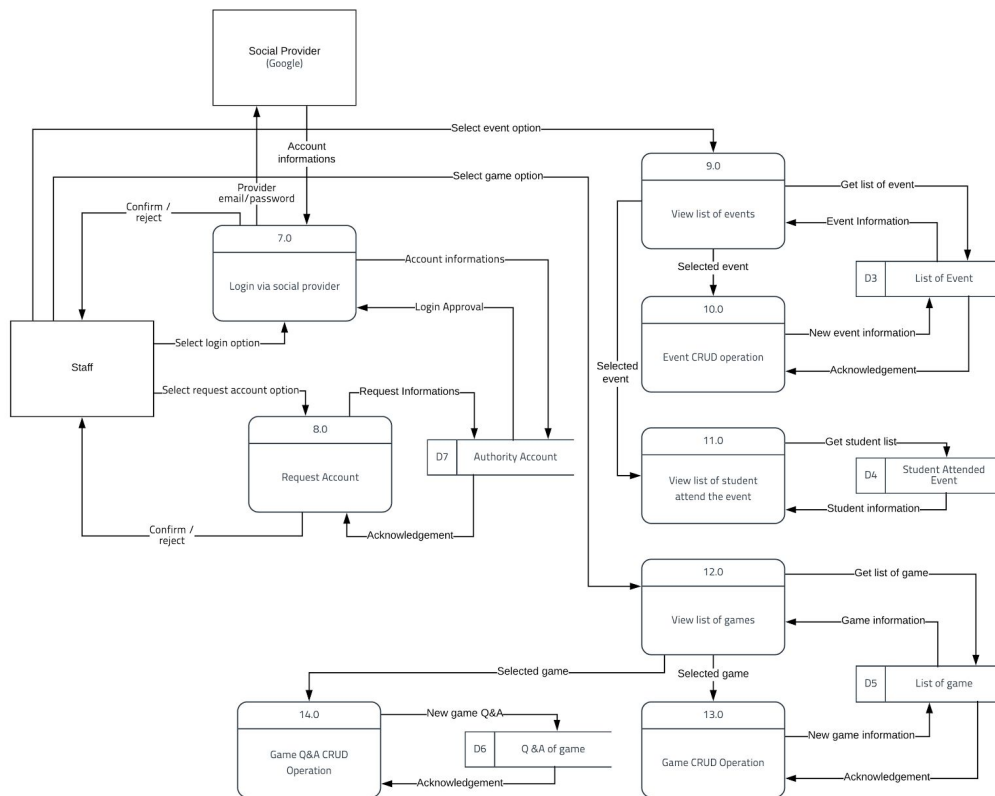
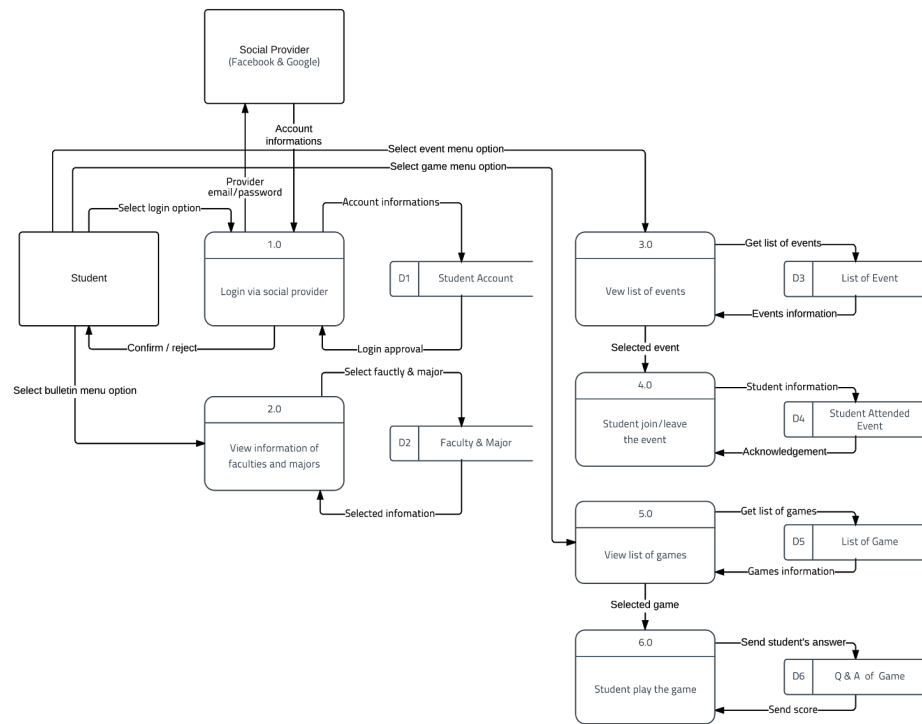
## 3.1 System Architecture Design

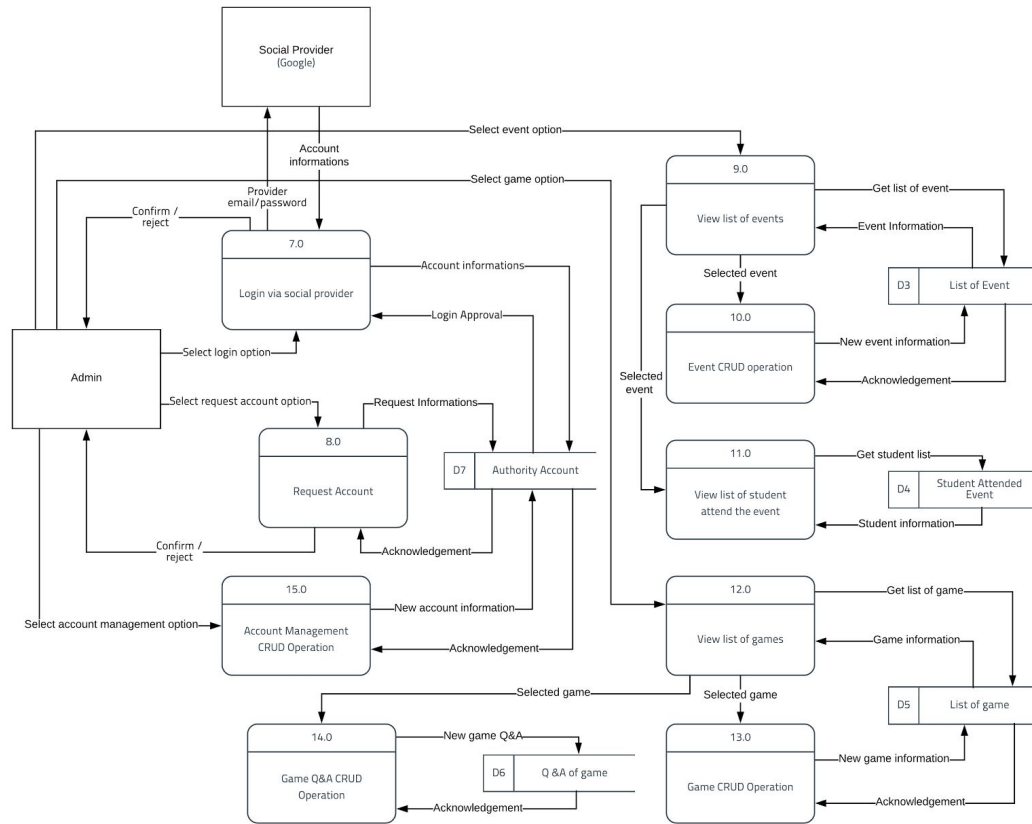
This application can be run in any System Architecture that have internet browser and internet connection.

