UTM

UNIVERSITI TEKNOLOGI MALAYSIA

Group Project

SECD2523 DATABASE SEMESTER I, SESSION 2023/2024

STAGE : PHASE 2

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1.0 Introduction

Nexscholar was founded by Dr. Seah Choon Sen and his team is Dr Ahmad Najmi Amerhaider Nuar and Dr Muhammad Aliif Ahmad from Universiti Teknologi Malaysia. Nexscholar is an innovative social networking platform. The team was the second runner-up at CHIPTA 2023. Nexscholar introduces an application designed to focus on academic networking.

The platform emphasizes various connections between students, academics, researchers, and industry players. The main function is, Nexscholar simplifies and focuses on the process of information exchange, enhancing collaboration with academic communities. The Nexscholar emerges as a force in the digital world as it promises a more collaborative future for all kinds of users.

We wish to introduce to the Nexscholar website some new feature which is an advance booking tickets with a payment gateway. The current site showcases upcoming events, we are like to introduce the ticketing system specifically to exclusive events that have limited availability and attending cost. The users will need to book tickets with payment to have access to these exclusive events making the organizer easy to plan ahead with the information of number of attendees.

2.0 DFD (to-be)

Context Diagram

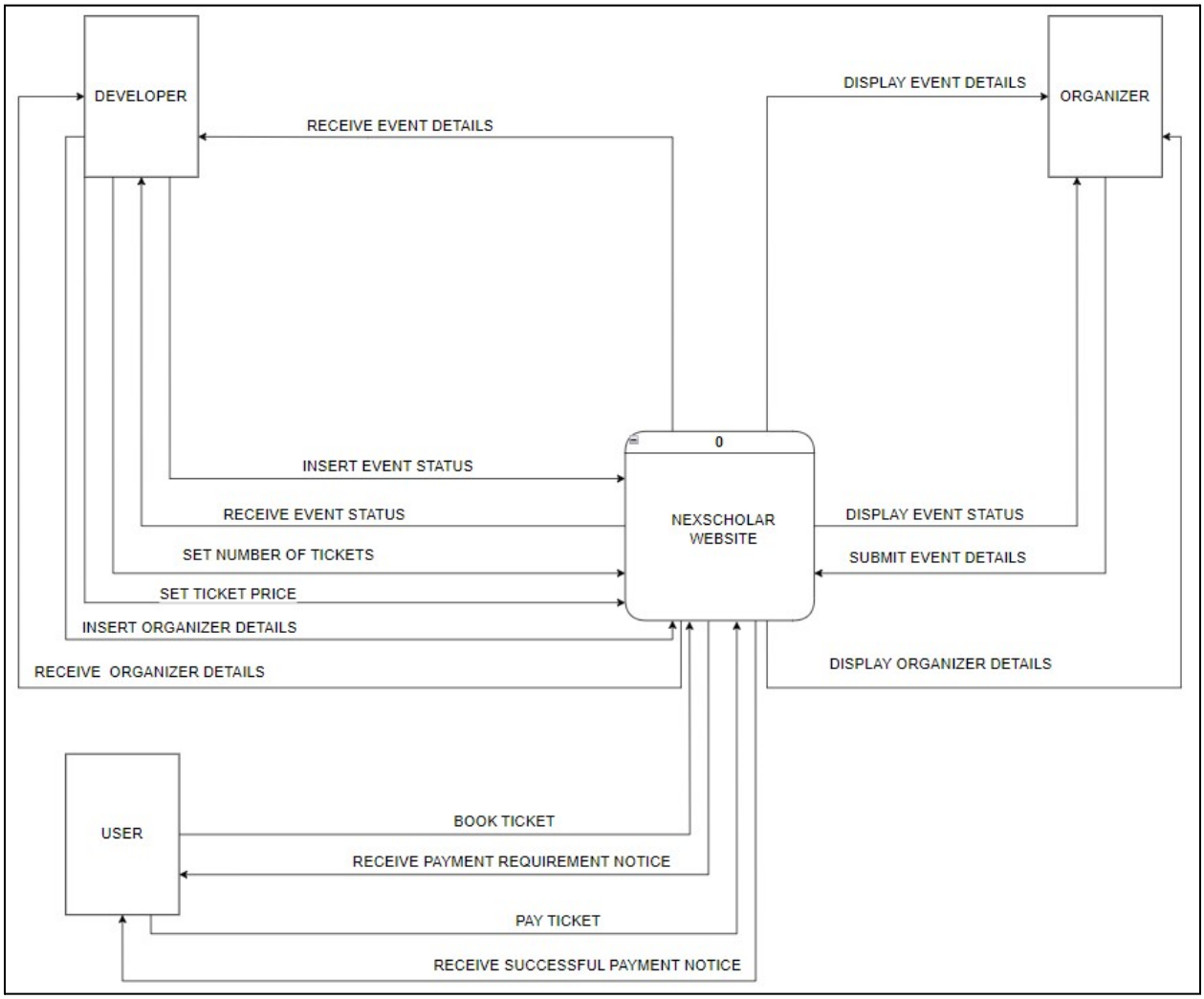
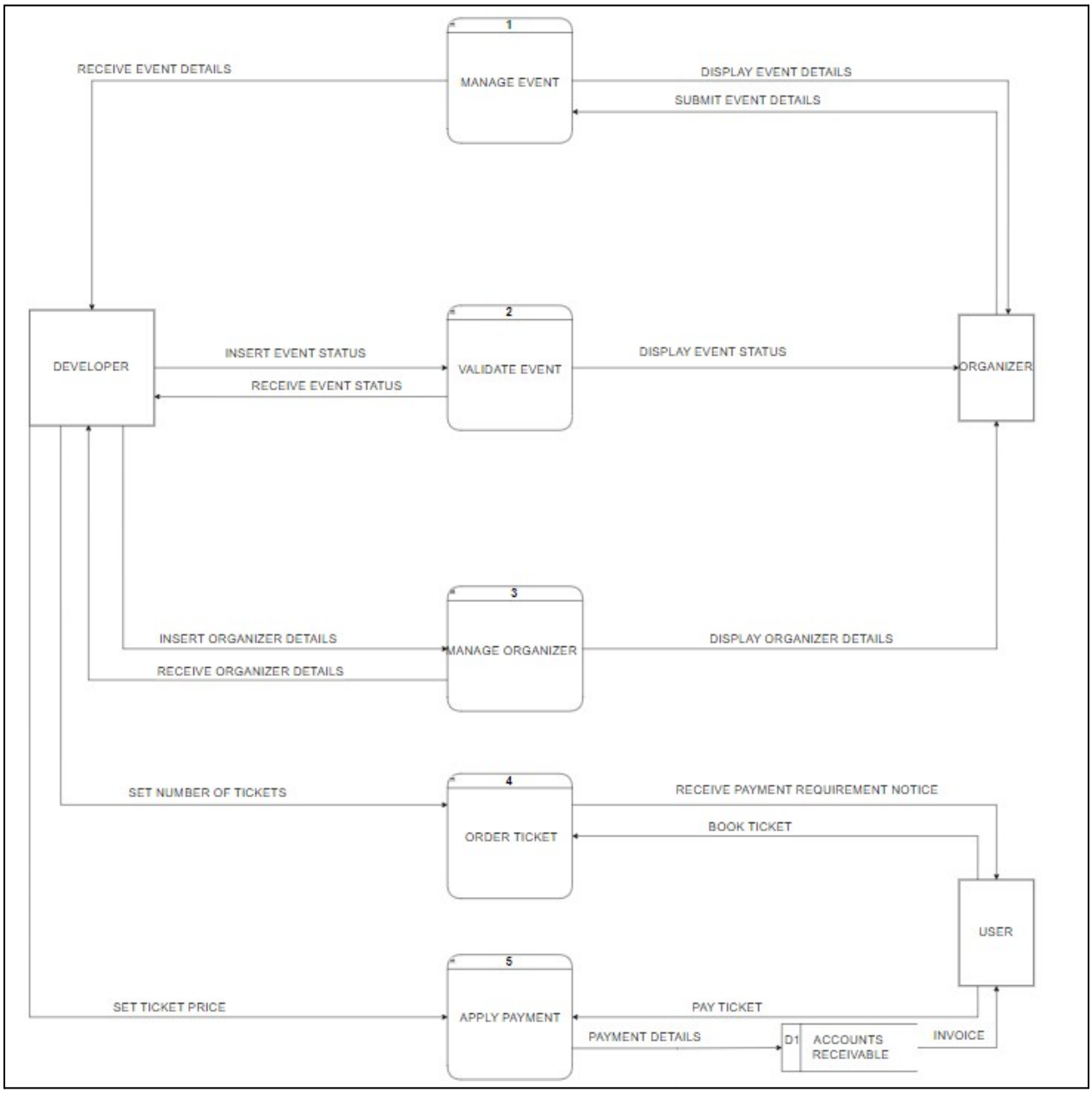
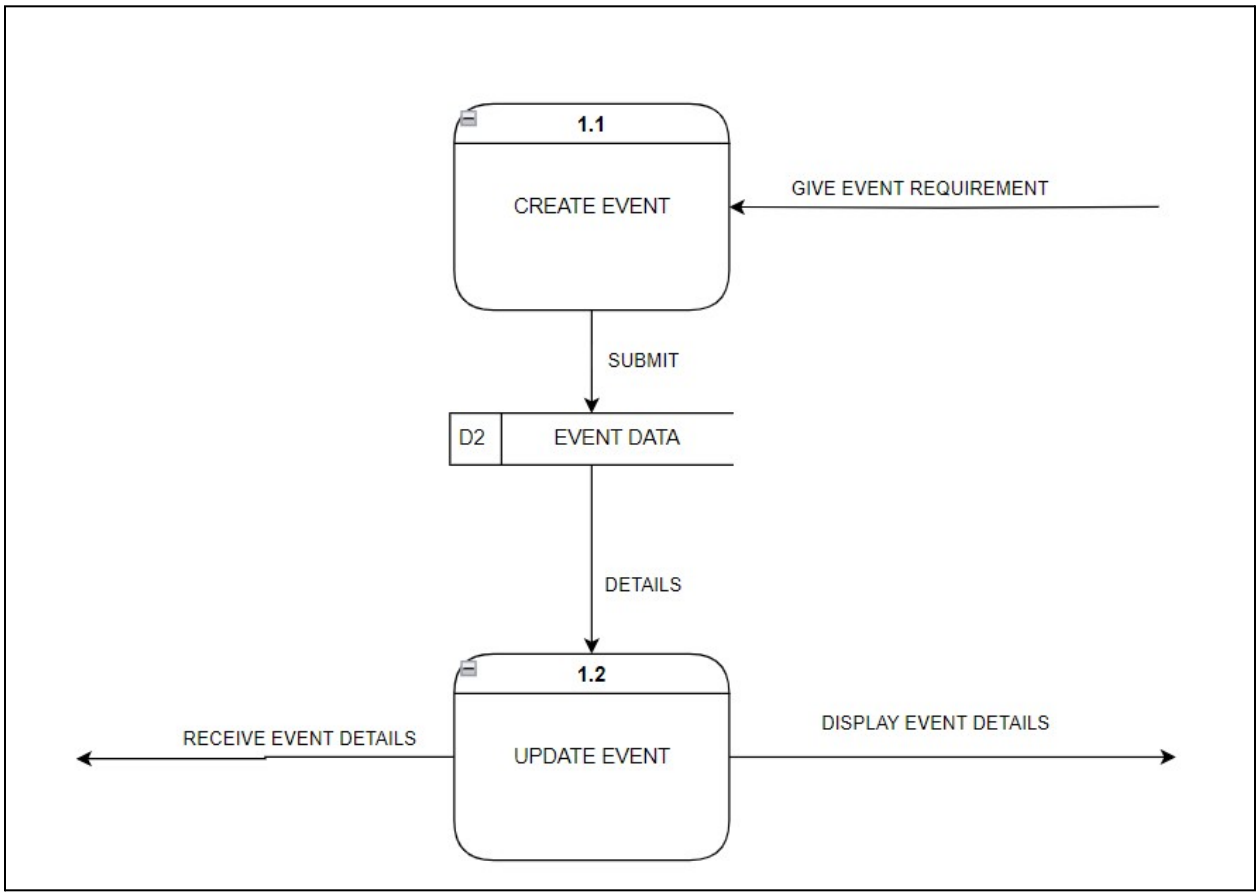


