FACULTY OF COMPUTING

SEMESTER 1 / 20232024

SECD2523 - 03 DATABASE

GROUP PROJECT

PHASE 1

LECTURER NAME: DR IZYAN IZZATI BINTI KAMSANI

GROUP MEMBERS

NO	NAME	MATRIC NUMBER
1	OSAMA HAMOOD MAHYOOB AHMED	A22EC4025
2	HAMDAN SALEH OMAR AL-MOHAMADI	A22EC4027
3	AMMAR YASSER SALAH	A22EC3001
4	AHMED MOHAMMED MAZEN ALYASIN	A21EC4030
5	SARANYA A/P JAYARAMA REDDY	B22EC3013

1.0 INTRODUCTION (OVERVIEW OF THE PROJECT)

In the NexScholar website, the owner is facing a problem on the event booking system which causes so much concern to him. In this phase of our project, we are aiming to provide solutions to the problem that was given. This project is mainly constructed with the goal of making it happen.

2.0 BACKGROUND STUDY

In our everyday life and throughout the internet history, we use apps and websites that are designed to help make our life easy, especially in the social aspect. NexScholar is one of those social websites which provides so many services that are needed in our social and educational life. With its beneficial services, it has been a good platform for a lot of users. However, in the section of events reservation, there is a problem that urgently requires a solution.

3.0 PROBLEM STATEMENET

The problem that we have on the website is simply the events booking process. The website now does not support the option that a user is able to register for an event or purchase a ticket and do online payment via Visa, Master Card.

4.0 PROPOSED SOLUTIONS

1. **User-friendly interface:** When a user-friendly interface is made available it will be easier to use.

2. **User Communication:** One other proposed solution is to allow the organizers of the event to communicate with registered users using emails or a messaging path on the website itself.

3. **Payment Integration:** In case the event requires payment, there should be a gateway for payments to accept payments directly through the website. Payment methods may include PayPal, Credit Cards, TNG, GrabPay and others.

4. **Reservation System:** It will be able to make users sign up directly through the website and not redirect them to other websites which might cause a hassle for the users.

5. **Event Information Fields:** The organizers should have a form in order to be able to fill fields required for the event such as event title, description, date and time, location, organizers, event website, and event cost.

6. **Admin Notification:** The admin should get a notification for every event request that needs to be reviewed before placing it.

FEASIBILITY STUDY

TECHNICAL FEASIBILITY

- The suggested solutions involve implementing improvements to the website, such as enhancing the user experience and adding a reservation system and payment integration. These changes are technically feasible given the current state of web development and available technologies.

OPERATIONAL FEASIBILITY

- Making the event application and approval procedure more efficient is the goal of the suggested solutions. Enhancing the user experience and minimizing administrative workload are in line with the project's operational goals.

ECONOMICAL FEASIBILITY

- We must weigh the project's advantages and disadvantages in order to determine economic viability. In addition to the possible advantages from higher income and cost savings, these costs also include those of hardware, software, maintenance, and training.

- Increased ticket sales revenue, cost savings via less administrative work, and more money from higher customer happiness and participation are possible advantages. Nevertheless, in order to ascertain the economic viability, precise figures for these advantages must be computed and examined in a Cost-Benefit Analysis (CBA).

- The CBA depends on the selection of the discount rate and sensitivity parameters. Sensitivity factors of 0.9 for benefits and 1.1 for costs have been suggested, along with a 10% discount rate.

5.0 OBJECTIVE

The main purpose of the Event section in the NexScholar is to provide a user- friendly experience for users so that they can access event details, register for events, and allow organizers to submit and manage events.

6.0 SCOPE

1. Integration of a payment gateway for events that require payment.

2. Establishment of a notification system to inform admins about new event submissions from organizers.

SYSTEM BOUNDARIES

- **Event Data:** Indicate the kinds of event-related information that the database will hold, including event specifics (title, description, date, time, and location), participant and organiser data, and documents (such as agendas and flyers) connected to the event.

- **User Roles and Access Levels:** Specify the various user roles (such as administrators, event organisers, and participants) and their levels of database access. Administrators, for example, might have unrestricted access, but attendees can observe and sign up for events.

- **Event Registration and Ticketing:** Define the features related to the registration and ticketing process, such as how users can sign up for events, buy tickets, and keep track of their registrations.

