UTM
UNIVERSITI TEKNOLOGI MALAYSIA

School of Computing
Faculty of Engineering

SECD2523 – DATABASE

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P2 - Database Conceptual Design

NexScholar Event System

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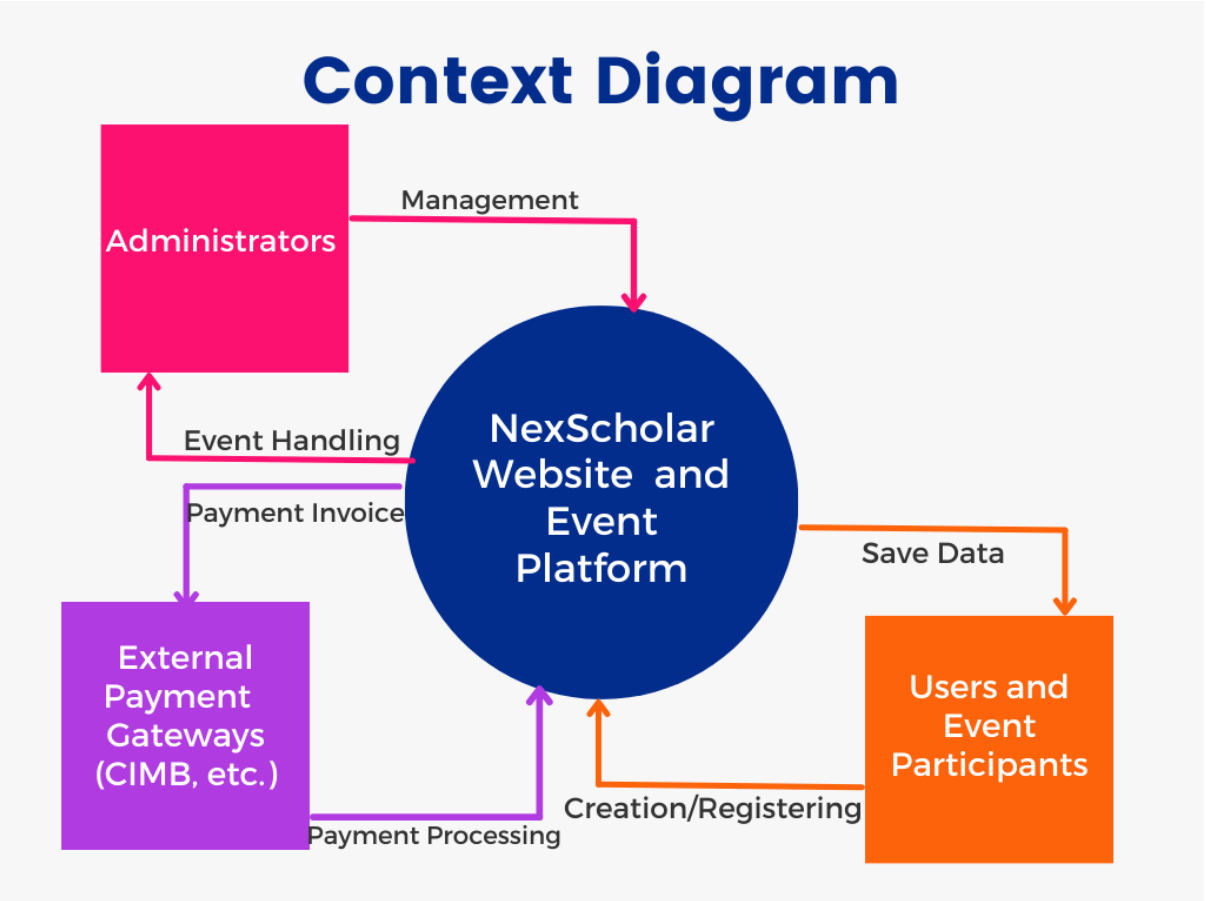
PROPOSED SYSTEM