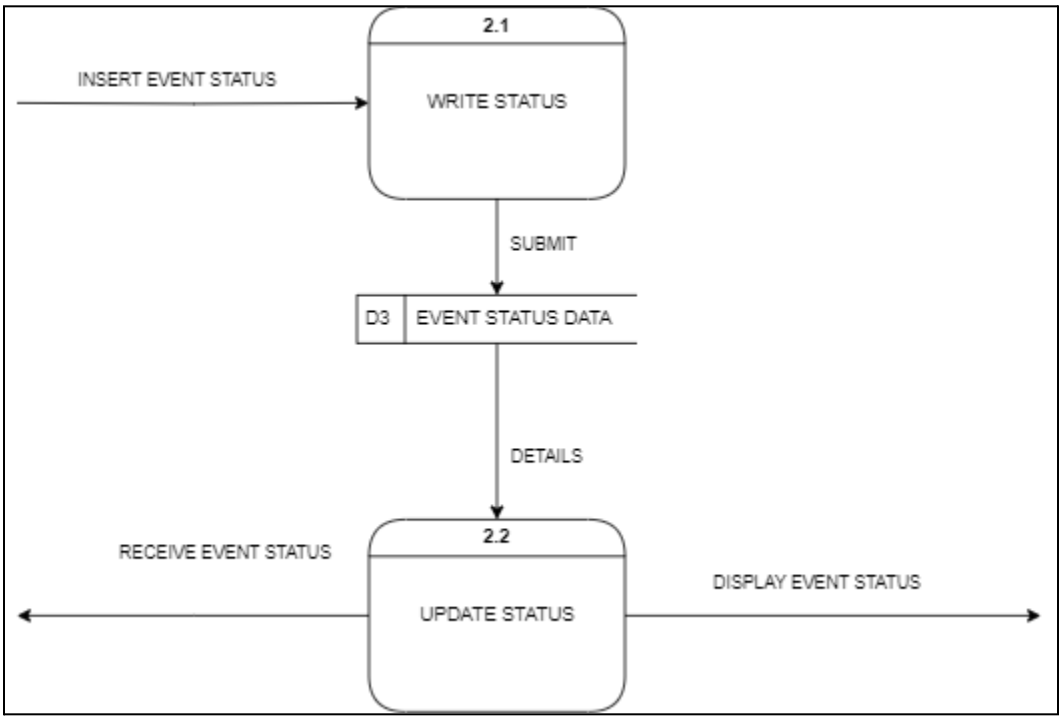
Diagram 0


1
MANAGE EVENT
RECEIVE EVENT DETAILS
DISPLAY EVENT DETAILS
SUBMIT EVENT DETAILS
DEVELOPER
2
VALIDATE EVENT
INSERT EVENT STATUS
RECEIVE EVENT STATUS
DISPLAY EVENT STATUS
ORGANIZER
3
MANAGE ORGANIZER
INSERT ORGANIZER DETAILS
RECEIVE ORGANIZER DETAILS
DISPLAY ORGANIZER DETAILS
4
ORDER TICKET
SET NUMBER OF TICKETS
RECEIVE PAYMENT REQUIREMENT NOTICE
BOOK TICKET
USER
5
APPLY PAYMENT
SET TICKET PRICE
PAY TICKET
PAYMENT DETAILS
D1
ACCOUNTS RECEIVABLE
INVOICE