- **Payment Processing:** Choose the payment gateways, transaction records, and payment status that will be managed within the database for processing payments.

7.0 PROJECT PLANNING

7.1 TIME TO PRODUCE THE SYSTEM

- Project Initiation: 1 week
- Background Study and Problem Identification: 2 weeks
- Feasibility Analysis and review: 3 weeks
- Work Packages for Enhancement: 3 weeks
- Testing and Implementation: 3 weeks
- Project Conclusion and Handover: 1-week
- Total days worked: 52 days

7.2 WORK BREAKDOWN STRUCTURE (WBS)

https://drive.google.com/file/d/1zZrx8BBHCylSq4jK6ULqKc_teW-QPk_0/view?usp=sharing

7.3 Gantt Chart

https://drive.google.com/file/d/1mQC_QIJ5Zzov9m2O3Tp9UIPFeF4PAJur/view?usp=sharing

8.0 REQUIREMENTS ANALYSIS (BASED FROM AS-IS ANALYSIS)

1. Current Business Process:

- **Event Registration:**

  - Users are unable to register for events on the NexScholar website.

  - The event registration UI is not user-friendly.

  - There is no way to record important event information while registering.

  - Lack of a secure way to store data about events.

- **Communication:**

  - Limited avenues of contact for registered users and event organizers.

  - No email feature or built-in message system for direct contact.

  - Facilitating the effective dissemination of information to attendees is a difficulty for organizers.

- **Payment Processing:**

  - There is no specific payment mechanism for events that require payment.

  - Users are unable to make online payments with Visa, MasterCard, PayPal, Credit Cards, TNG, GrabPay, and other ways.

  - Possible payment redirection to third websites, creating annoyance.

- **Reservation System:**

- Users are sent to external sites to register for events, which is inconvenient.

- The NexScholar website lacks a simplified reservation method.

- There is no direct sign-up procedure for users, which might contribute to user irritation.

● **Event Information Fields:**

- Insufficient fields for event organizers to provide vital event information.

- Incomplete event details may cause participant misunderstanding.

● **Admin Notification:**

- A lack of a systematic notification mechanism for administrators regarding new event submissions

. - Event requests may go ignored, leading approval processes to be delayed.

2. AS-IS Analysis Summary:

- The present system is deficient in key aspects for smooth event management and user involvement.

- The lack of a user-friendly UI and a simplified event registration procedure degrades the user experience.

- Communication breakdowns between organizers and attendees influence the overall success of event planning.

- The lack of a specialized payment channel restricts the accessibility and simplicity of making online payments.

- The event submission and approval processes are inefficient owing to the lack of an administrator notification mechanism.

8.1 CURRENT BUSINESS PROCESS (SCENARIOS, WORKFLOW)

1. Event Registration Workflow:

- The user goes to the event registration page.

    - The user encounters an unfriendly interface.

    - The user is requested to submit event information but encounters difficulties owing to insufficient instruction.

    - Inadequate validation and secure storage of submitted data.

2. Communication Scenario:

    - There are no direct communication routes between event organizers and registered users.

    - Information propagation is dependent on external communication channels.

    - Limited connection and involvement between organizers and participants.

3. Payment Processing Scenario:

- Users interested in fee-based activities experience difficulties completing online payments.

    - Possible payment forwarding to external websites.

    - Limited payment choices, which makes it difficult for users to pay.

4. Reservation System Scenario:

- Users are redirected to external sites for event registration.

- No direct sign-up process on the NexScholar website.

- Potential user frustration due to complex registration procedures.

5. Event Information Fields Scenario:

- Organizers face challenges in providing comprehensive event details.

- Limited fields for capturing crucial information, impacting the clarity of event descriptions.

6. Admin Notification Workflow:

- Lack of a systematic notification system for administrators.

- Event requests may go unnoticed, causing delays in the approval process.

- Inefficient handling of new event submissions.

9.0 TRANSACTION REQUIREMENT (DATA ENTRY, DATA UPDATE/DELETE, DATA QUERIES)

1. **Data Entry:**

   Event Registration

   - Users should be able to enter details for new events, including title, description, date, time, location, organizers, event website, and cost.
   - The system should validate and store this information securely in the database.

