SECD2523 - 03

DATABASE

PROJECT PHASE 2

GROUP NAME : SPICE GIRLS

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1.0 INTRODUCTION

NexScholar is an app working for a better social networking platform and is designed for groups of people targeting students, academics, researchers and industry professionals. Created and curated by Dr. Ahmad Najmi and Dr. Muhammad Aliff from the Faculty of Computing at Universiti Teknologi Malaysia, in collaboration with Dr. Seah Choon Sen from Universiti Tun Razak, NexScholar provides a range of modules, such as events, scholarships and expert listings in one platform to ease and meet the needs of users within the academic and professional scope.

As NexScholar is striving to be a better app for all, they face difficulties and lacking in their features, and the solution to the problems surfacing is to create a better system – an integrated booking system as well as a centralized ticketing system. Prior to this, the users of this system need to manually go through processes of booking an event, hence this project focuses on developing a seamless and user-friendly booking system with the aim of making the current system more convenient and smooth.

In addition to that, the absence of a centralized ticketing system has led the system to have inefficient tracking of attendee reservations, availability and payments. Manual processes contribute to delays and potential errors in collecting and storing data of attendees. Furthermore, the platform lacks an automated communication system, as the users need to manually exert the effort to find information and confirm their choices. All in all, NexScholar does not have a feedback mechanism that could be useful to collect user's satisfaction evaluation and to identify areas of enhancement within the system.

By addressing these issues and current drawbacks, this project aims to revolutionize the event registration process within NexScholar. This implementation will assist administrators in managing registrations, monitoring payments and analyzing attendee data as well as to allow users to have a better experience in using this platform.

2.0 DFD (to-be)

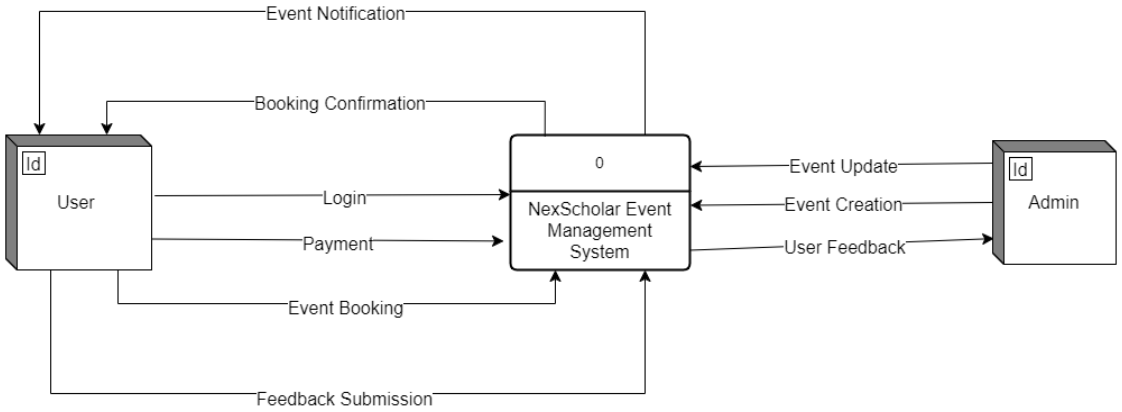


Figure 2.1: Context Diagram

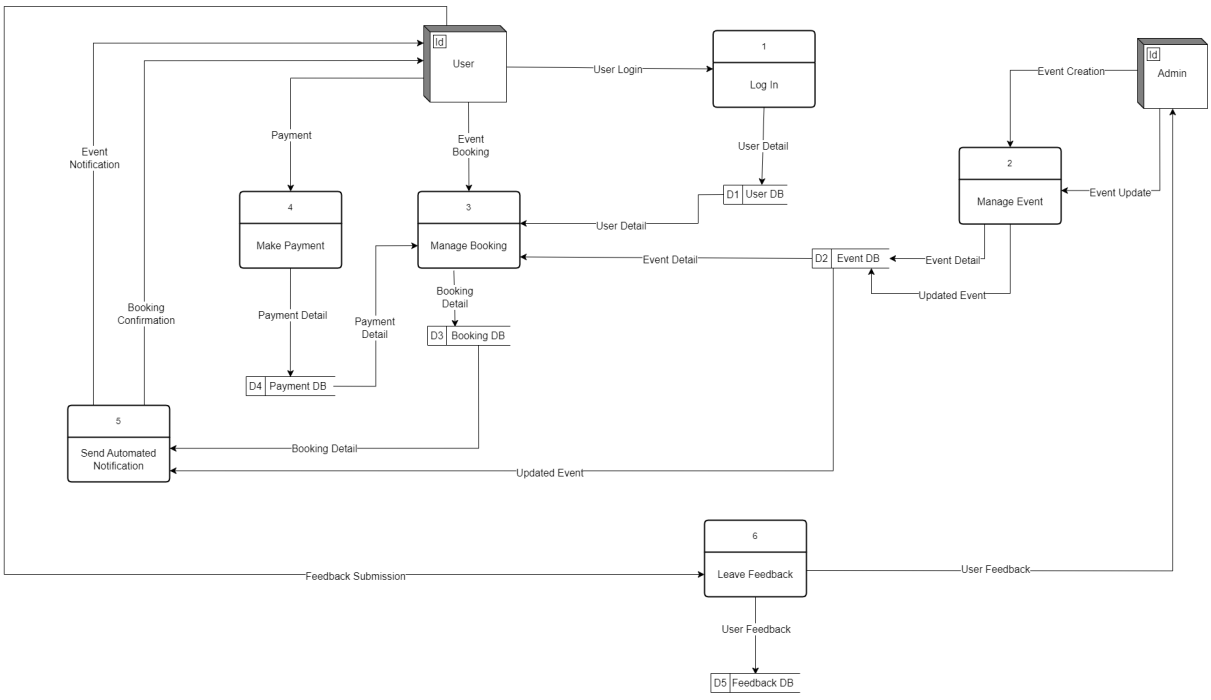
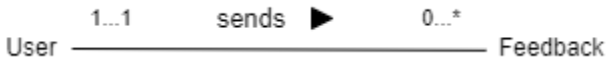