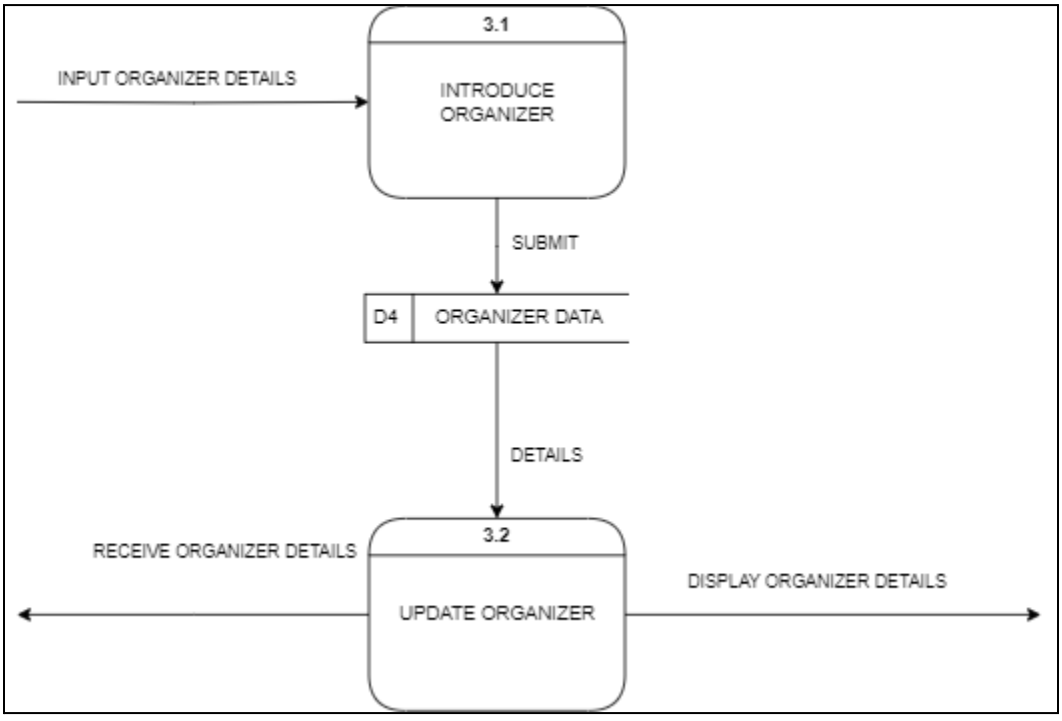
Child Diagram 1



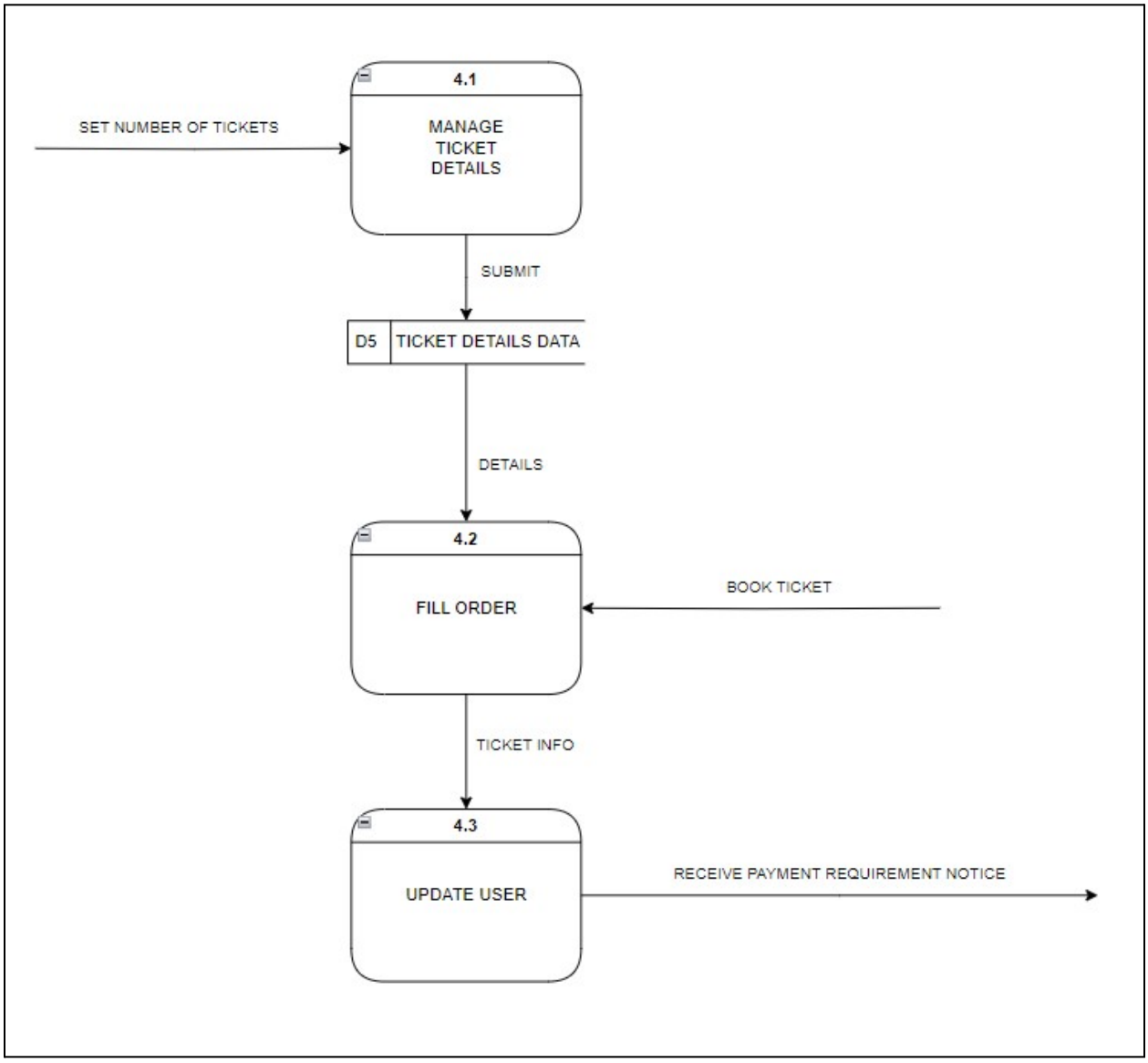
Child Diagram 2



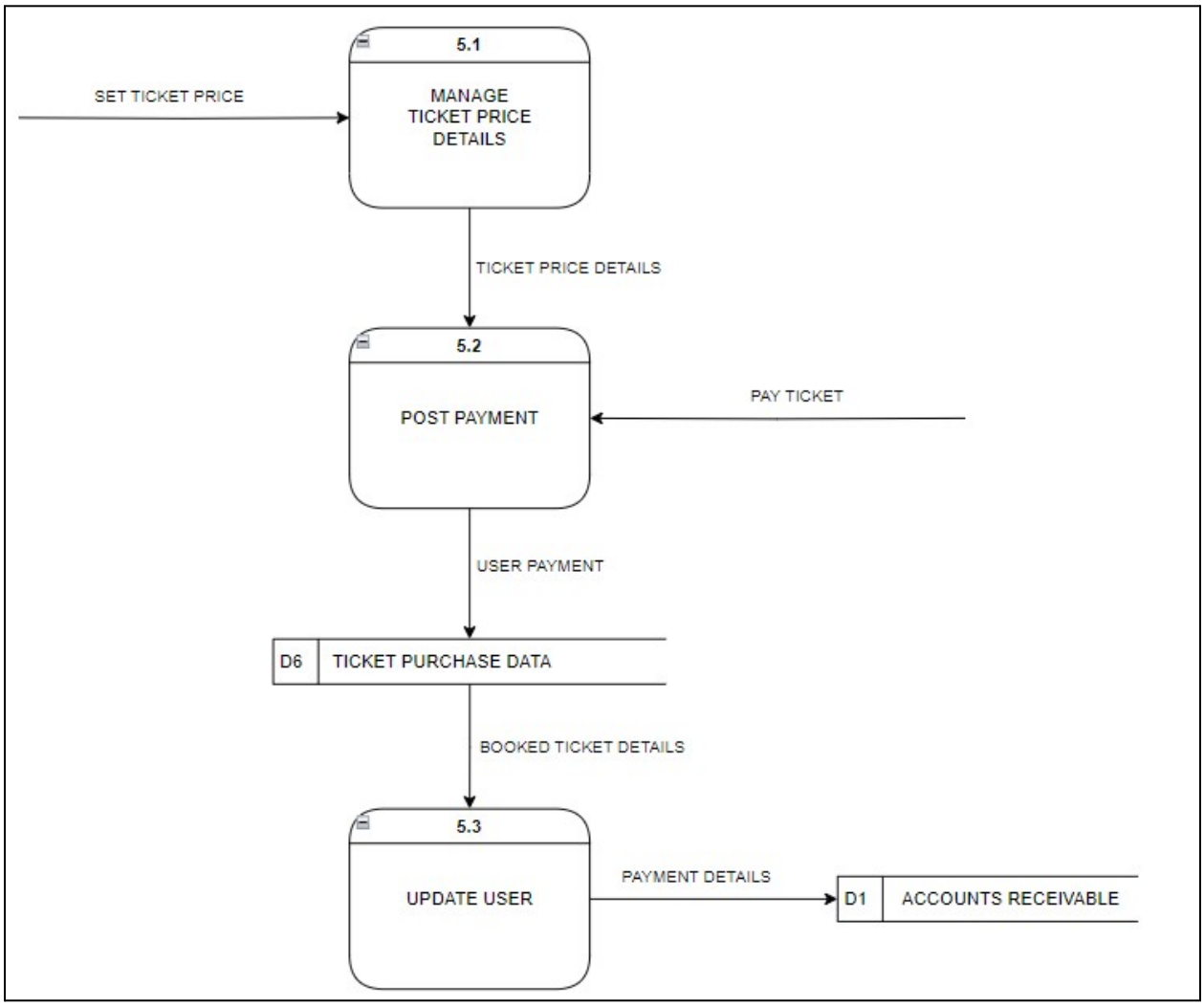
Child Diagram 3



Child Diagram 4



Child Diagram 5



3.0 Data & Transaction requirement

3.1 Proposed business rule

TO-BE

<u>The scenarios and workflow of the updated process for the Administrator:</u>

1. the organizer gets the event information that has to be completed, and they input all the required data.
2. Completed information is kept in the database for event data.

3. The event status is then entered by the admin into the system and is kept in the database of event status information.
4. Whether the event was successful or not will then be shown in the NexScholar system.
5. Once the event has received approval, the organizer database will contain all of the organizer's information.
6. The administrator will provide details about the occasion and the coordinator in the Nexscholar user interface.

The scenarios and workflow of the updates process for Users:

1. Login to the system as a user.
2. Start on the Activity interface that shows the activity of other users.
3. Click on the Event & Conference.
4. There are two options:
    a. Events Calendar
    b. Events List
5. Events Calendar shows a big calendar with marked dates for all of the events.
6. Events List shows all of the events with event details such as the event's date and poster
7. The administrator has determined and recorded the quantity of tickets in the ticket database.
8. The consumer will click to purchase an event ticket.
9. The admin will receive the information once the order for a ticket has been filled out.
10. The administrator will notify the user that they must continue with the ticket payment.
11. The administrator has determined the ticket price, which is also recorded in the ticket database.
12. The user makes the payment for the reserved ticket. Additionally, every payment evidence is added to the ticket database.
13. The user receives an update from the admin on the e-ticket and evidence of payment. The data will also be added to the accounts receivable database for this update delivery session.

3.2 Proposed data & transactional

3.2.1 Data Requirement

Event

Event data contains information of the event such as type of event id, title, description, date, and category id. Each event has a different event id. The organizer needs to submit the information of the data.

Event status

The event status data is referred to the event data. So it will contain information about the type of event detail and availability. The developer will provide the event status data.

Organizer

Organizer is who created the event on the NexScholar website. The information of the organizer such as organizer id, name, email, and phone are stored as data. Every organizer has unique id number

Ticket details

Developer set the ticket details. The ticket details data contains ticket id, title, and price. Every ticket has a different ticket id.

Ticket purchase

Ticket purchase data will refer to ticket details data after the user made a payment. It contains a ticket detail and status on the data.