   User Registration

   - Users need to register for events, providing necessary details.
   - The system should verify user information and store it securely.

2. **Data Update/Delete:**

Event Editing

- Organizers should be able to update event information.
- Changes made by organizers should be validated and updated in the database.

Event Cancellation

- Organizers or administrators should be able to cancel events.
- Cancellation updates should be reflected in the system and communicated to registered users.

User Profile Updates

- Users should have the ability to update their profiles.
- The system must validate and securely update user profile information.

3. **Data Queries:**

Event Details

- Users should be able to query and view details of upcoming events.
- Queries could involve filtering events based on date, location, or organizer.

Participant Lists

- Organizers and administrators should be able to query and view lists of participants for specific events.

Financial Transactions

- Queries related to financial transactions, including ticket sales and payment status for paid events, should be available for administrators.

User Engagement Statistics

- Queries for user engagement statistics, such as event attendance history, could be useful for administrators.

4. **Transaction Security:**
   - All transactions, whether data entry, updates, or queries, should adhere to strict security standards.

- Encryption should be implemented for sensitive information, such as user data and financial transactions.

5. **Logging and Auditing:**
   - The system should maintain logs of all transactions for auditing purposes.
   - Detailed logs can aid in identifying and resolving issues, as well as ensuring accountability.

6. **Error Handling:**
   - Robust error handling mechanisms should be in place for all transactions.
   - Users should receive clear error messages, and administrators should have access to detailed error logs for troubleshooting.

10.0 BENEFIT AND SUMMARY OF PROPOSED SYSTEM

BENEFIT OF THE PROPOSED SYSTEM:

1. **Enhanced User Experience:** The proposed system will feature a user-friendly interface, making it easier for users to navigate, register for events, and interact with the platform seamlessly.

2. **Improved Communication:** Event organizers can communicate directly with registered users through email or an in-app messaging system, fostering better engagement and information dissemination.

3. **Efficient Event Booking:** The introduction of a reservation system eliminates the need for users to be redirected to external sites, streamlining the event booking process for a more user-centric experience.

4. **Secure and Convenient Payments:** Payment integration with multiple gateways, including PayPal, Credit Cards, TNG, GrabPay, ensures a secure and convenient transaction process for events that require payment.

5. **Streamlined Event Management:** The system provides an easy-to-use event submission process for organizers, reducing administrative workload and enhancing the efficiency of managing events.

SUMMARY OF THE PROPOSED SYSTEM:

The proposed system for NexScholar is a comprehensive solution to address the current challenges in the events booking process. By focusing on user experience, communication, payment integration and efficient event management, the system aims to create a seamless and user-friendly platform for both event organizers and participants.

The user-friendly interface ensures easy navigation, while the reservation system eliminates unnecessary redirects, simplifying the event booking process. Communication improvements facilitate better interaction between organizers and attendees, fostering a sense of community.

The integration of multiple payment gateways adds flexibility and convenience, catering to a wider audience with varied payment preferences. The streamlined event management process reduces the administrative burden, allowing organizers to focus on creating successful events.

In summary, the proposed system not only addresses the identified problems but also aims to elevate the overall user experience, efficiency, and effectiveness of the NexScholar platform in managing events and engaging its user base.

11.0 SUMMARY

The NexScholar project seeks to resolve issues in its event booking system by introducing comprehensive solutions. The primary objectives include improving the user experience, streamlining event management and incorporating secure online payment options. Proposed solutions encompass a user-friendly interface, enhanced communication features, payment integration, and the implementation of a reservation system.

Feasibility studies confirm the project's technical, operational, and economic viability. A detailed project plan outlines a 52-day timeline with specific work breakdowns and a Gantt chart for effective execution. The project's scope covers user interface enhancements, streamlined event submission processes, payment integration, and a notification system.

Requirements analysis delves into data entry, update/delete transactions, queries, security measures, and logging to ensure robust functionality. The proposed system promises

benefits, including an enhanced user experience, efficient communication, simplified event booking, secure payment options, and improved event management.

In conclusion, the NexScholar project aims to address current challenges while enhancing the overall efficiency and user engagement of the platform. The proposed system focuses on providing a seamless user experience, flexibility in payment methods, and simplified event management for both organizers and participants.