1. Introduction

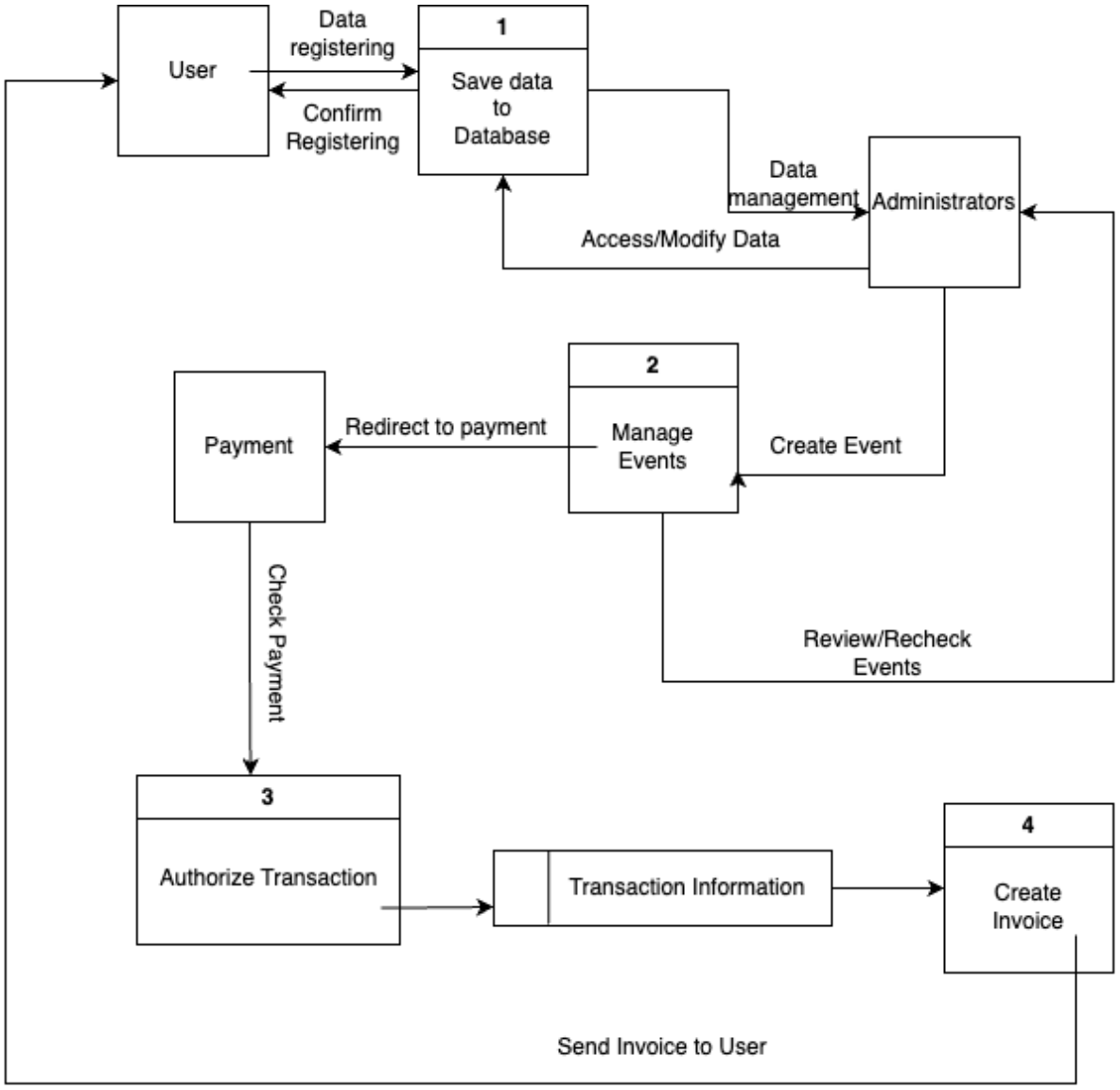
Getting into Database Conceptual Design is like laying the first bricks for a strong data system. It's about making a basic plan that grabs the important stuff like what things we're dealing with (entities), how they relate, and what details we care about (attributes). It's not diving into techy details but teaming up with others to create a simple map of how our data world should look. A good start here sets the tone for the whole database adventure, making sure our system fits just right with what our organization needs.