Payment (Account Receivable)

The data stored on payment data are payment id, price, status, date and participant id. Every payment has a unique payment id

3.2.2 Transaction requirement

Data entry

Enter the details for event

Enter the details for event status

Enter the details for organizer

Enter the details for ticket

Enter the user payment for ticket purchase

Enter the details for payment

Data update/deletion

Update/deletion the details of event

Update/deletion the details of event status

Update/deletion the details of organizer

Update/deletion the details of ticket

Update/deletion the details of ticket purchase

Update/deletion the details of payment

Data queries

List details of event made by organizer

List details of event status made by developer

List details of ticket available for ticket purchase

List the total payment for the booked ticket

Display date, time and address from event data

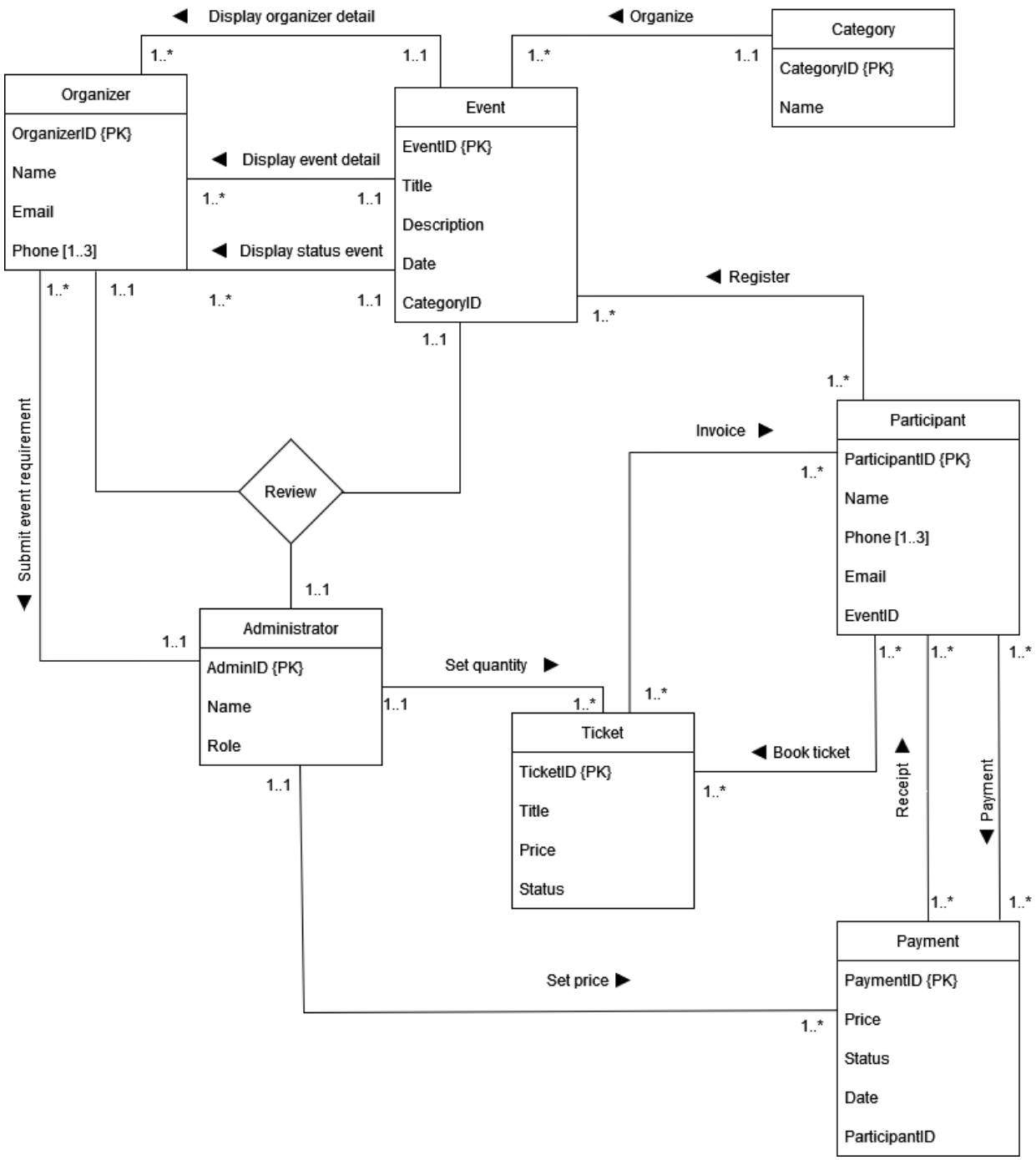
Display availability from event status

Display name and phone number of organizer

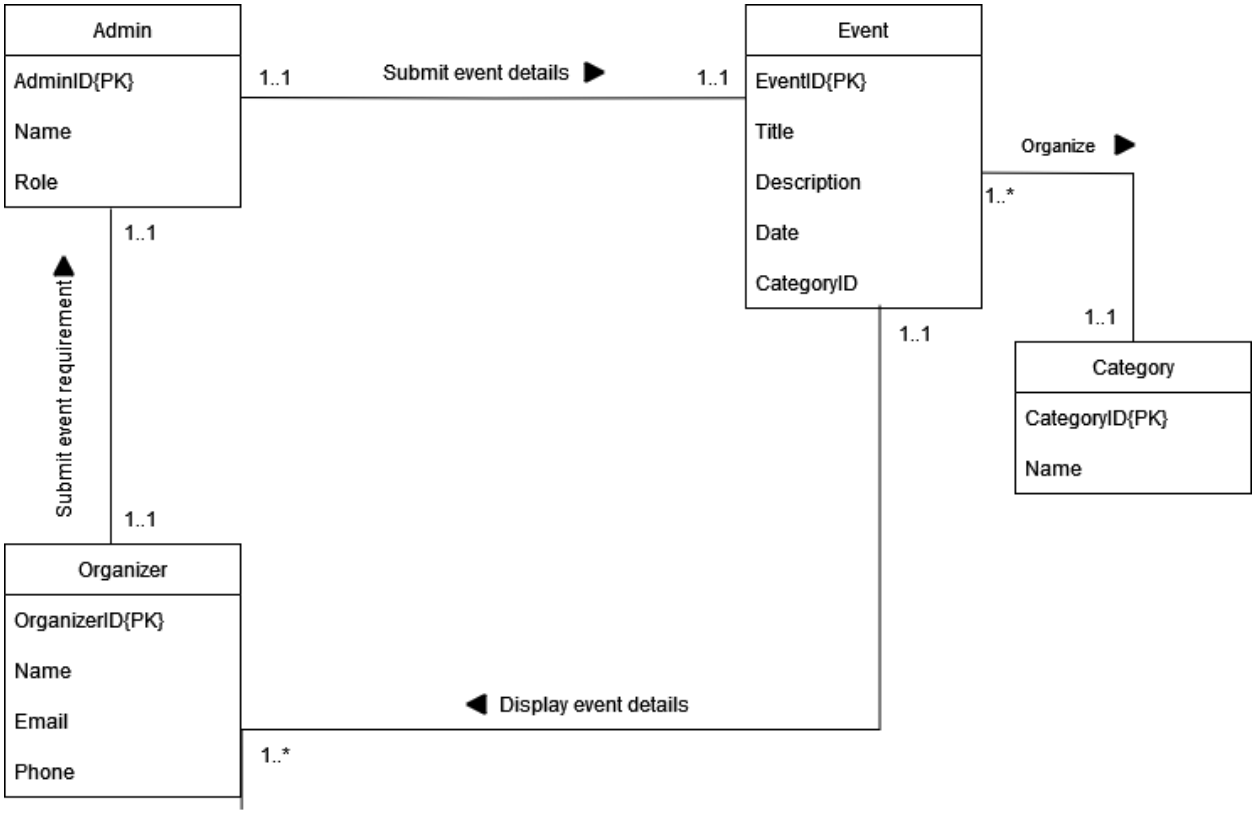
4.0 Database conceptual design

4.1 Conceptual ERD

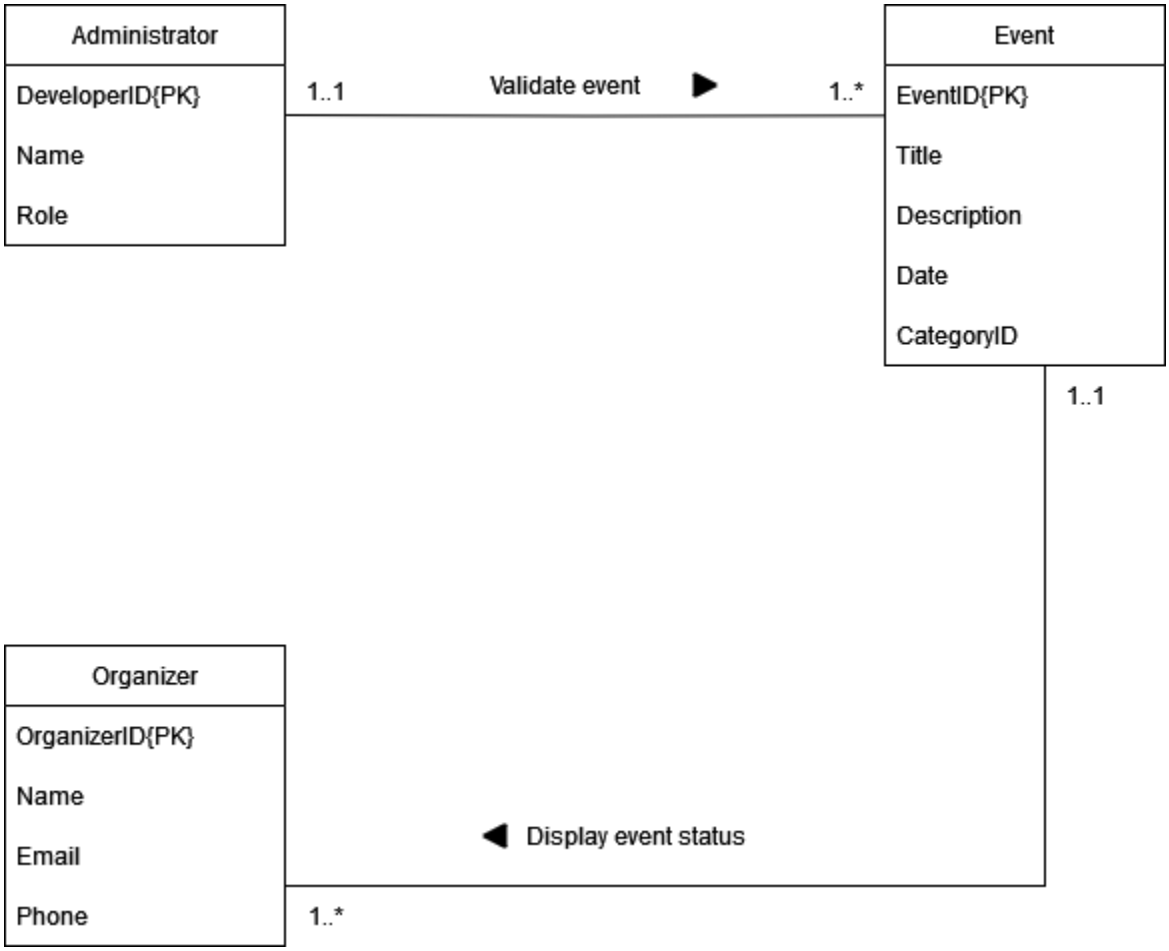
i) Overall ERD



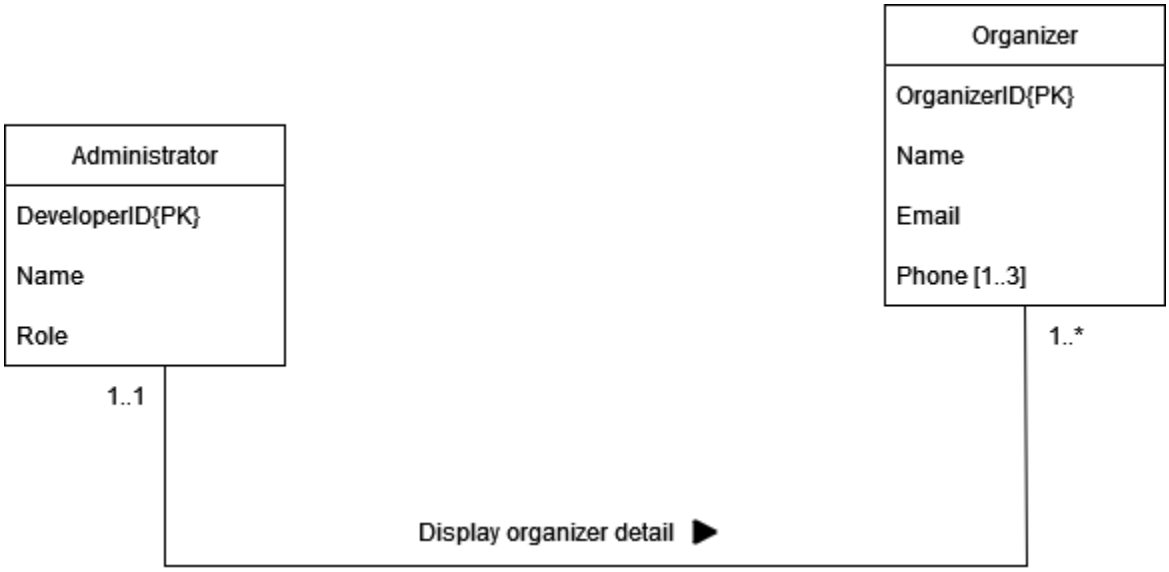
ii) Process 1: Manage event



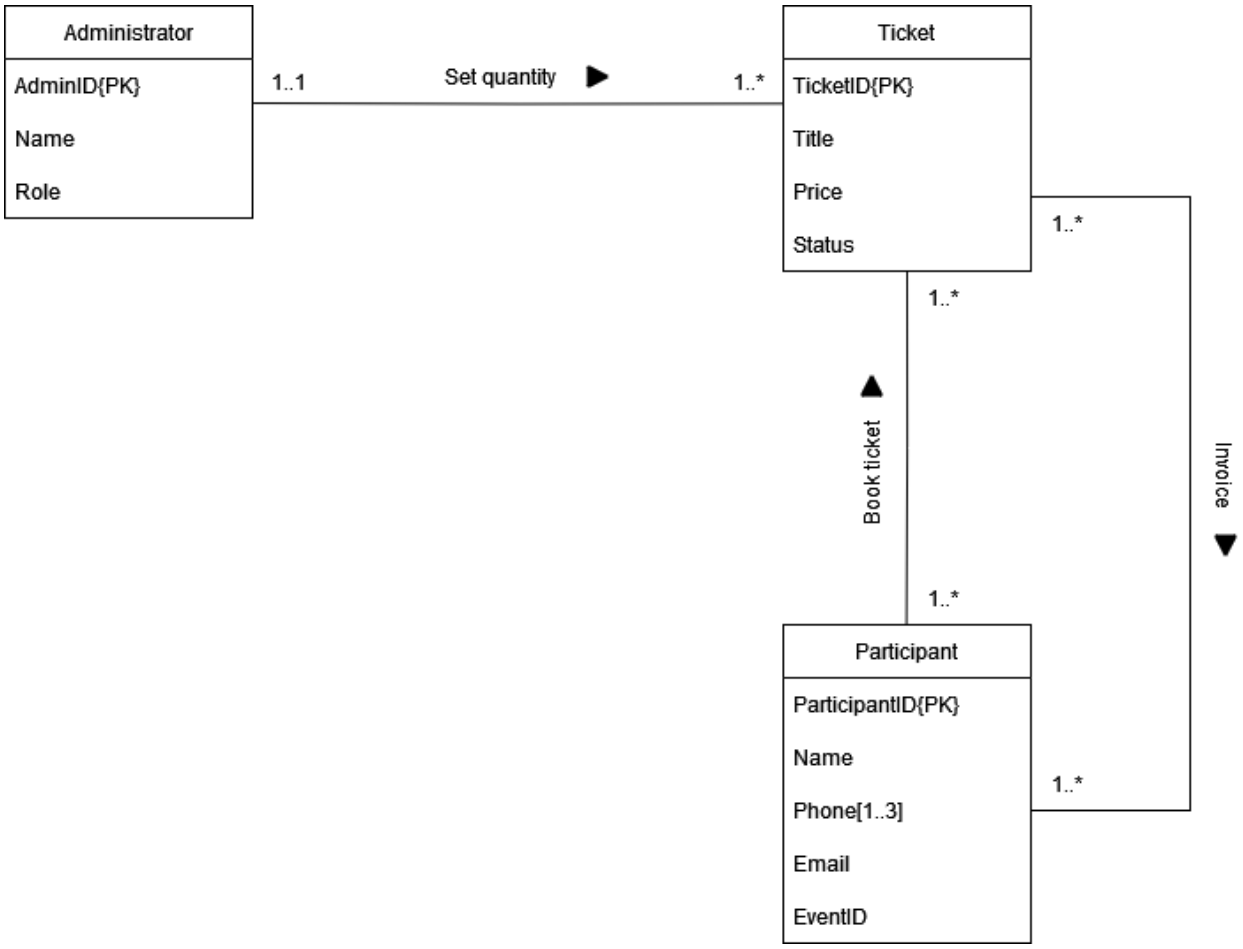
iii) Process 2: Validate event



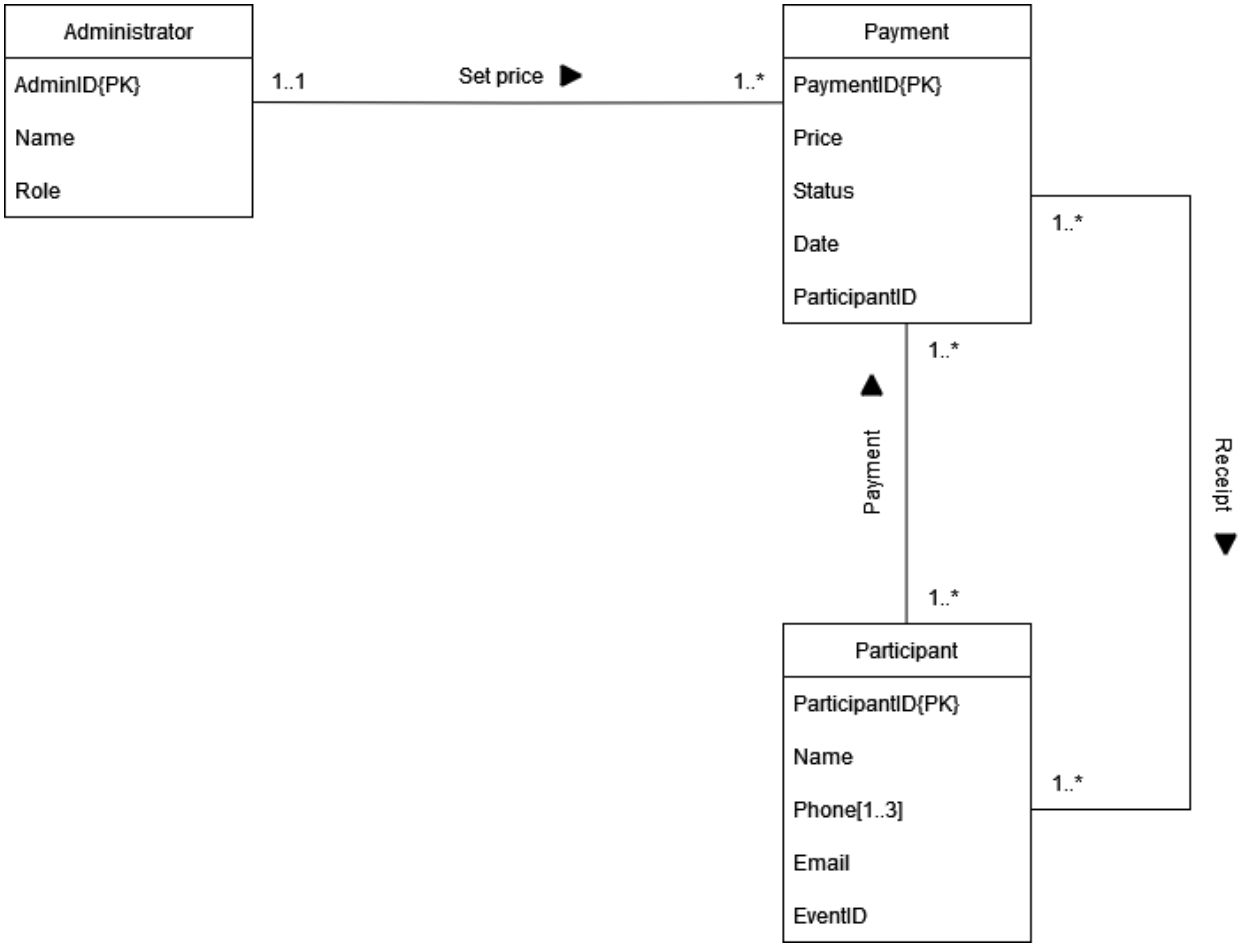
iv) Process 3: Manage Organizer