List of browser that supported:

- Internet Explorer
- FireFox
- Google Chrome

## 3.2 System Processes





1. Student Login
  - a. Select provider
    - i. Facebook
    - ii. Google
  - b. Create Account if it not exist
  - c. Update user information
2. Student view information of faculty and major
  - a. Show list of faculties
    - i. List of majors
    - ii. Description
    - iii. Location
    - iv. URL website
3. Student view list of event
  - a. Show list of events
    - i. Event title
    - ii. Event Information
    - iii. Faculty
    - iv. Major
    - v. Live chat
    - vi. Event time
4. Student join and leave event
  - a. Add event into list of my events
  - b. Add student information to the list of student attend event
5. Student view list of game
  - a. System show list of game
    - i. Game title
    - ii. Game Information
    - iii. Faculty
    - iv. Major
    - v. State
    - vi. Game Time
    - vii. Question
6. Student play the game
  - a. Student send the answer to the system
  - b. System send back the score
7. Users (Admin | Staff) Login via provider
  - a. Select provider
    - i. Google
  - b. System check authentication
    - i. Valid
      - Confirm account, users get valid account and set page to the landing page.
    - ii. Invalid
      - Reject account

8. Users request account
  - a. Select request account option
    - i. Select role
    - ii. Select faculty
    - iii. Select major
  - b. System send back the acknowledgement to users
    - i. Valid (if domain @ au.edu)
      - Users waiting for admin approval
    - ii. Invalid (if not in the domain @ au.edu)
      - System send back the notification “Unauthorized account”
9. Authority view list of event
  - a. Show list of event
    - i. Event title
    - ii. Event Information
    - iii. Faculty
    - iv. Major
    - v. State
    - vi. Live chat
    - vii. Event time
10. Authority CRUD operation
  - a. Add
  - b. Edit
  - c. Remove
  - d. Disable
11. Users (Admin | Staff) view list of student attended the event
  - a. System send the list of student attended event to users
    - i. Student name
12. Users view list of game
  - a. System show the list of game to users
    - i. Game title
    - ii. Game Information
    - iii. Faculty
    - iv. Major
    - v. State
    - vi. Map
    - vii. Game time
    - viii. Question
    - ix. Choices
    - x. Right Choice



13. Game CRUD operation

- a. Add
- b. Edit
- c. Remove
- d. Delete

14. Game Q&A CRUD operation

- a. Add
- b. Edit
- c. Remove
- d. Delete

15. Account Management CRUD operation

- a. Add
- b. Edit
- c. Remove
- d. Delete

### 3.3 User Interface Design

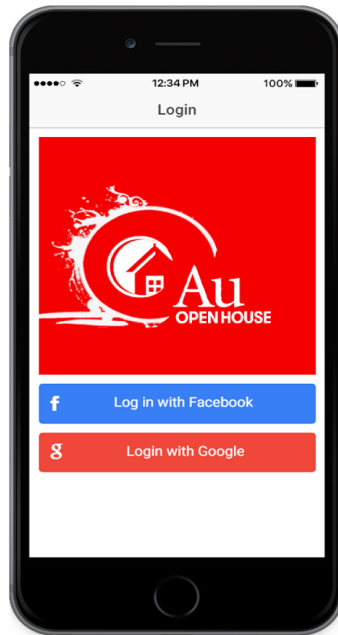


Figure 1

Login page of Students.

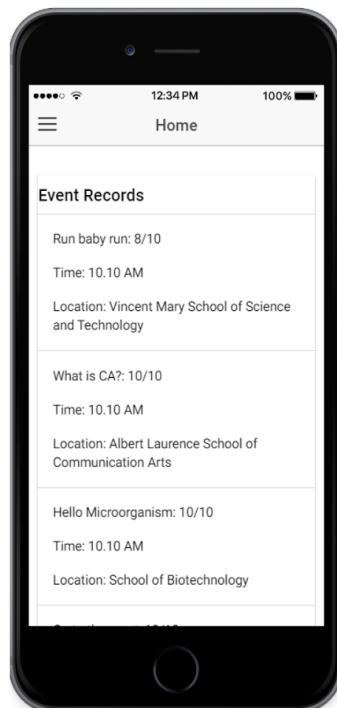


Figure 2

Landing page of Student.

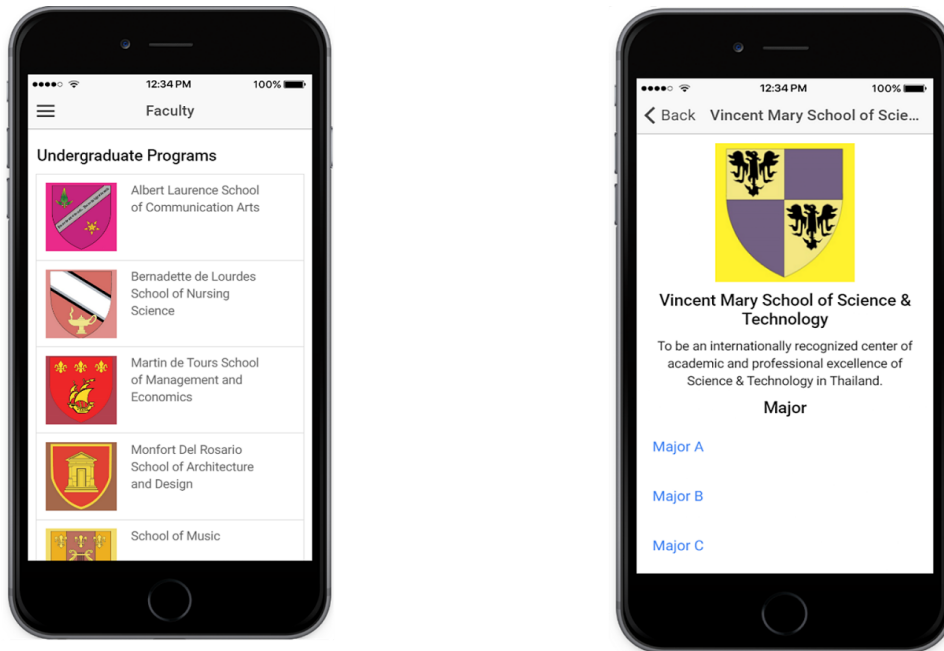


Figure 3(Bulletin)