2. DFD (to-be)

2.1 Context Diagram

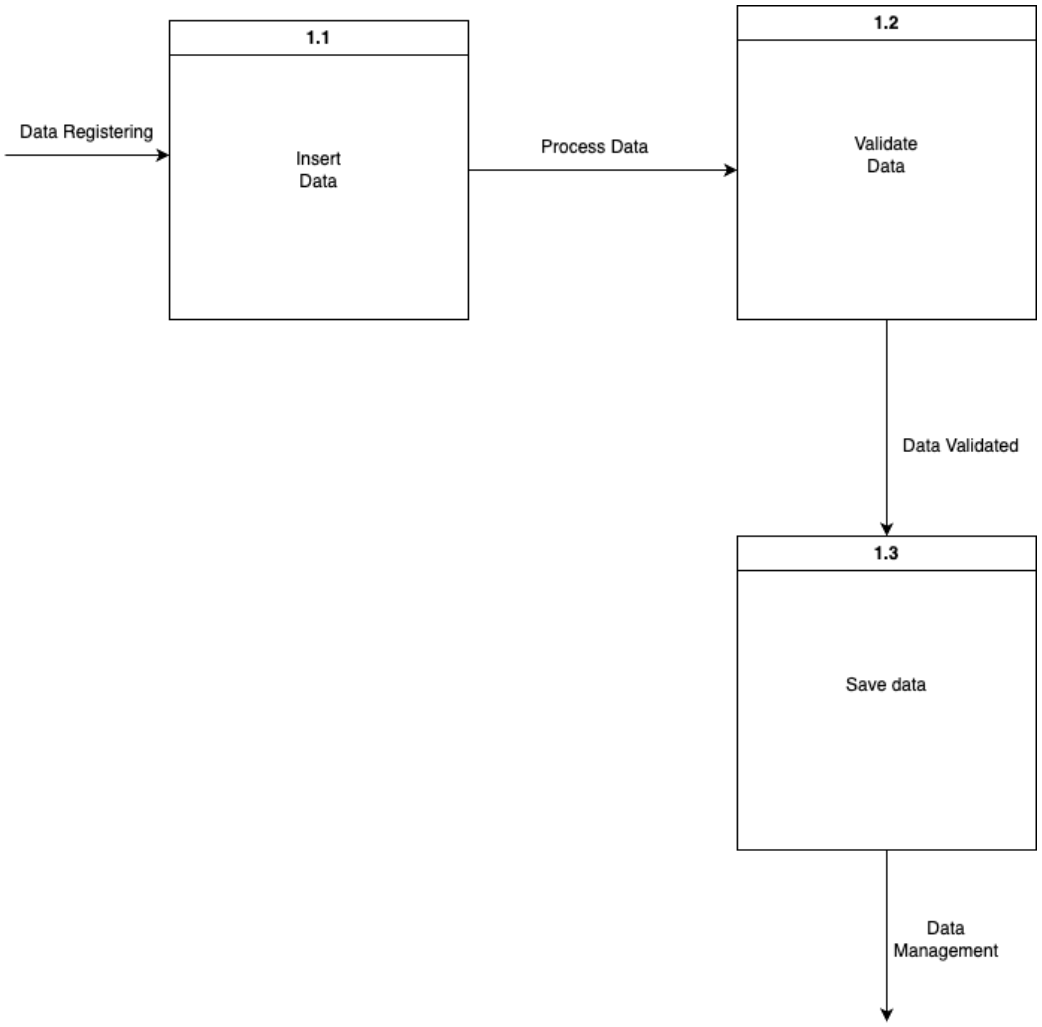


2.2 Diagram 0

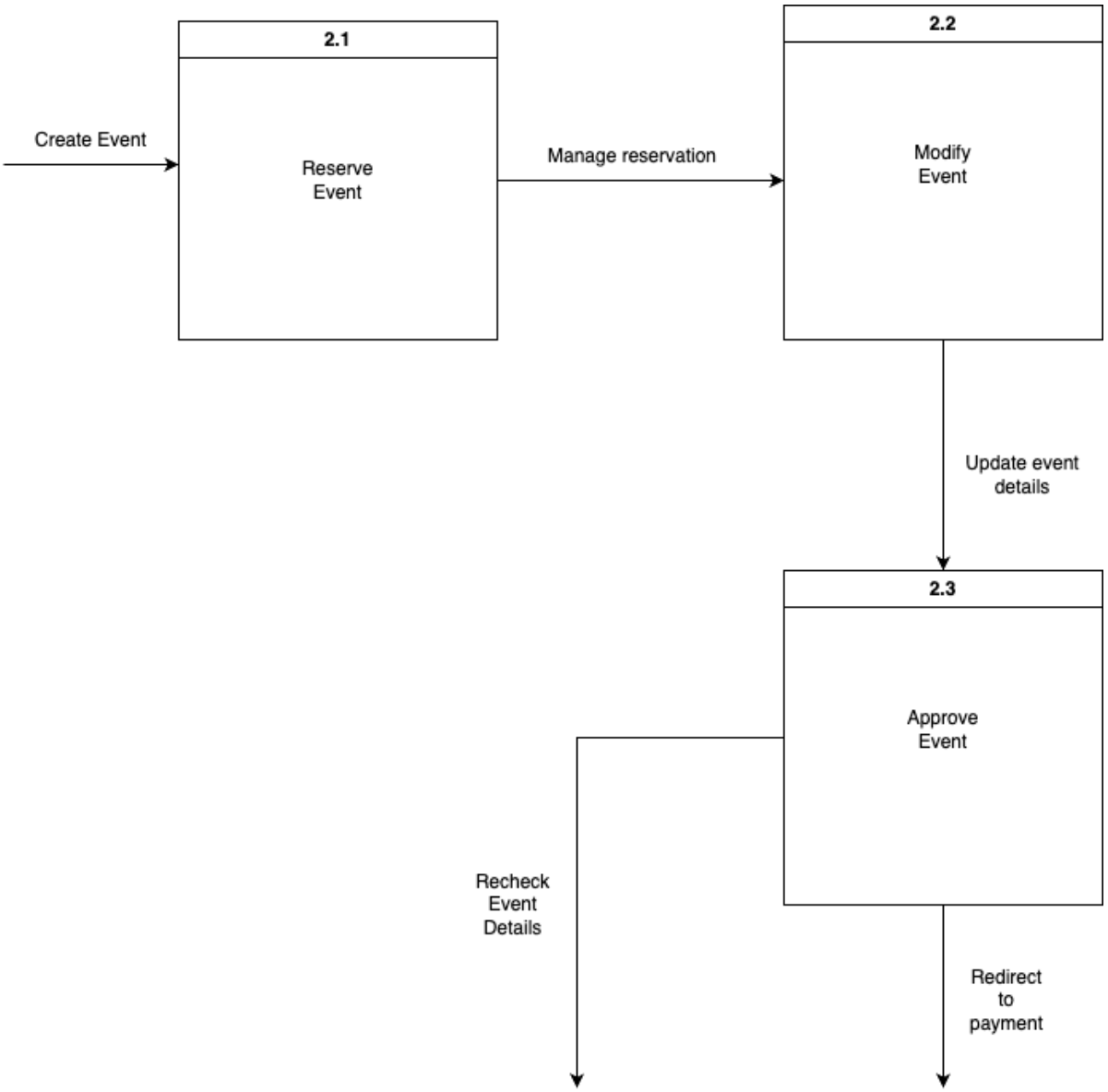

User
Data registering
Confirm Registering
1
Save data to Database
Data management
Administrators
Access/Modify Data
2
Payment
Redirect to payment
Manage Events
Create Event
Check Payment
Review/Recheck Events
3
Authorize Transaction
Transaction Information
4
Create Invoice
Send Invoice to User