v) Process 4: Order ticket

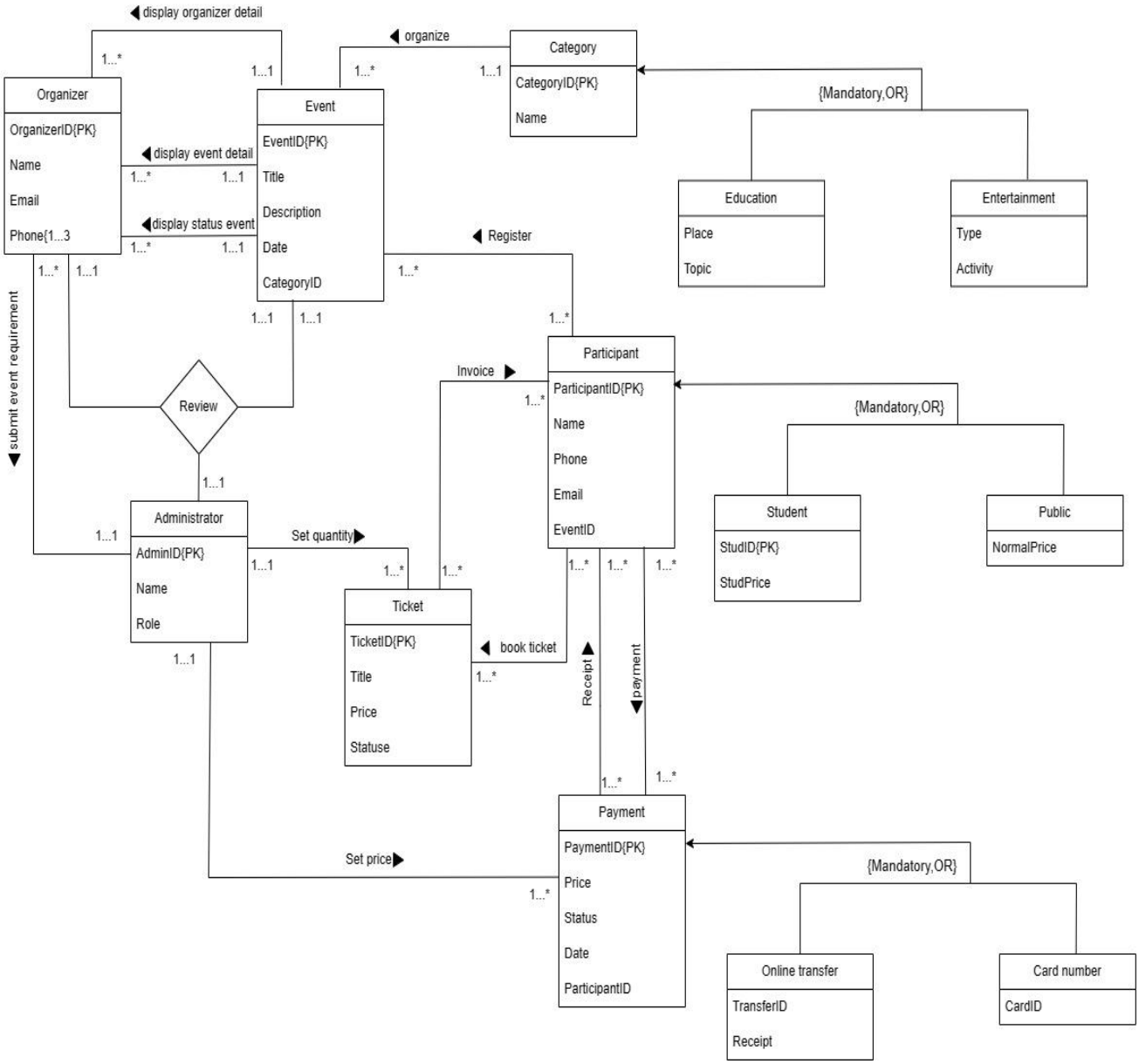


vi) Process 5: Apply payment

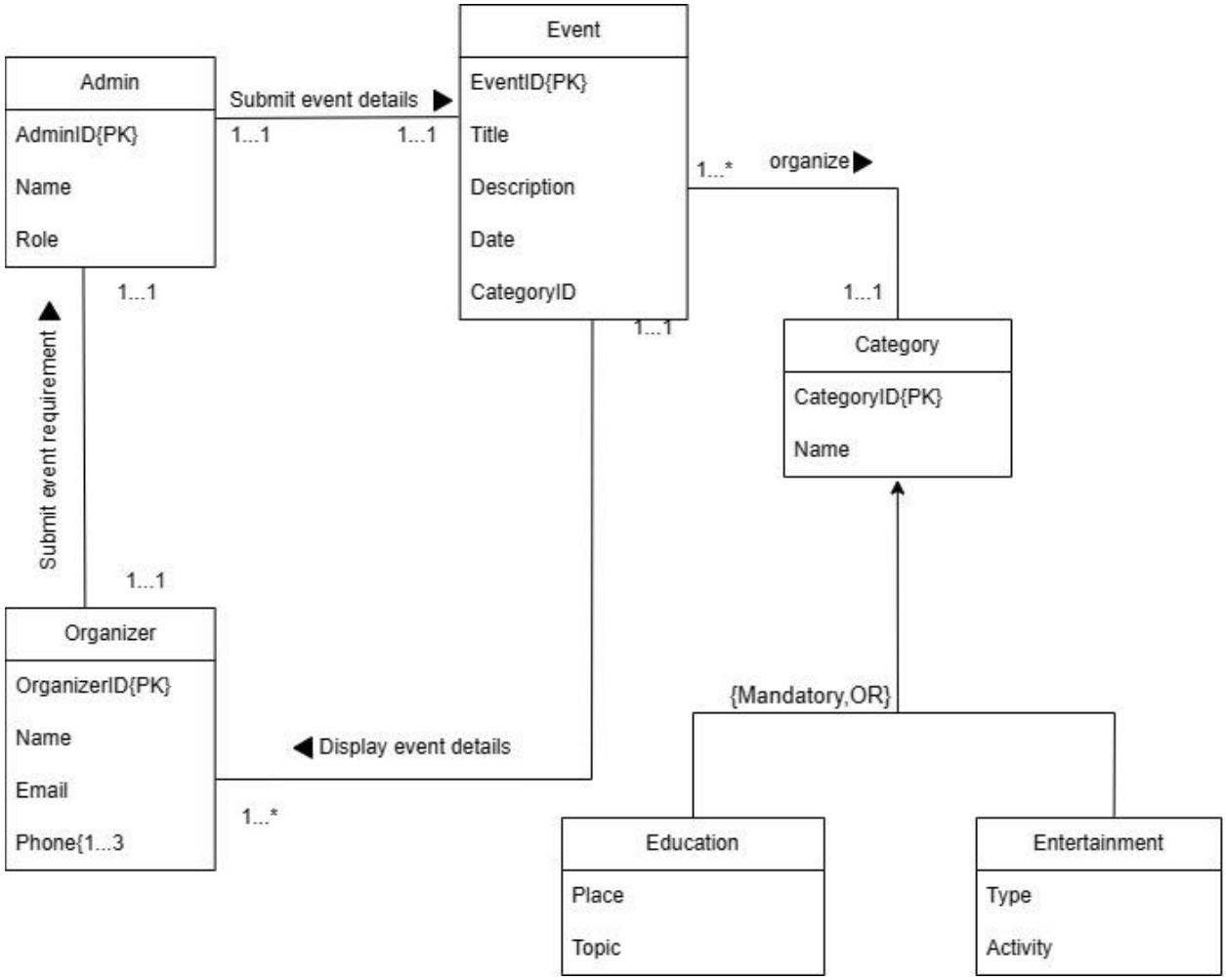


4.2 Enhanced ERD (EERD)

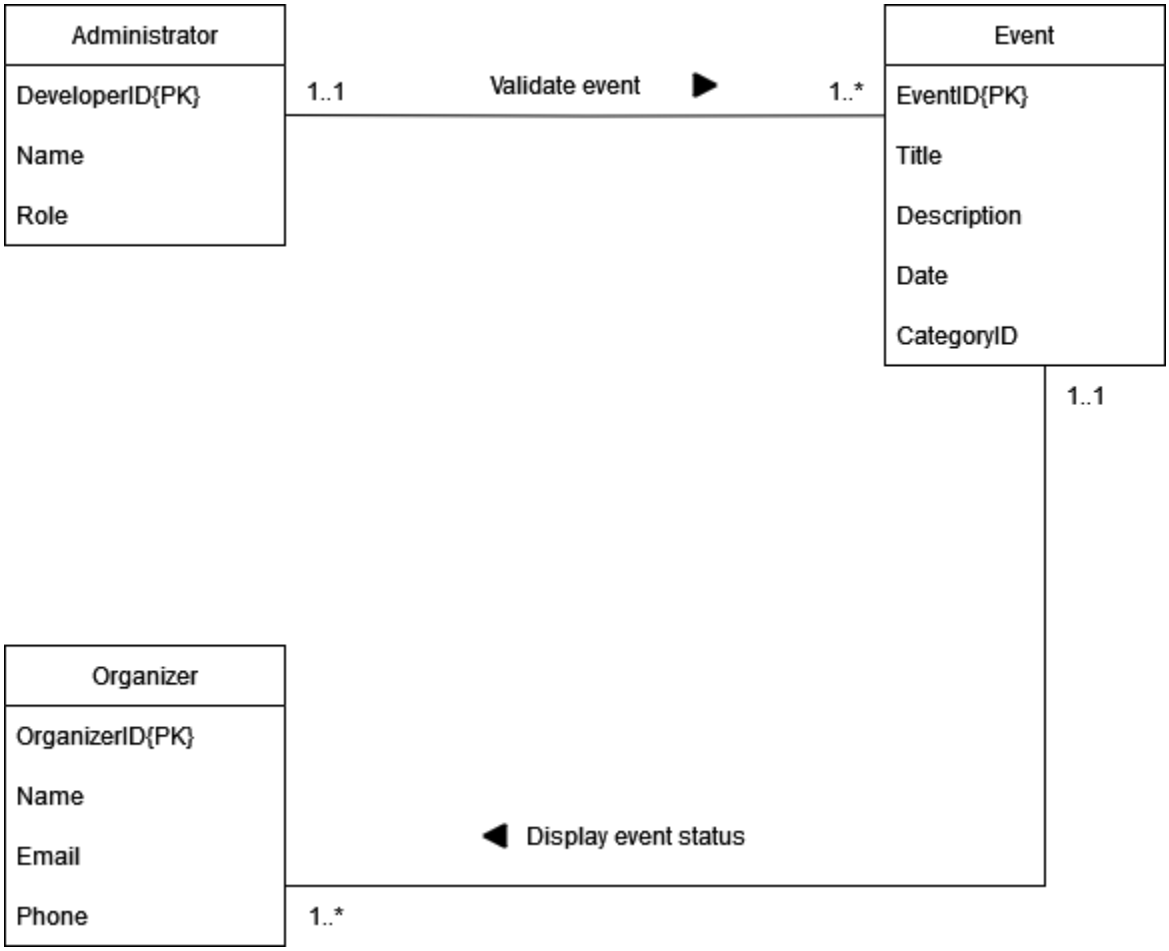
i) Overall EERD



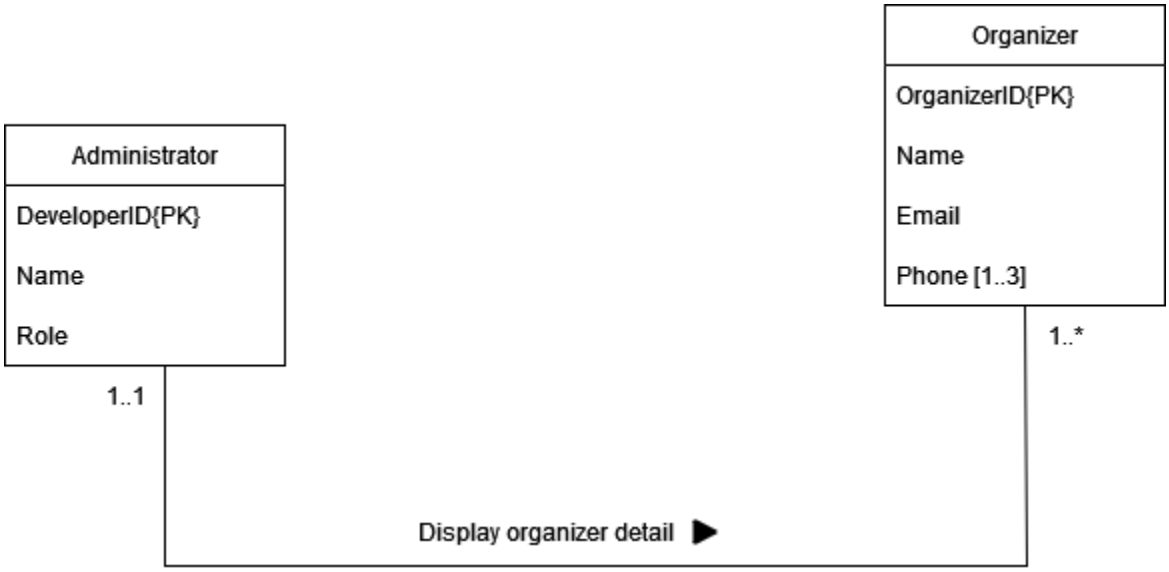
ii) Process 1: Manage event



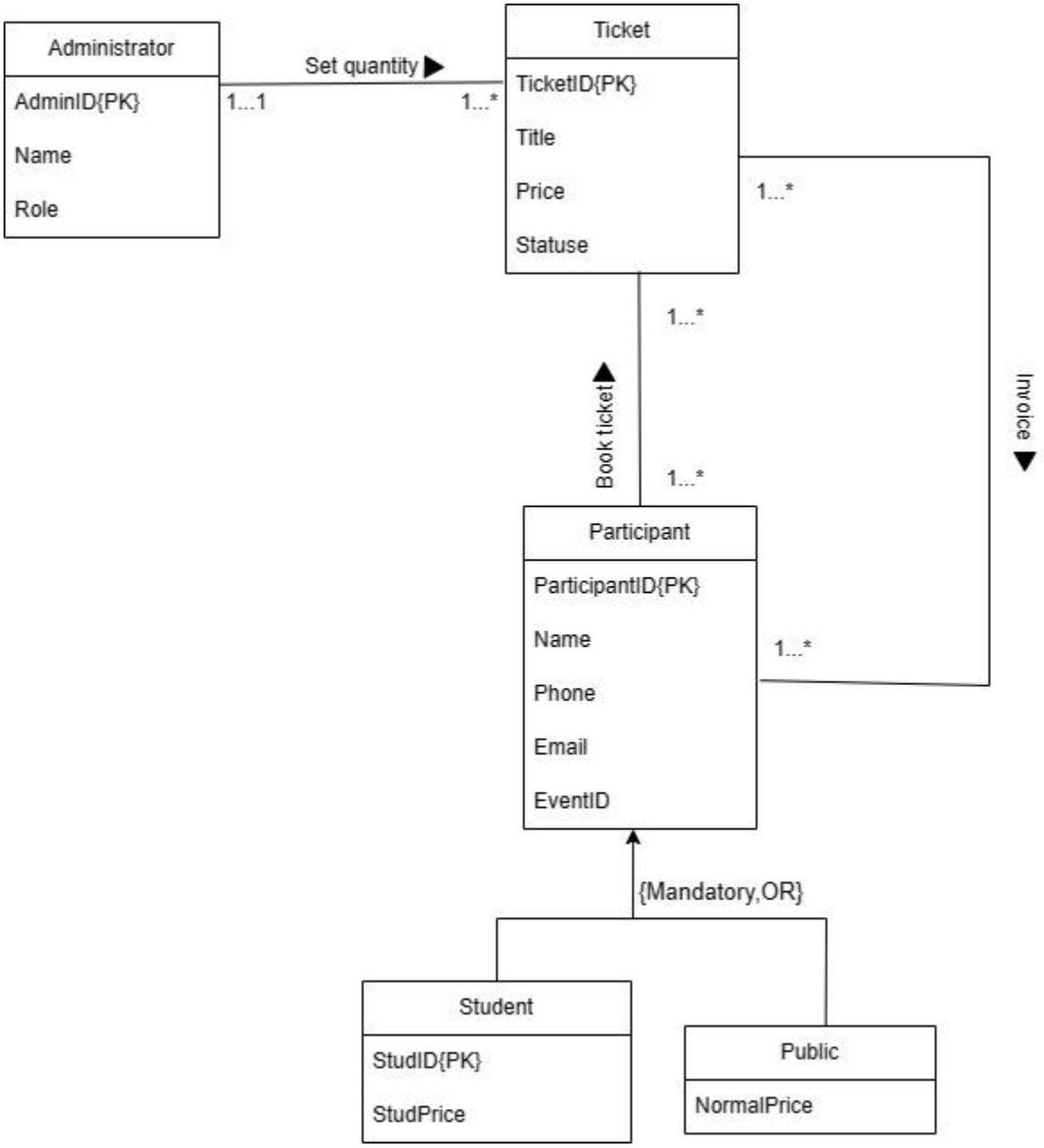
iii) Process 2: Validate event



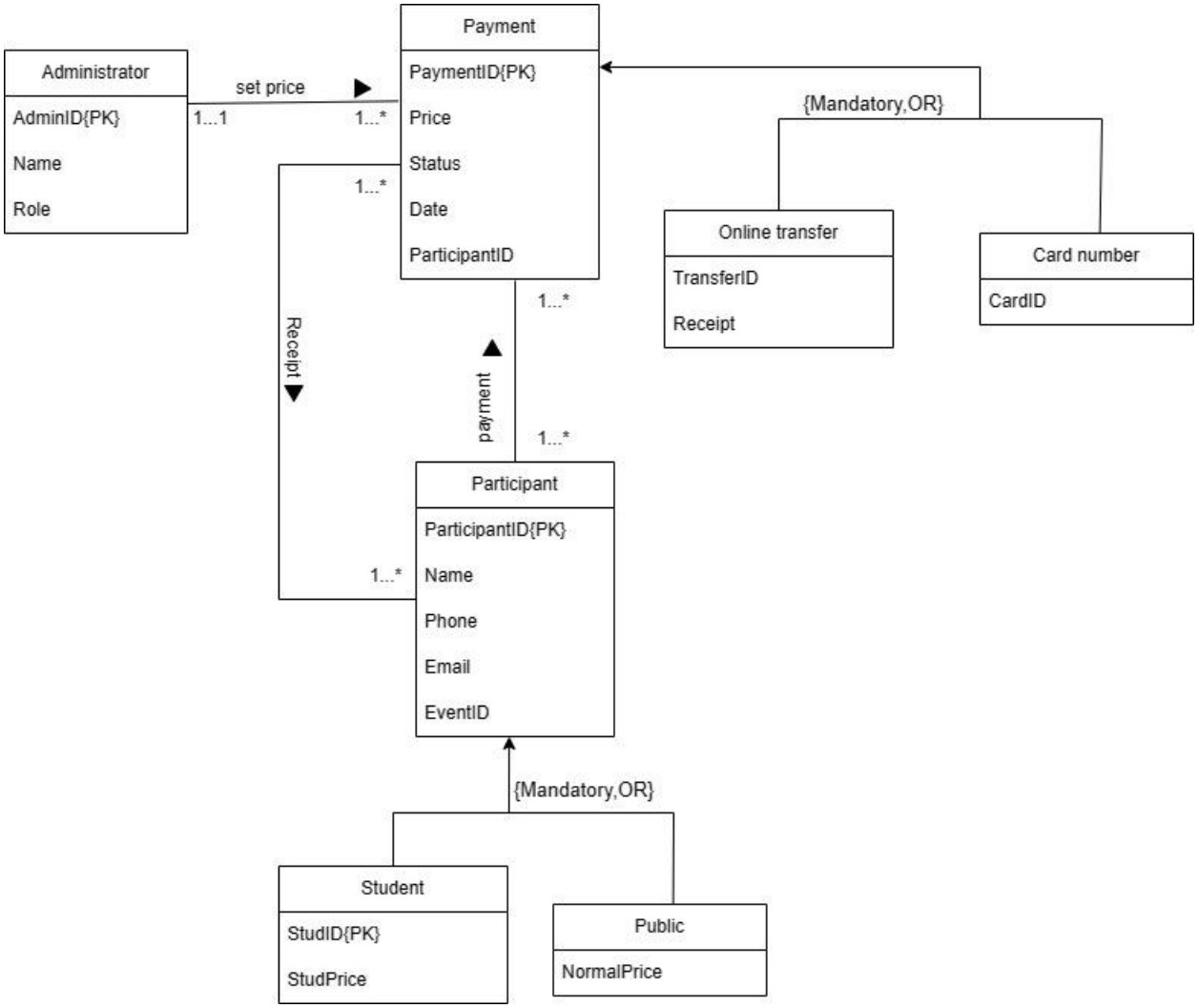
iv) Process 3: Manage Organizer



v) Process 4: Order ticket



vi) Process 5: Apply payment



5.0 Data dictionary

5.1 Description of Entity

Entity	Description	Occurence
Event	Holds event information	Show all the details of the event
Organizer	Holds organizer information	Organizer review the events Organizer submit the event to the system
Administrator	Holds administrator information	Administrator key in the data of the event into the system Administrator track the participant involvement
Participant	Holds participant information	Participant register to join event Participant make the payment Participant book the ticket for the event
Category	Holds the category of the events	Category is click by the user
Ticket	Holds the ticket details	All the price,title and the status of the confirmation of ticket stay here
Payment	Holds the payment details	Administrator set the price for participants Participants do the payment of ticket Sending the receipt to the participants
Education	Holds the category of event for education	User can click for education type of event