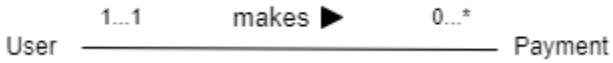
Figure 2.2: Diagram 0

3.0 DATA & TRANSACTION REQUIREMENT

3.1 PROPOSED BUSINESS RULE



- Each user can send zero or many feedback.
- Each feedback can be sent by a user.

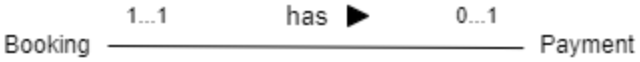


- Each user can make zero or many payments.
- Each payment can be made by only one user.

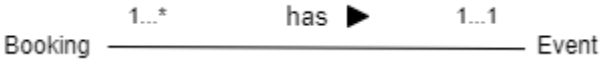
- Each user receives zero or many notification.
- Each notification is received by one or more users.

- Each user attends one or many events.
- Each event is attended by one or many users.

- Each user makes one or many bookings.
- Each booking is made by one user.



- Each booking has zero or many payments.
- Each payment is made by one booking.



- Each booking has one event.
- Each event can have one or many bookings.

3.2 PROPOSED DATA & TRANSACTIONAL

Organizer

Data Requirements

- Event Details : Event title, description, date, time and location. Capacity and availability status such slots available, booked or reserved. Type or category of the event such as academic, networking, workshop, etc.
- Attendee Information : Names and contact details of attendees who have booked/reserved. Payment status whether paid, pending or canceled. Attendance status (attended, absent).
- Communication logs : Records of communications (emails, notifications) sent to attendees. Interaction history (queries, responses) with attendees.
- Feedback and Reviews : Feedback collected from attendees after the event. Reviews or ratings regarding the event experience.

Transactional Requirements

Data Entry

1. Create new event listings, including event details, schedules, and available slots
2. Enter attendee information upon registration, including name, contact details, and preferences.

Data Update/Delete

1. Edit event details
2. Remove or update attendee information in case of cancellations or modifications

Data Query

1. Retrieve attendee lists for specific events, including their registration status and payment details
2. Access attendance records and generate reports for past events.

Admin

Data requirements

- User Management : User profiles, roles and permissions within the platform
- Event Management : Access to event details, registrations, and attendance data.
- Payment Records : Details of transactions, including successful and pending payments.
- System Logs : Tracking system activities, such as user actions, updates, and modifications.

Transactional Requirements

Data Entry

1. Add or update system-wide information like event categories, pricing structures, or system settings.
2. Enter new users or manage user roles and permissions within the system.

Data Update/Delete

1. Modify system configurations, including email templates, notification settings, and automated reminders.
2. Delete or suspend user accounts if necessary, adhering to privacy and policy guidelines.

Data Query

1. Retrieve analytics and reports on user activity, payment records, and attendee engagement.
2. Access feedback or survey responses to evaluate user satisfaction and system performance.

User

Data Requirement

- Profile Information : Personal details, preferences and contact information
- Event Registration : Details of events registered for, payment status, and attendance history.
- Notifications and Communications: Information sent by organizers or system updates regarding events.
- Feedback Submission: Ability to provide feedback, ratings, and comments on attended events.
- Preferences and Settings: Options to customize notifications, event recommendations, and account settings.

