**Group Project Documentation   
 Software Architecture and Design**

***Mentor Booking Platform***

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**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| *Minh Dung* | *06 November 2024* | *Initial draft* | *1.0* |
| *Minh Dung* | *11 November 2024* | *Done* | *2.0* |

# **Context**

The **Mentor Booking** platform is a web-based service designed to connect students with mentors for project guidance and support. The platform facilitates the process of finding, booking, and collaborating with mentors who provide assistance on academic projects such as SWP391. Bookings are scheduled on a per-day basis, providing flexibility for both students and mentors.

The platform involves three main user groups: **students** who seek mentorship, **mentors** who offer their expertise, and **admins** who oversee the system's operations. It aims to create a streamlined, efficient, and secure environment for mentorship, feedback, and payment.

# **Problem**

Students often face difficulties in:

* Finding qualified and experienced mentors to assist with their academic or projects.
* Coordinating schedules between students and mentors for guidance.
* Managing payments, feedback, and communication with mentors efficiently.
* Mentors, on the other hand, face challenges in:
* Offering their services in a well-organized manner.
* Managing multiple bookings and availability efficiently.

Without a proper system, the process of mentor-student interaction can become uncoordinated, resulting in poor user experience, missed opportunities for mentorship, and an overall inefficient process.

# **Proposed solution**

To address these challenges, the platform will provide the following features:

## Mentor Discovery:

A searchable interface where students can browse mentor profiles based on expertise, availability, and reviews.

## Booking System:

A simplified booking system that allows students to book a mentor for a full day, based on mentor availability.

## Mentor Availability Management:

Mentors can set their available days and manage their schedules directly through the platform.

## Payment Integration:

The system will offer secure payment processing, with mentors able to withdraw their earnings after sessions are completed.

## Rating and Feedback System:

Students can rate and review mentors after each session to ensure transparency and quality control.

## Admin Management:

Admins will have access to a dashboard for managing users, resolving disputes, monitoring feedback, and ensuring the integrity of the platform.

# **Main actors**

## Student

* + Searches for mentors based on expertise and availability.
  + Books mentorship sessions by the day.
  + Provides feedback and ratings after each session.

## Mentor

* + Sets availability for specific days on the platform.
  + Accepts or rejects booking requests.
  + Provides guidance to students during booked sessions.
  + Manages earnings and booking history.

## Admin

* + Oversees all platform operations, including mentor verification and user management.
  + Handles payment disputes, cancellations, and session feedback.
  + Monitors the platform to ensure adherence to policies and a positive user experience.

# **Features**

* **Mentor Profile Browsing**: Students can explore mentor profiles based on subject matter expertise, ratings, reviews, and available dates.
* **Booking System**: Students can book mentorship by the day. Mentors receive booking requests and must confirm their availability to finalize the appointment.
* **Mentor Availability Management**: Mentors can update their available days and set daily booking limits to manage their workload efficiently.
* **Feedback and Rating**: After each session, students provide feedback, which is visible to future students. High-quality mentorship is encouraged through a transparent review system.
* **Secure Payment Gateway**: The platform includes secure payment processing to ensure students can pay and mentors can receive their earnings easily. Mentors can withdraw earnings after completed sessions.
* **Admin Dashboard**: The admin section allows administrators to verify mentors, handle disputes, manage payments, and monitor the overall performance and user experience of the platform.

# **Functional requirements**

## User Registration and Authentication

* Students, mentors, and admins can create accounts.
* Users must authenticate through email and password upon login.
* Admins can manage user roles and permissions.

## Profile Management

* Students and mentors can edit their profiles, including personal details, contact information, and profile pictures.
* Mentors can specify their areas of expertise, rates, and availability.
* Admins can view and manage all user profiles.

## Search and Browse Mentor Profiles

* Students can search for mentors based on expertise, ratings, and availability.
* A filtering system will allow students to narrow down search results (e.g., by subject, rating, or cost).

## Booking System

* Students can book mentors by selecting an available day from the mentor's calendar.
* Mentors must confirm or reject booking requests within a set timeframe.
* Students can view their booking history and upcoming bookings.

## Mentor Availability Management

* Mentors can set their available days for booking.
* Mentors can limit the number of bookings per day.
* Mentors can update or cancel their availability at any time (with conditions).

## Payment Processing

* The system processes payments from students at the time of booking.
* Mentors can withdraw their earnings after sessions are completed.
* The platform applies fees (e.g., commission) to transactions.

## Feedback and Rating

* After each session, students can rate and leave feedback for the mentor.
* Ratings and reviews are visible on the mentor's profile.
* Admins can review and act upon complaints or disputes.

## Admin Dashboard

* Admins can manage all users, including verifying mentors.
* Admins can oversee bookings, resolve disputes, and handle cancellations.
* Admins can review platform performance metrics and monitor feedback.

# **Non-Functional requirements**

## Performance

* The platform should handle at least 1000 simultaneous users with minimal latency.
* Response times for page loading and booking actions should be less than 3 seconds under normal conditions

## Scalability

* The system must support scaling up as the user base grows, with elastic infrastructure to handle more users and transactions as needed.

## Security

* All user data must be encrypted, especially sensitive information like passwords and payment details.
* The system must comply with data privacy regulations (e.g., GDPR).
* Payment processing should be done through secure and reliable third-party gateways.

## Reliability and Availability

* The platform must maintain 99.9% uptime.
* Backup and recovery systems must be in place to protect against data loss and system failures.

## Usability

* The user interface must be intuitive and easy to navigate for both students and mentors.
* The platform should be accessible on both desktop and mobile devices with a responsive design.

## Maintainability

* The system codebase should be well-documented for ease of future maintenance and updates.
* The system should allow easy updates and patches without causing downtime.

## Localization

* The platform must support multilingual options, starting with English and Vietnamese.
* Date and time formats should adapt to the user's locale.

## Compliance

* The system must comply with local laws, such as tax regulations and data protection laws in relevant regions.

## Logging and Monitoring

* All transactions, bookings, and changes to the system must be logged for audit purposes.
* The system should have real-time monitoring for identifying performance issues and security threats.

# **Business rules**

## Booking Only by Day:

Bookings are restricted to full-day sessions. Students cannot book specific time slots; mentors offer their availability on a daily basis.

## Mentor Confirmation Required:

Once a student submits a booking request, mentors must confirm or decline the booking before it is finalized.

## Cancellation Policy:

Both students and mentors must comply with a cancellation policy. Cancellations must be made within a predefined window, or penalties may apply.

## Payment and Withdrawal:

Payments are processed when a booking is confirmed. Mentors can only withdraw their earnings after the session is completed and feedback is provided.

## Admin Verification:

All mentors must go through a verification process managed by admins before they can appear on the platform and accept bookings.

## Feedback Review:

Feedback from students is regularly monitored by admins. Continuous poor feedback may result in a mentor being temporarily suspended or removed from the platform.

# **Conclusion**

The Mentor Booking platform offers a comprehensive solution for students seeking mentorship and mentors offering their expertise. With an efficient booking system, clear business rules, and robust user management, the platform aims to ensure a high-quality mentorship experience. The system’s features are designed to make the process of finding, booking, and collaborating with mentors easy, transparent, and secure for all parties involved.