This is showing the list of faculty detail and link to AU website in each faculty

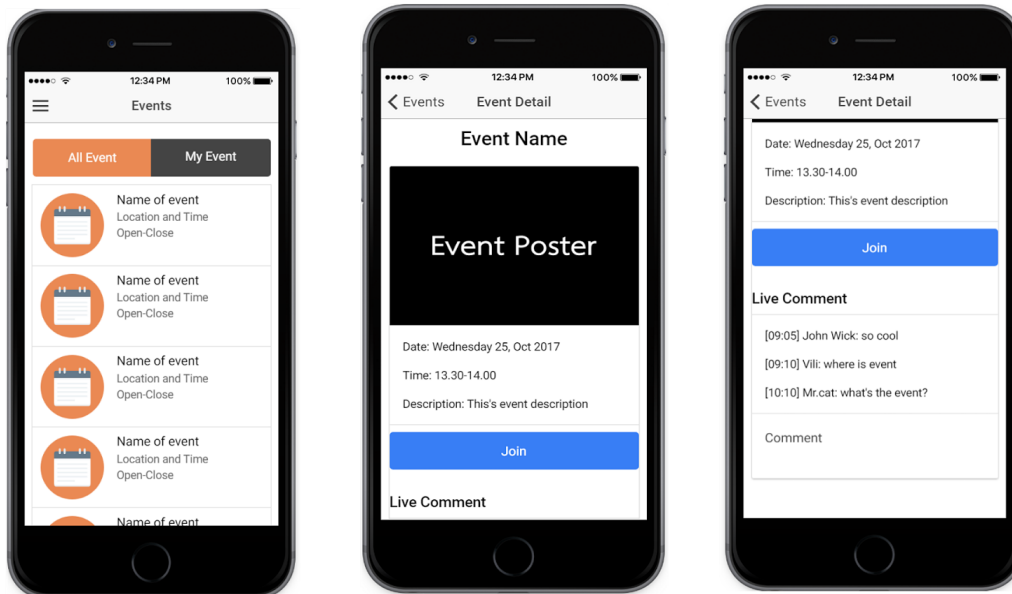


Figure 4(Event)

This page is showing the list of event and student can join the event they are interested in and live chat comment.

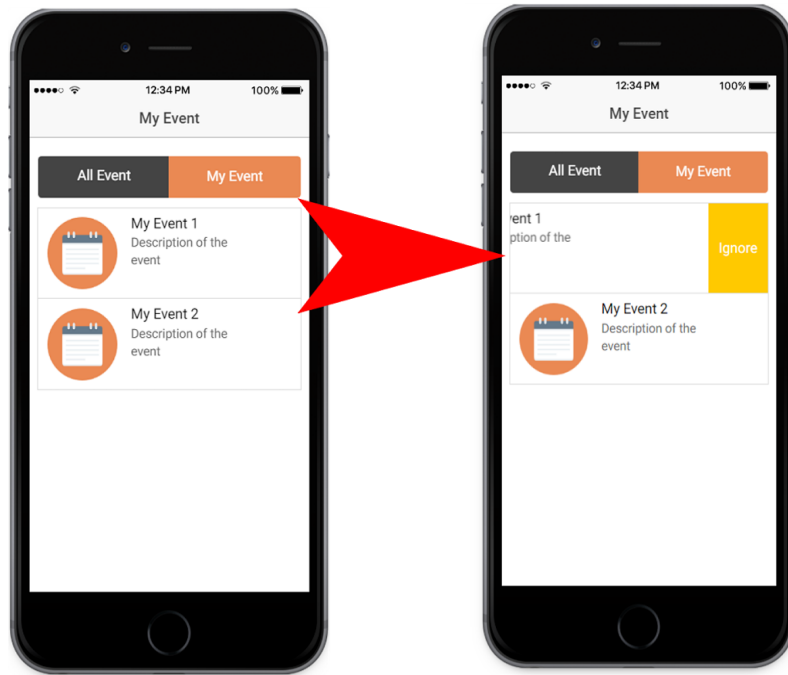


Figure 5(Event)

Student can delete the event by doing slide left for ignore.

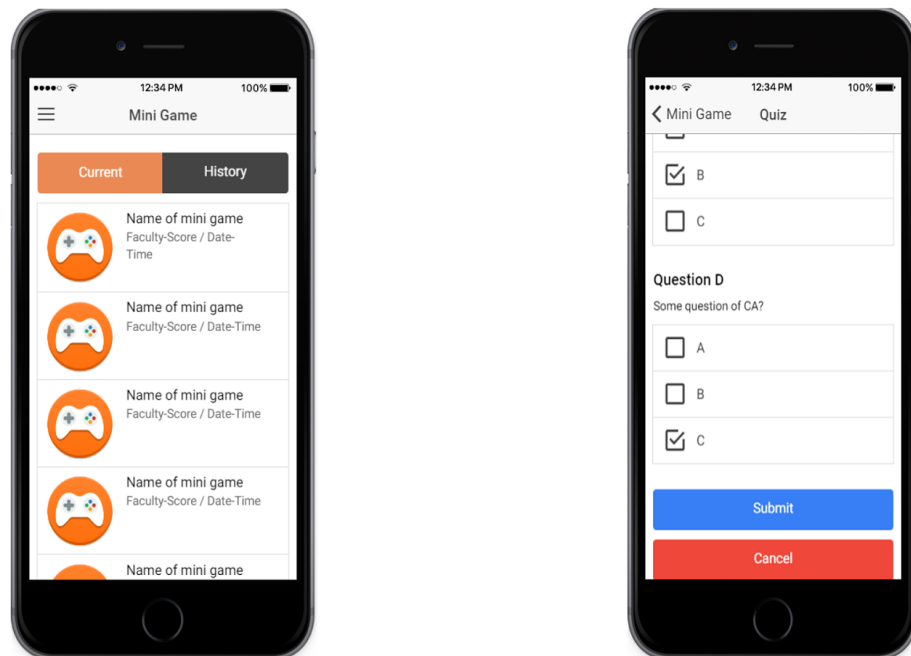


Figure 6(Mini Game)

This is showing the list of mini game

Step 1 Checking in name of mini game in figure 6 and Step 2 there will pop up with multichoice .