Entertainment	Holds the category of event for entertainment	User can click for entertainment type of event
Student	Holds the type of participants which is student	User need to inform whether they are student or not

Public	Holds the type of participants which is public	User need to inform whether they are public or not
Online Transfer	Holds the type of payment	Participants pay the ticket fee by online transfer
Card Number	Holds the type of payment	Participants pay the ticket fee by card number

5.2 Description of Relationship

Entity	Multiplicity	Relationship	Multiplicity	Entity
Organizer	1…*	Submit event	1…1	Administrator
	1…1	review	1…1	Event
Event	1…1	Display organizer	1…*	Organizer
	1…1	Display event	1…*	Organizer
	1…1	Display status	1…*	Organizer
Administrator	1…1	Review	1…1	Event
	1…1	Set quantity	1…*	Ticket
	1…1	Set price	1…*	Payment
Category	1…1	Organize	1…*	Event
Ticket	1…*	Send invoice	1…*	Participant
Participant	1…*	Book ticket	1…*	Ticket
	1…*	Do payment	1…*	Payment
Payment	1…*	Send receipt	1…*	Participant

5.3 Description Attributes

Entity	Attributes	Description	Data Type	Null	Multi-valued
Organizer	OrganizerID(PK)	Uniquely identify an organizer	VARCHAR2(10)	NO	NO
	Name	Name of the organizer	VARCHAR2(30)	NO	NO
	Email	Email of the Organizer	VARCHAR2(50)	NO	NO
	Phone	Number phone of the customer	VARCHAR2(13)	NO	YES
Event	EventID(PK)	Uniquely identify an event	VARCHAR2(10)	NO	NO