2.3 Child Diagrams

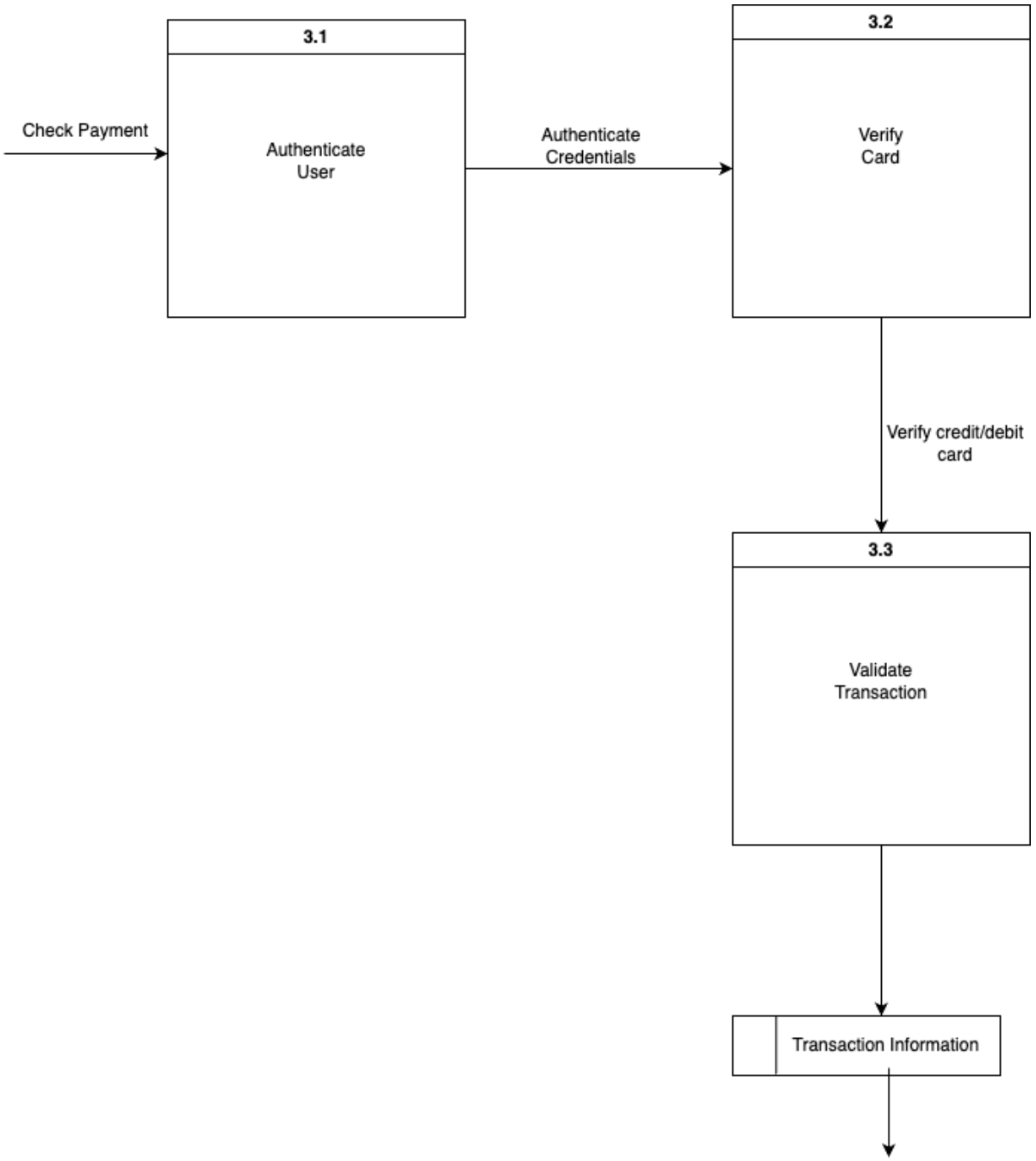
i) Child Diagram 1



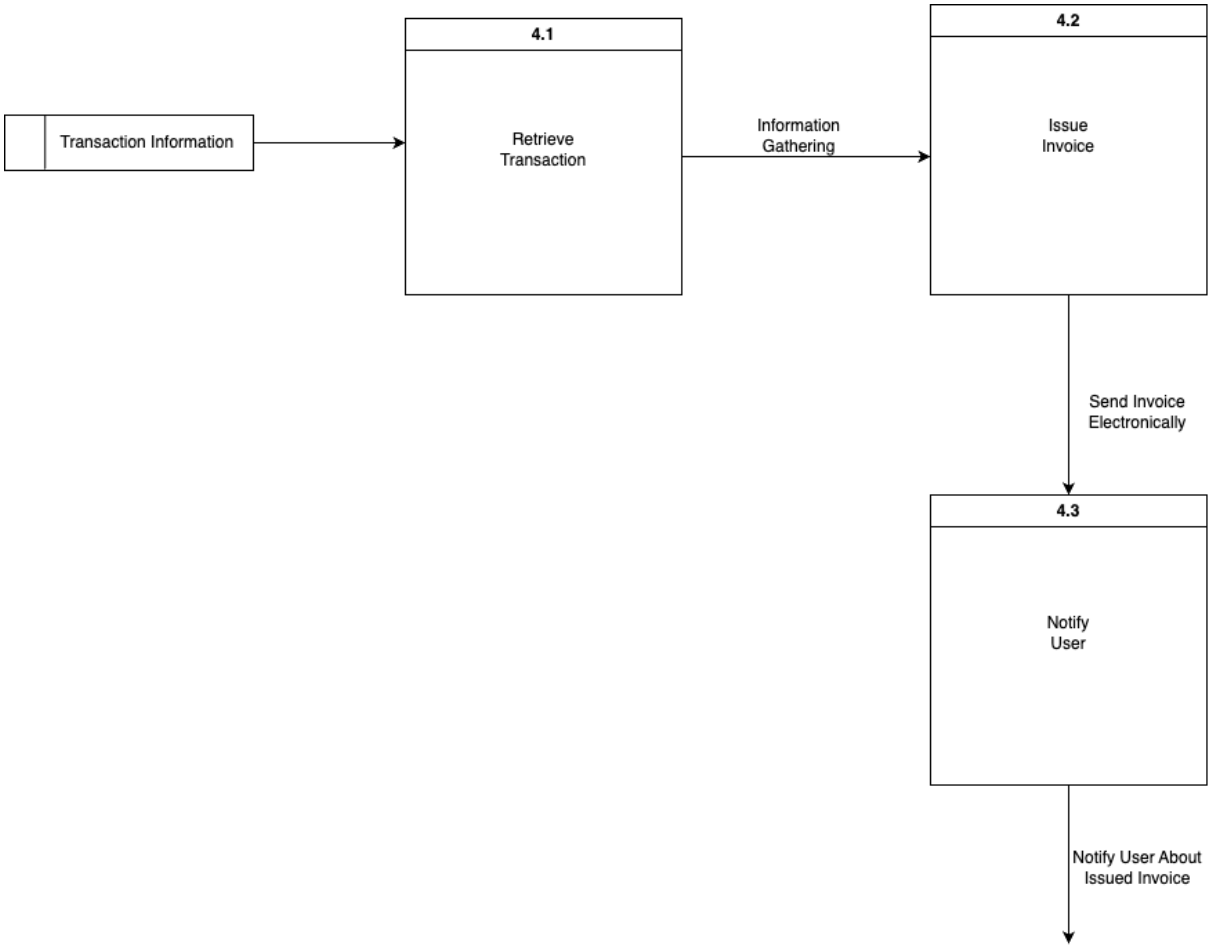
ii) Child Diagram 2



iii) Child Diagram 3



iv) Child Diagram 4



3. Data & Transaction requirement

3.1 Proposed business rule:

1. Enhancement of User Interface:

- Present Situation: The interface of the NexScholar platform is not user-friendly, which might have an impact on user satisfaction.

- The proposed Change: is to create a user interface that is both visually appealing and simple to use, improving the user experience overall and making it simple for users to interact with the platform's features and navigate.

2. Communication:

- Present Situation: Event coordinators relay information about the event to administrators, which could lead to a confusing and extended process.

- Proposed Change: Establish a direct line of communication via emails or a website chat system between registered users and event organizers in the website itself.

3. Integration of Payments:

- Present Situation: Participation in fee-based events may be limited if there is no payment option available.

- The proposed change: would be to incorporate a safe payment gateway (such as PayPal, credit cards, TNG, or GrabPay) so that people can register for events and make payments through the NexScholar website.

4. Reservation System:

- Present Situation: There isn't a straightforward way for users to book events right now.

- Proposed Change: Create a reservation system that speeds up the registration process by allowing users to sign up right on the website.

5. Fields for Event Information:

- Present Situation: It could be difficult for event planners to provide complete event details.

- Proposed Change: Provide an easy-to-use form that allows event coordinators to input necessary details including the event's name, description, date, time, location, organizers, website, and budget.

6. Notification from the Administrator:

- Present Situation: New event submissions for evaluation might not reach administrators right away.

- Proposed Change: Implement an admin notification system that notifies administrators of every event request ensuring quick approval and review processes.

3.2 Proposed data & transactional:

3.2.1 Data Entry

Record the necessary details for generating sales reports.

Specify the relevant period for a sales report.

Capture information related to payments made.

Log details pertaining to current stock.

3.2.2 Data Update/Delete

Modify or delete sales report details as needed.

Update or delete the specified period for a sales report.

Adjust stock details to accurately reflect changes.

Edit or remove payment information.

Enhance tracking details for events and orders.

3.2.3 Data Queries

Retrieve a comprehensive list of users responsible for managing the event store.

Access detailed information about available products.

Identify and review the order history for informed decision-making.

Display a chronological list of order history to enhance user awareness.

Present tracking details, including tracking numbers and associated names.