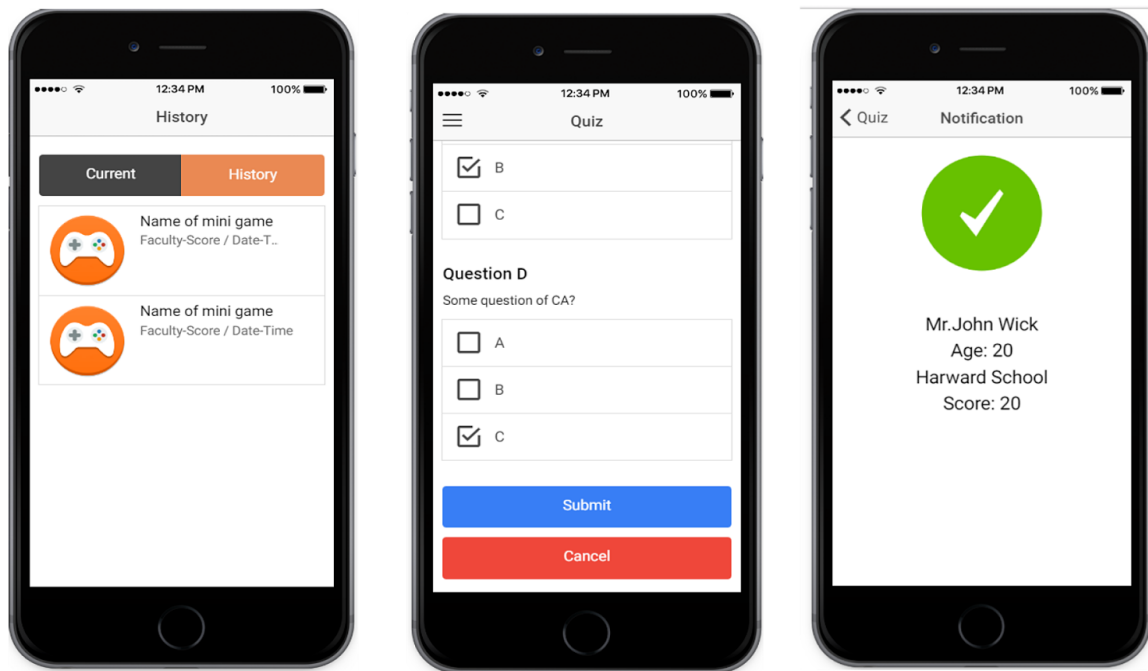


Figure 7(Mini Game)

After click submit there will be show up student score.

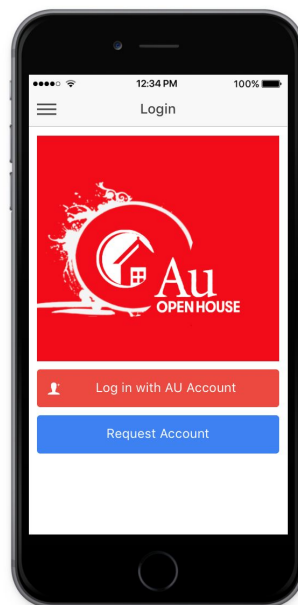


Figure 8(Admin and Staff)

Login page

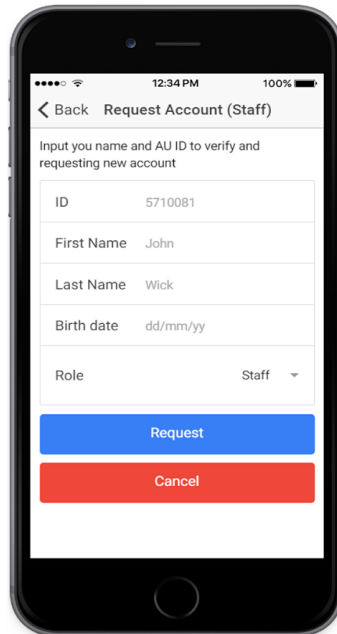


Figure 8.1

Request Account (Admin and Staff)

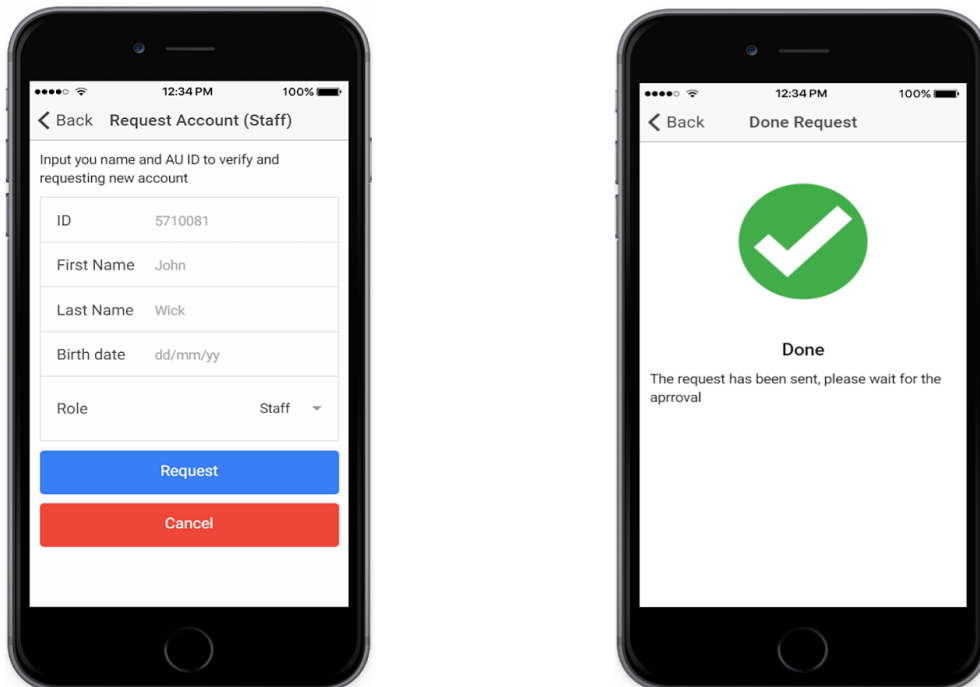


Figure 8.2

Submit request Account(Admin and Staff)