Transactional Requirements

Data Entry

1. Register for events by providing personal details and selecting preferred sessions or workshops.
2. Update personal information

Data Update/ Delete

1. Cancel or modify event registration, subject to cancellation policies or availability
2. Delete personal information or opt-out of certain notifications or newsletters.

Data Query

1. View event listings, availability, and detailed event descriptions.
2. Check payment status, track attendance, and access event-specific information.

4.0 DATABASE CONCEPTUAL DESIGN

4.1 CONCEPTUAL ERD

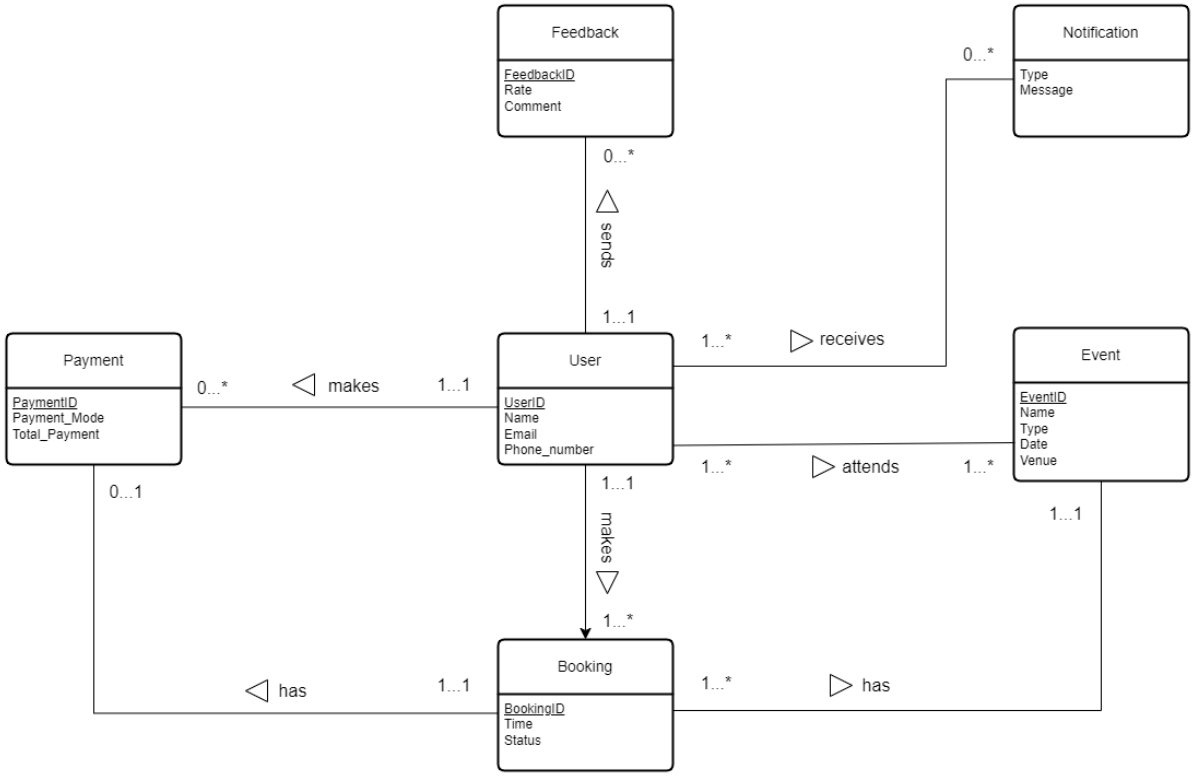


Figure 4.1.1: ERD of the Proposed System

The figure above illustrates the ERD for our proposed systems. It is crucial to implement an ERD in order to illustrate and identify the entities, relationships, primary keys, and myriad other information. For example, the instances of the said entities as shown in the ERD are User, Event, Booking, Payment, Feedback, and Notification.