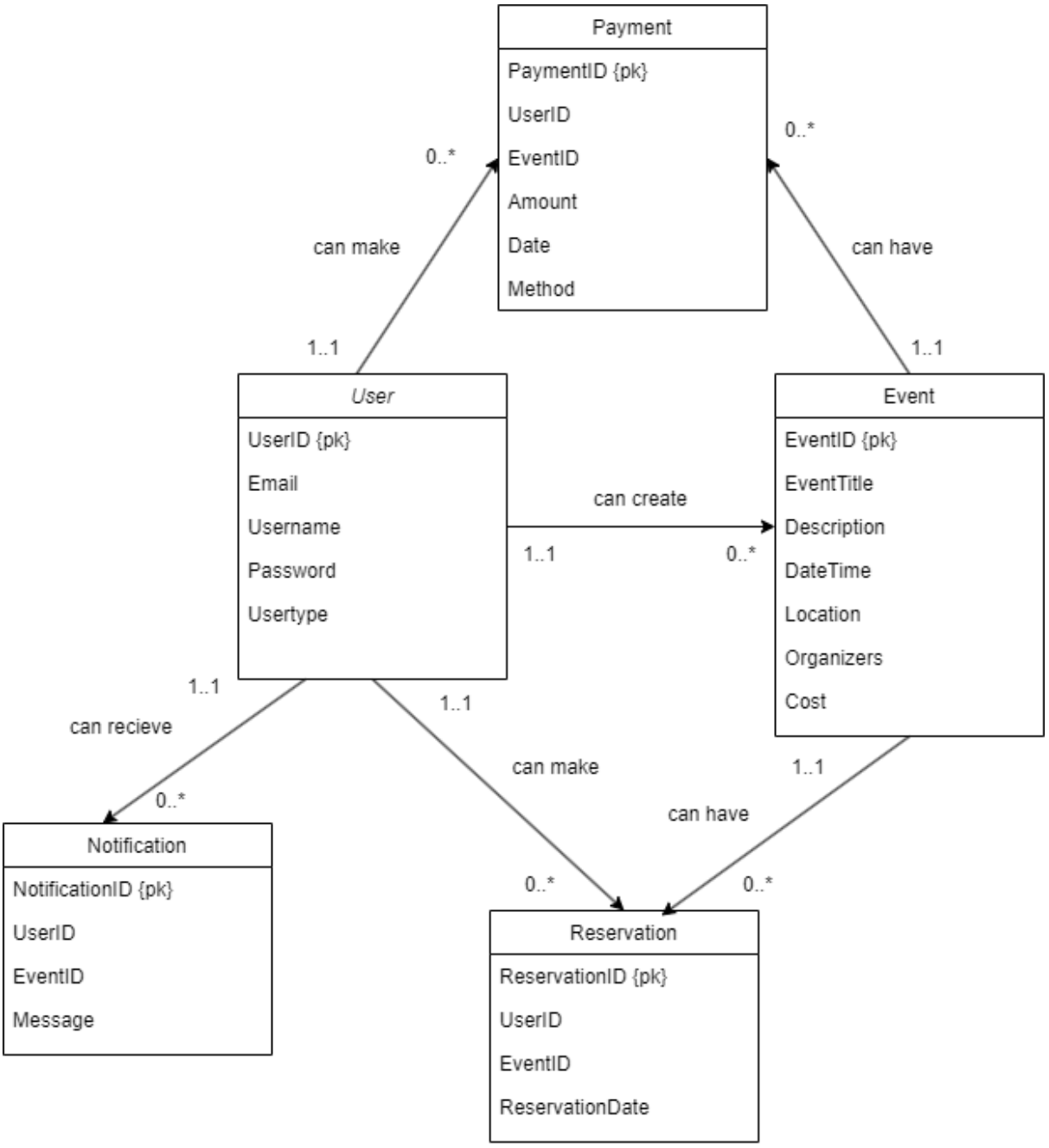
Determine the current order status for effective event planning.

Identify the payment status for specific transactions.

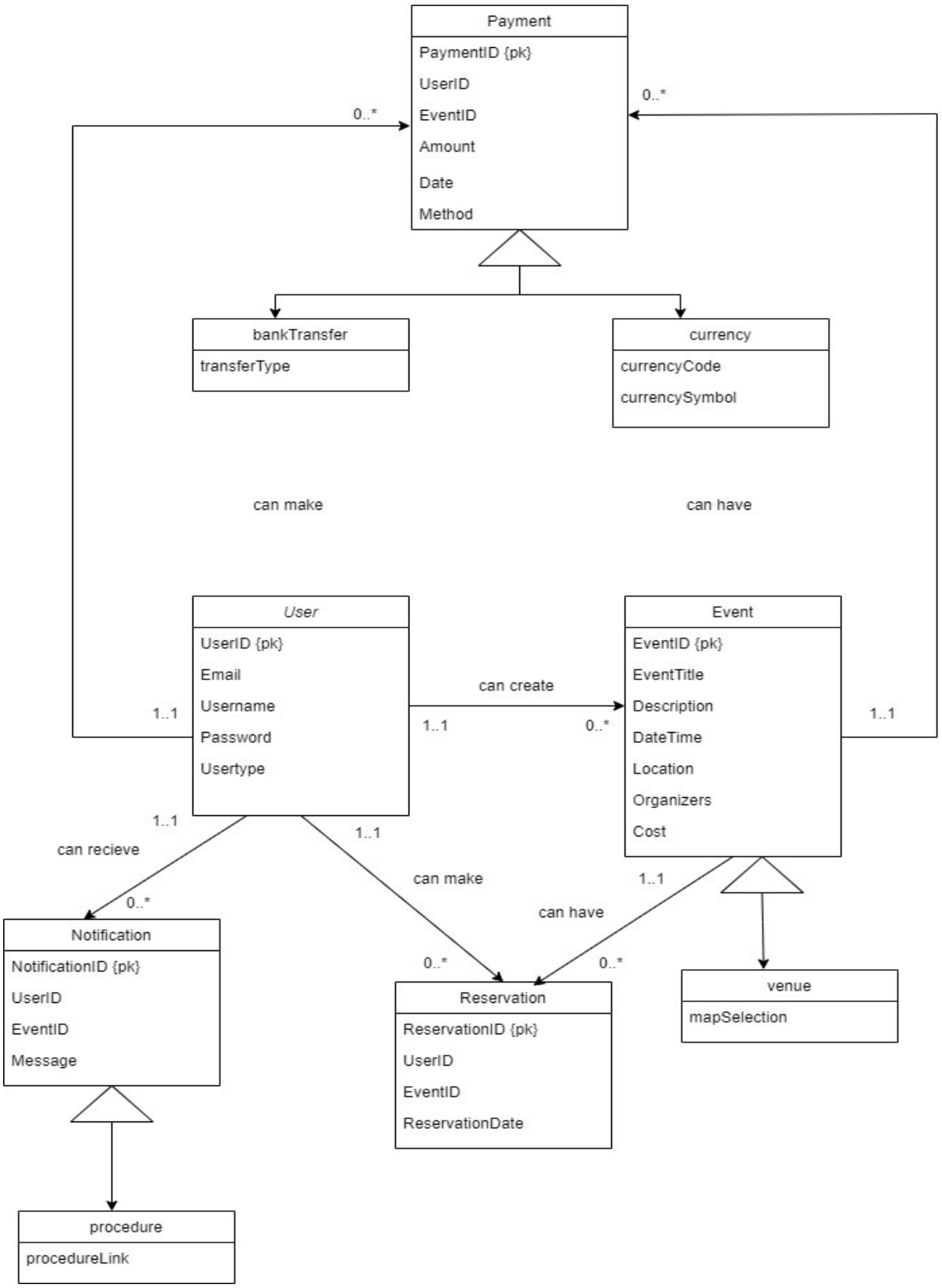
By aligning transaction requirements with the NexScholar Event System's theme, these enhancements aim to transform the platform into a vibrant and indispensable resource for post-graduate students, fostering a strong sense of community, and facilitating meaningful connections within their respective fields of expertise.