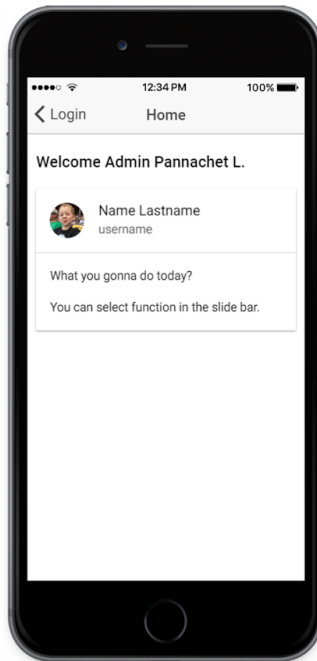


Figure 9(Admin and Staff)

Landing page of Admin and Staff

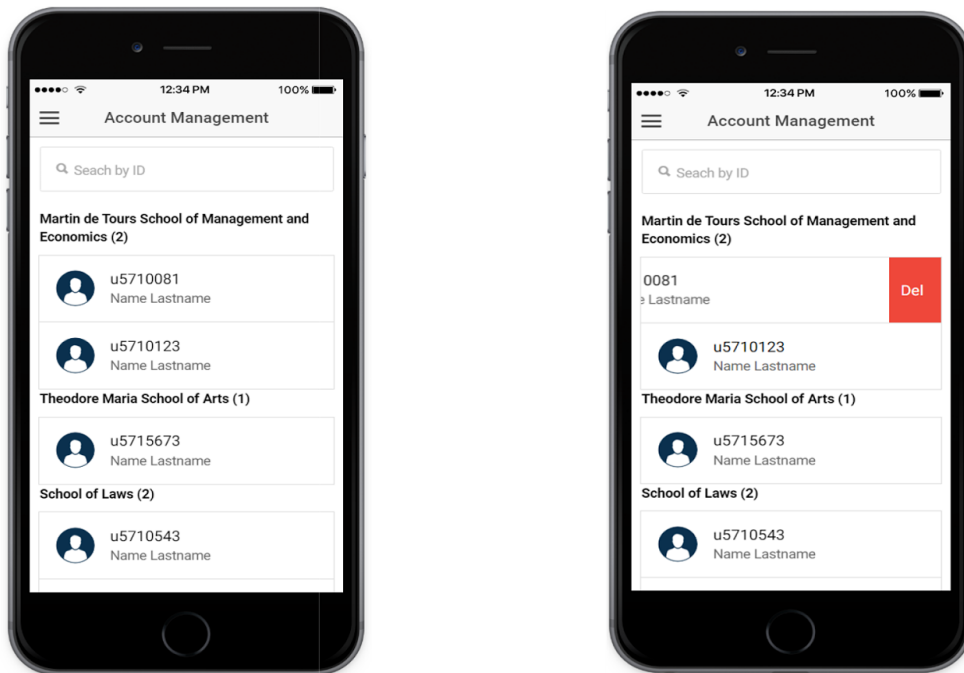


Figure 10(Admin)

This page show the list of people who are requesting to be staff.

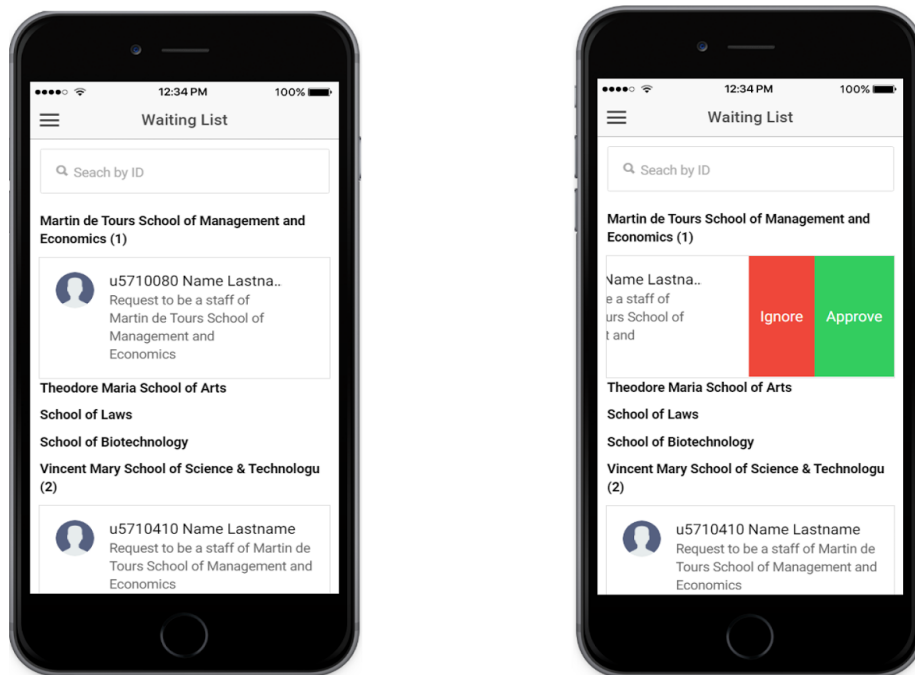


Figure 11(Admin)

This page is show more detail than figure 9.

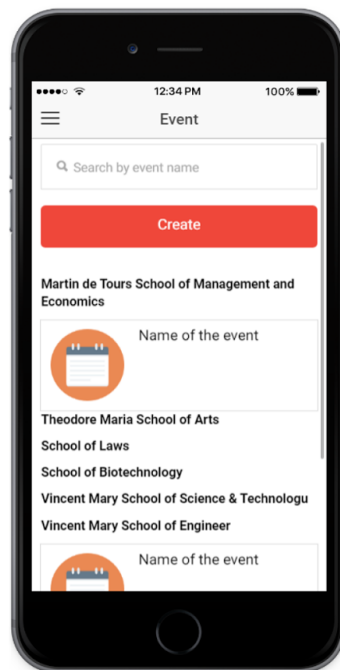


Figure 12(Admin and Staff)

This page show the current list of event and they can create a new event by clicking red-button