4.2 ENHANCED ERD (EERD)

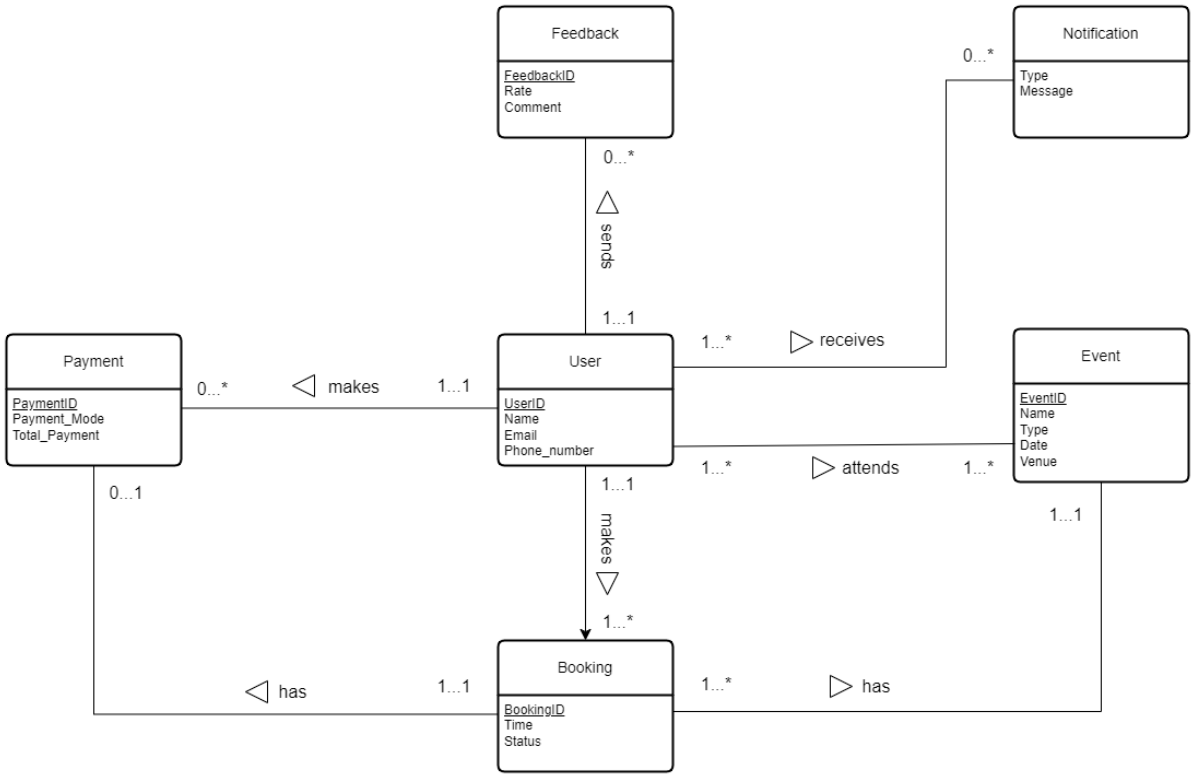


Figure 4.2.1: Enhanced ERD (EERD) of the Proposed System

The figure above illustrates the EERD for our proposed systems. It guides us to provide an enhanced visualization of the relationship between different entities in the system, by further incorporating additional concepts that are able to represent requirements of the system. However, because our system does not employ the specialization/generalization concept, the ERD and EERD are technically the same.

5.0 DATA DICTIONARY

Entity name	Attributes	Data type & length	Nulls	Multi-valued	Multiplicity	Relationship	Entity name	Multiplicity
User	UserID	5 variable characters	No	No	1..1	sends	Feedback	0..*
					1..*	receives	Notification	0..*
	Name	30 variable characters	No	No				
					1..*	attends	Event	1..*
	Email	30 variable characters	No	No	1..1	makes	Payment	1..*
	Phone_number	11 numbers	No	No				
Event	EventID	5 variable characters	No	No	1..*	attended by	User	1..*
	Name	20 variable characters	No	No	1..1	owned by	Booking	1..*
	Type	15 variable characters	No	No				
	Date	Date	No	No				
	Venue	30 variable characters	No	No				
Booking	BookingID	5 variable characters	No	No	1..*	made by	User	1..1
					1..1	has	Payment	0..1
	Time	Date time	No	No				
					1..*	has	Event	1..1
	Status	10 variable	No	No				

		characters						
Payment	PaymentID	5 variable characters	No	No	0..* 0..1	made by owned by	User Booking	1..1 1..1
	Payment_mode	10 variable characters	No	No				
	Total_Payment	5 number (2 digits for scale)	Yes	No				
Feedback	FeedbackID	5 variable characters	No	No	0..*	sent by	User	1..1
	Rate	5 numbers	No	No				
	Comment	100 variable characters	Yes	No				
Notification	Type	15 variable characters	No	No	0..*	received by	User	1..*
	Message	500 variable characters	No	No				

Table 5.1 Data Dictionary of the Proposed System

6.0 SUMMARY

The proposed system aims to enhance the current system by adding new features that could accelerate the process and limit the shortcomings, such as current manual processes, unreliable payment system and fragmented data handling. The proposal introduces a centralized ticketing system and automated systems for booking and feedback mechanism. It includes an event reservation process, a dedicated payment gateway and refund process, together with feedback from users. DFD, conceptual ERD as well as EERD have been discussed to further show the design and flow of the new system. With these proposed features, the goal is to ease the administrators, making sure that the management of users' data will enhance more efficiently and effectively. All the new proposed features also intend to address the issues faced by the current system, ensuring a better user experience and overall a better system for NexScholar.