	Tittle	Title of the event	VARCHAR2(100)	NO	NO
	Description	Description of the event	VARCHAR2(250)	NO	NO
	Date	Date the event will be held	DATE	NO	NO
	CategoryID(FK)	Uniquely identify a category	VARCHAR2(15)	NO	NO
Administrator	AdminID (PK)	Uniquely identify an admin	VARCHAR2(10)	NO	NO
	Name	Name of the admin	VARCHAR2(30)	NO	NO
	Role	Role of the admin	VARCHAR2(10)	NO	NO
Participant	ParticipantID(PK)	Uniquely identify a participant	VARCHAR2(10)	NO	NO
	Name	Name of the participant	VARCHAR2(30)	NO	NO
	Phone	Number phone of participant	VARCHAR2(13)	NO	NO
	Email	Email of participant	VARCHAR2(50)	NO	NO
	EventID(FK)	Uniquely identify an event	VARCHAR2(10)	NO	NO
Category	CategoryID(PK)	Uniquely identify a category	VARCHAR2(10)	NO	NO
	Name	Name of the category	VARCHAR2(30)	NO	NO
Student	StudentID(PK)	Uniquely identify a student	VARCHAR2(10)	NO	NO
	StudPrice	Price for the student	FLOAT(8)	NO	NO

Public	PublicID(PK)	Uniquely identify the public	VARCHAR2(10)	NO	NO
	NormalPrice	Price for the public	FLOAT(8)	NO	NO
Payment	PaymentID(PK)	Uniquely identify a payment	VARCHAR2(10)	NO	NO
	Price	Amount of the payment	FLOAT(8)	NO	NO
	Status	Status of the payment	VARCHAR2(100)	NO	NO
	Date	Date of the payment	DATE	NO	NO
	ParticipantID(FK)	Uniquely identify the participant	VARCHAR2(10)	NO	NO
Education	Place	The place of the event	VARCHAR2(15)	NO	NO
	Topic	Topic to be discuss	VARCHAR2(30)	NO	NO
Entertainment	Type	The type of entertainment	VARCHAR2(15)	NO	NO