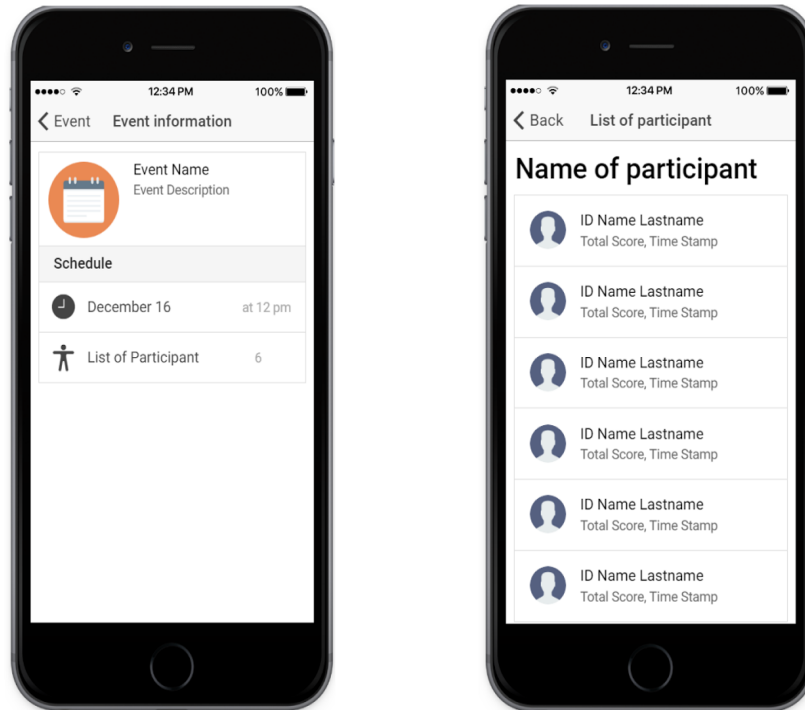


Figure 13(Admin and Staff)

This page show the list of participant

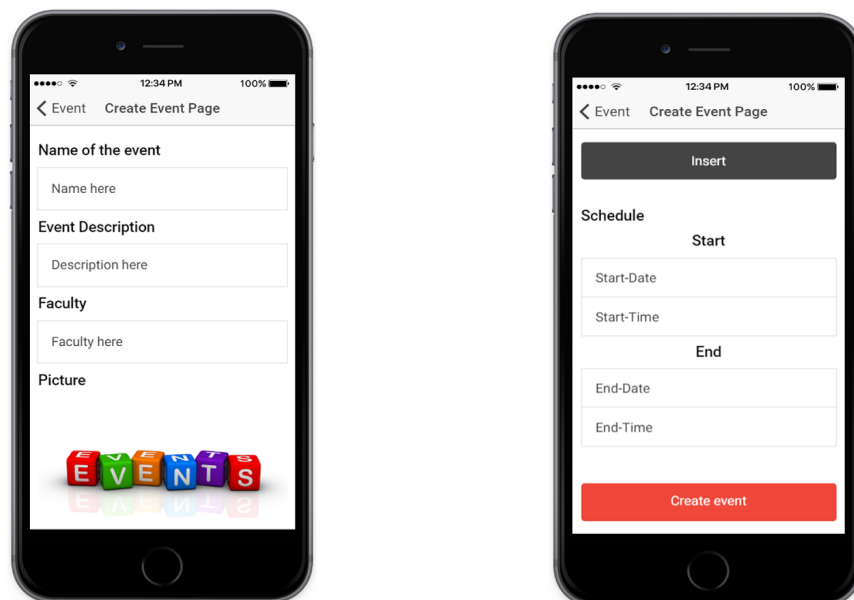


Figure 14(Admin and Staff)

This page is for creating an event.

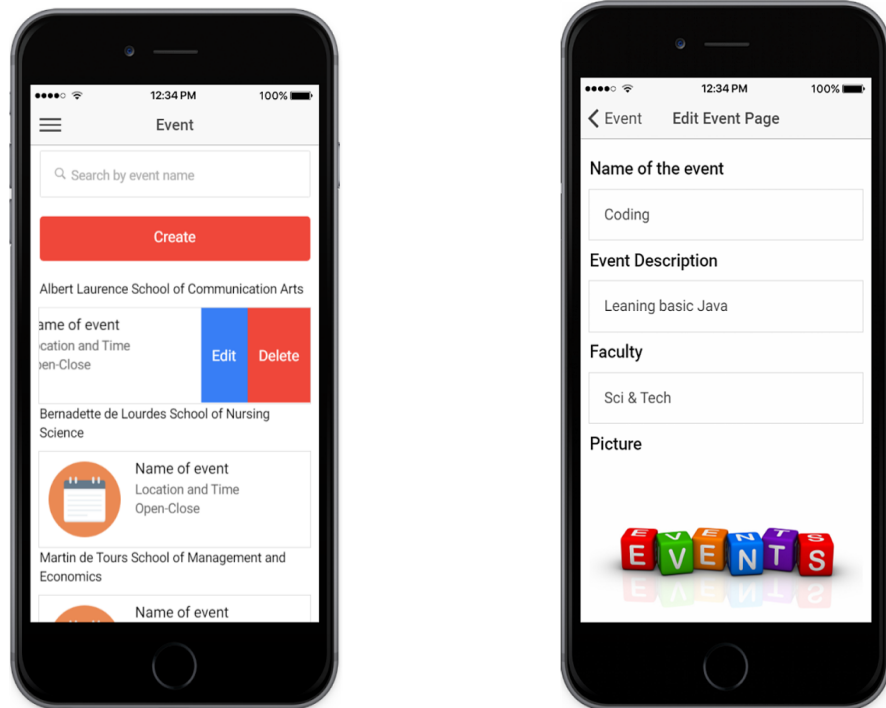


Figure 15(Admin and Staff)