4. Data & Transaction requirement

4.1 Conceptual ERD:



4.2 Enhanced ERD (EERD):



5. Data Dictionary

5.1

Entity : Payment

Attribute	Data Type	Description
PaymentID	Integer	Unique Identifier for each payment (Primary Key)
UserID	Integer	Unique Identifier for each user (Foreign Key)
EventID	Integer	Unique identifier for each event (Foreign Key)
Amount	Float	Amount to be paid
Date	Date	Date of payment/booking
Method	Varchar(20)	Method of Payment

5.2

Entity : User

Attribute	Data Type	Description
UserID	Integer	Unique Identifier for each user (Primary Key)
Email	alphanumeric	Email of the user
Username	alphanumeric	username of the user
Password	alphanumeric	Password entered by the user
UserType	Varchar(20)	Identifies the type of user(Manager, Participant , Viewer etc)

5.3

Entity : Reservation

Attribute	**Data Type**	**Description**
ReservationID	Integer	Unique Identifier for each reservation (Primary Key)
UserID	Integer	Unique Identifier for each user (Foreign Key)
EventID	Integer	Unique Identifier for each event (Foreign Key)
ReservationDate	Date	Date of Reservation

5.4

Entity : Notification

Attribute	**Data Type**	**Description**
NotificationID	Integer	Unique Identifier for each notification (Primary Key)
UserID	Integer	Unique Identifier for each user (Foreign Key)
EventID	Integer	Unique Identifier for each event (Foreign Key)
Message	Varchar(50)	Message received by the user

5.5

Entity : Event

Attribute	Data Type	Description
EventID	Integer	Unique Identifier for each event (Primary Key)
EventTitle	varchar(20)	Title of the Event
Description	varchar(50)	Description of the Event
DateTime	Date	Date and time of the Reservation
Location	varchar(30)	Location of the Event
Organization	varchar(20)	Name of the Organization holding the Event
Cost	float	Cost of the Event

6. Summary

After completing the data conceptual design for the Nexscholar project, the proposed system emerges as a transformative solution tailored to the evolving needs of post-graduate students. The redesign focuses on a comprehensive overhaul, incorporating strategic enhancements in the user interface and navigation, alongside the integration of advanced algorithms. The primary goal is to elevate user experience significantly, delivering personalized and diverse content.Noteworthy improvements extend to the networking features, where expert matching algorithms and virtual events play a pivotal role in fostering meaningful connections and facilitating knowledge exchange among users. Emphasizing mobile accessibility, the platform aims to optimize the user experience across various devices. Moreover, a strong emphasis on community building is evident through the incorporation of user-generated content, establishing Nexscholar as a dynamic learning environment.Collectively, these enhancements position Nexscholar as more than just a social media platform; it emerges as an indispensable resource for post-graduate students. The platform seeks to empower its users by providing a robust and collaborative digital space, seamlessly blending academic and professional growth opportunities. In essence, Nexscholar aspires to become the go-to platform for post-graduate students, offering a comprehensive and enriching experience beyond conventional social media platforms.