	Activity	Activity that be held in the event	VARCHAR2(30)	NO	NO
Online Transfer	TransferID	Uniquely identify the transfer process	VARCHAR2(10)	NO	NO
	Receipt	Receipt for the user	VARCHAR2(50)	NO	NO
Card Number	CardID	Uniquely identify the card	VARCHAR2(10)	NO	NO
Ticket	TicketID(PK)	Uniquely identify the ticket	VARCHAR2(10)	NO	NO
	Title	Title of the event	VARCHAR2(30)	NO	NO
	Price	The price of the ticket	FLOAT(8)	NO	NO
	Status	Status of the ticket	VARCHAR2(50)	NO	NO

6.0 Summary

In brief, our group has completed database conceptual design for NexScholar. In this phase, we have done the updated business rules, conceptual ERD, enhanced ERD and data dictionary. In the AS-IS there is no system for users to order a ticket and make a payment. The TO-BE system has added a booking and payment system for the users to make it easier to keep track of participants in any event. The stakeholder can also check the account receivable data for each payment. Every data has their own number to uniquely identify different data such as organizer have a organizer id, event have a event id, administrator have admin id and so on. When a users want to book a ticket, the developer will check ther ticket availability. If its available, users will place a book on the ticket. After placing a book on the ticket, users will go through the payment process. Users will receive a ticket id after the payment is successful.