This page is for editing the event

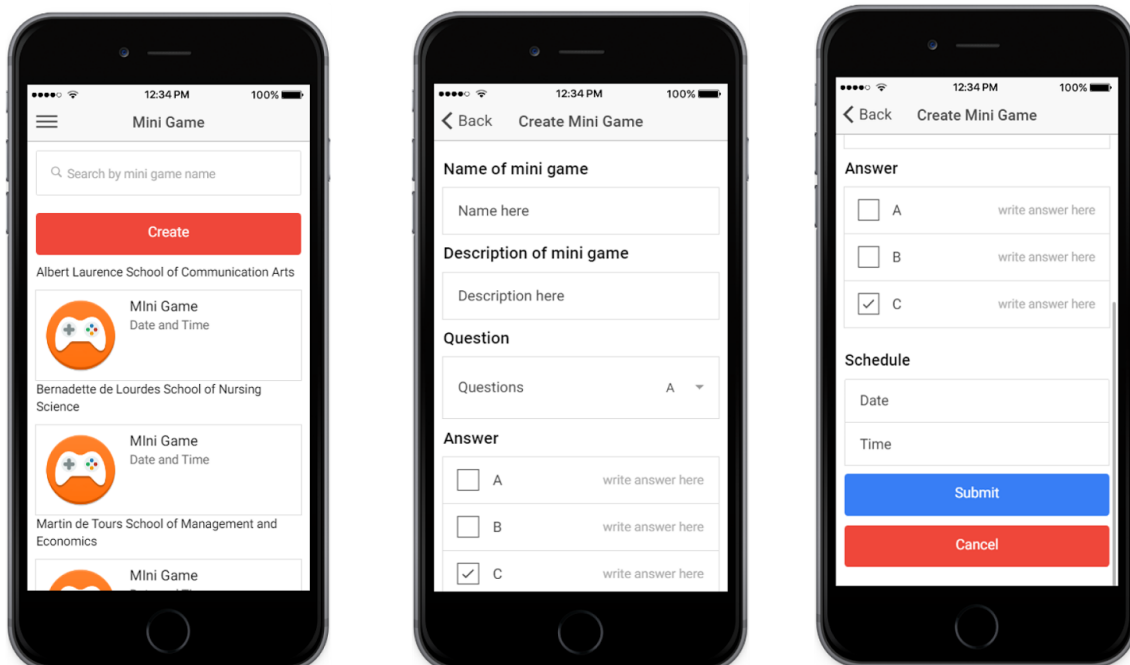


Figure 16(Admin and Staff)

This page is showing about how to create a mini game in the list .

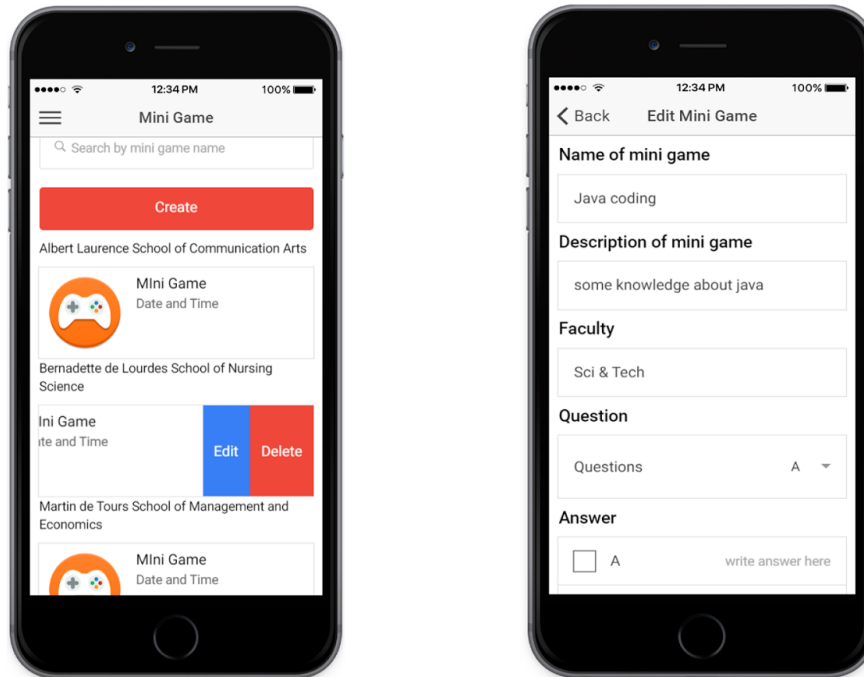


Figure 17(Admin and Staff)  
This page is editing the mini game

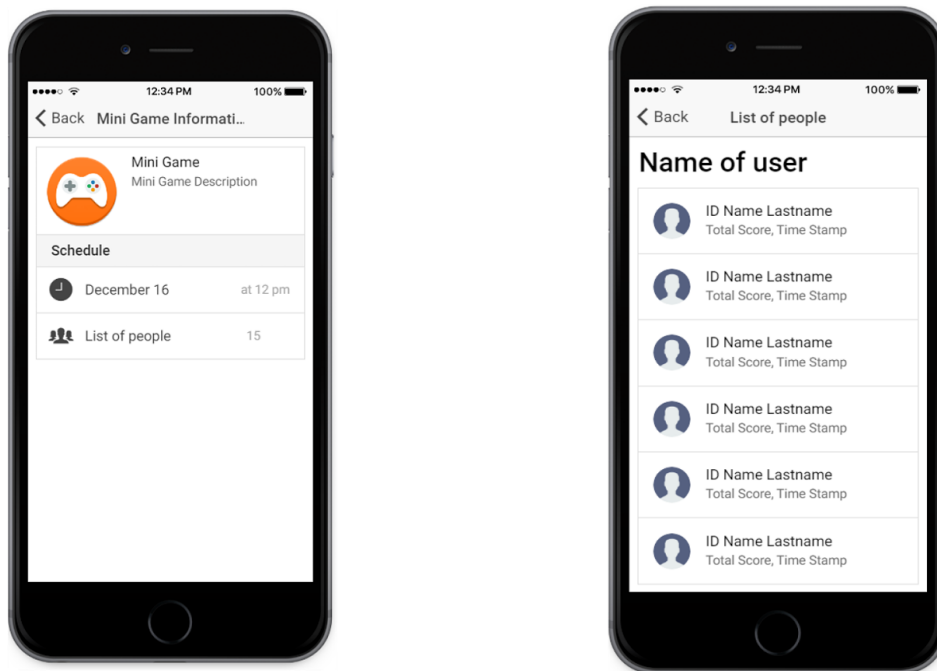


Figure 18(Admin and Staff)  
This page is showing the list of people who played the mini game.

### 3.4 Database Design

#### Student

No.	Name	Type	Allow Null	Key	Validate	Description
1	Student ID	Varchar(50)	NO	PK		ID of the student
2	Name	Varchar(100)	NO			Name of the student
3	Image	Varchar(200)	NO			Image of the student
4	Email	Varchar(255)	NO			Student's email
5	Game_Point	INT	NO			Student's game point

#### Authority

No.	Name	Type	Allow Null	Key	Validate	Description
1	Authority ID	Varchar(50)	NO	PK		ID of Authority
2	Name	Varchar(100)	NO			Name of Authority
3	Image	Varchar(200)	NO			Image of Authority
4	Email	Varchar(255)	NO			Email of Authority
5	Role	Varchar(20)	NO			Role of Authority
6	Account_Approval	INT	NO			Authority account status (-1 ban status, 0 wait status, 1 activity status)
7	Major ID	INT	YES	FK		Major of Authority
8	Faculty	INT	YES	Fk		Faculty of Authority

#### Faculty

No.	Name	Type	Allow Null	Key	Validate	Description
1	Faculty ID	INT	NO	PK		ID of the Faculty
2	Name	Varchar(100)	NO			Name of the Faculty
3	Information	TEXT	YES			Information of the Faculty
4	Website	Varchar(200)	YES			Website of the Faculty
5	Icon	Varchar(200)	YES			Icon of the Faculty
6	Location of Latitude	Float(10,6)	YES			Latitude of the Faculty
7	Location of Longitude	Float(10,6)	YES			Longitude of the Faculty

#### Major

No.	Name	Type	Allow Null	Key	Validate	Description
1	Major ID	INT	NO	PK		ID of the Major
2	Faculty ID	INT	NO	FK		ID of the Faculty
3	Name	Varchar(100)	NO			Name of the Major
3	Information	TEXT	YES			Information of the Major
4	Website	Varchar(200)	YES			Website of the Major

### Event

No.	Name	Type	Allow Null	Key	Validate	Description
1	Event ID	INT	NO	PK		ID of the event
2	Name	Varchar(100)	NO			Name of the event
3	Information	TEXT	YES			Information of the event
4	Image	Varchar(200)	YES			Image of the event
5	State	INT	NO			State of the event (0 not showing, 1 activity)
6	Location of Latitude	Float(10,6)	YES			Latitude of the event
7	Location of Longitude	Float(10,6)	YES			Longitude of the event
8	Major ID	INT	NO	FK		MID of the event
9	Faculty	INT	NO	FK		FID of the event

### Game

No.	Name	Type	Allow Null	Key	Validate	Description
1	Game ID	INT	NO	PK		ID of the game
2	Name	Varchar(100)	NO			Name of the game
3	Information	TEXT	YES			Information of the game
4	Start time	TIMESTAMP	NO			Start time of the game
5	End time	TIMESTAMP	NO			End time of the game
6	State	INT	NO			State of the game (1 activity state, 0 hide state, -1 delete state)
7	Location of Latitude	Float(10,6)	YES			Latitude of the game
8	Location of Longitude	Float(10,6)	YES			Longitude of the game
9	Major ID	INT	NO	FK		MID of the game
10	Faculty	INT	NO	FK		FID of the game

### Student\_Attend\_Event\_Time

No.	Name	Type	Allow Null	Key	Validate	Description
1	Student ID	Varchar(50)	NO	PK/FK		ID of the student who are attend event time
2	Time ID	INT	NO	PK/FK		ID of the time of event

#### Event\_Time

No.	Name	Type	Allow Null	Key	Validate	Description
1	Time ID	INT	NO			ID of the time of event
2	Event ID	INT	NO	FK		ID of the event
3	Start time	TIMESTAMP	NO	PK		Start time of the event
4	End time	TIMESTAMP	NO	PK		End time of the event
5	State	INT	NO			State of the event time ( 1 activity state, 0 hide state)
6	Number of Attendees	INT	NO			Number of attendees of the event time

#### Student\_Comment\_Event

No.	Name	Type	Allow Null	Key	Validate	Description
1	Student ID	Varchar(50)	NO	FK		ID of Student
2	Event ID	INT	NO	FK		ID of the event
3	Time	TIMESTAMP	NO			The Time student comment the event
4	Comment	TEXT	NO			Student who are commented during event time

#### Event\_Log

No.	Name	Type	Allow Null	Key	Validate	Description
1	Log ID	INT	NO	PK		ID of the event log
2	Event ID	INT	NO	Fk		ID of the event
3	Time	TIMESTAMP	NO			The Time student log the event
4	Authority ID	Varchar(50)	NO	Fk		ID of the Authority
5	Log	TEXT	NO			The event log

#### Student\_Play\_Game

No.	Name	Type	Allow Null	Key	Validate	Description
1	Student IID	Varchar(50)	NO	PK/FK		ID of Student
2	Game ID	INT	NO	PK/Fk		ID of the game
3	Time	TIMESTAMP	NO			The Time student log the event

#### Game\_Log

No.	Name	Type	Allow Null	Key	Validate	Description
1	Log ID	INT	NO	PK		ID of the game log
2	Game ID	INT	NO	Fk		ID of the game
3	Time	TIMESTAMP	NO			The Time student log the game
4	Authority ID	Varchar(50)	NO	Fk		ID of the Authority
5	Log	TEXT	NO			The game log

#### Game\_Question

No.	Name	Type	Allow Null	Key	Validate	Description
1	Question ID	INT	NO	PK		ID of the question
2	Game ID	INT	NO	Fk		ID of the game
3	Question	TEXT	NO			The question of game
4	Choice	INT	Yes	Fk		The right answer of the question

#### Answer\_Choice

No.	Name	Type	Allow Null	Key	Validate	Description
1	Choice ID	INT	NO	PK		ID of the answer choice
2	Question ID	INT	NO	Fk		ID of the question
3	Choice	TEXT	NO			The choice the right answer

## 4 REQUIREMENT – DESIGN COMPILATION

Req#	Requirement	Implementation	Interface ID
Student_1	Student Login	Check username and password via Firebase Authentication to login with Facebook or Google email account	Figure 1
Student_2	Student Event Records	Get the event records that student participated in, from the database and display on the page	Figure 2
Student_3	Show list of faculty (Bulletin)	Get the url and information of all faculty from the database and display on the page	Figure 3
Student_4	Show list of events and Join event	Get the list of events from database and display on the page. Also ability to join the event	Figure 4
Student_5	Leave Event	Leave the event	Figure 5
Student_6	Show list of Mini Game	Get the list of mini game from database and display on the page.	Figure 6
Student_7	Play the game and show score	Show up student's score	Figure 7
Admin&Staff_1	Admin and Staff Login	Check the authentication from AU Account	Figure 8
Staff_1	Staff request account	Get information via the form that system provide and keep it into the database	Figure 8.1
Staff_2	Submit request account	Send the notification to admin to verify account	Figure 8.2
Admin&Staff_2	Landing Page of Admin and Staff	Show all function menu for workspace	Figure 9
Admin_1	Show waiting list	Get the waiting from the database and show to waiting list	Figure 10
Admin_2	Landing Page of Admin and Staff More	Get the detail of events from database and show in the landing page	Figure 11
Admin&Staff_3	Showing current event list	Get the current list from database and allow admin to create a new event	Figure 12
Admin&Staff_4	Show Participant list	Get the list of participant from the database to show	Figure 13
Admin&Staff_5	Creating Event	Allow admin and staff to create the event by keep the information via the form	Figure 14
Admin&Staff_6	Editing Event	Get the current information of event and allow admin and staff to edit and save	Figure 15



Admin&Staff_7	Creating the mini game	Get the mini-game information via the form and keep it into the database	Figure 16
Admin&Staff_8	Editing mini game	Edit detail of the minigame on the database	Figure 17
Admin&Staff_9	Showing the list of people in minigame	Get the list of people who play mini game from database	Figure 18