Booth Management System

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Content

Introduction

This project focuses on developing a "Booth Management System" (BMS) to simplify the management and booking of exhibition booths at events such as trade shows, fairs, and markets. The system is designed to help organizers manage booth bookings efficiently and provide vendors with an easy way to search for and book available booths.

The booth management system will support different users, including general users, booth managers, and event administrators, making the platform easy for everyone to use. The BMS will enable vendors to search for available booths, make bookings, and process secure payments.

The BMS is designed to meet the needs of stakeholders in trade shows and fairs. Organizers create designated booth areas for vendors to display and sell products. The BMS allows organizers to specify booth availability, size, and location while enabling booth managers to manage bookings and event details efficiently.

Business Context

The BMS is designed to meet the needs of stakeholders in trade shows and fairs. Organizers create designated booth areas for vendors to display and sell products. The BMS allows organizers to specify booth availability, size, and location while enabling booth managers to manage bookings and event details efficiently.

End users, including product owners and vendors, will be able to view available booths, access relevant information, and book the desired space. The system facilitates user registration and identity verification to ensure bookings are valid while supporting multiple payment channels for smooth transactions.

The BMS prioritizes user-friendliness to meet the diverse needs of its users. With an intuitive interface, features such as location-based booth searches, detailed booth information, and reporting tools for booth managers, the BMS enhances navigation and usability, improving booth management efficiency and supporting a successful trade show experience.

The main mechanism of the platform

1. **Booth Management System:** This system is used to manage booths at trade shows or flea markets. Users can reserve a booth. View information about the booth and pay through the system

2. **User :**
   ○ General user: The user can register, view available booths, reserve a booth, and pay.

   ○ Booth manager: Manage booth details (price, size, facility), take care of bookings, and create booking reports.

   ○ Event organizer: Be the person who communicates with the booth manager himself.

3. **System capabilities :**
   ○ Supports many groups of users with different needs.

   ○ The system must be available 24 hours a day, supporting more than 10,000 booth reservations at the same time.

   ○ Supports Thai and English languages.

   ○ The slip must be uploaded before the booking can be approved.

Functional Requirements

General User

R1: The system shall enable users to view a list of available booths.

R2: The system shall allow users to register by providing their personal details, including their identification number, and verify their identity with the Ministry of Interior (MOI).

R3: The system shall allow users to select a booth directly from the event venue map.

R4: The system shall allow users to book a booth directly from the event venue map.

R5: The system shall enable users to make payments for booth bookings via credit card, TrueMoney Wallet, and bank transfer.

R6: The system shall allow users to submit a booking request for a booth.

R7: The system shall allow users to upload proof of payment via bank transfer when paying.

Booth Manager

R8: The system shall send notifications to booth managers when a new booking request is submitted.

R9: The system shall allow booth managers to approve or reject booking requests.

R10: The system shall allow the Booth Manager to manage booth details, including setting the price, size, and available facilities for each booth.

R11: The system shall allow the Booth Manager to oversee booth bookings, including viewing and managing booking statuses.

R12: The system shall enable the Booth Manager to generate detailed booking reports that include information on booth pricing, sizes, facilities, and booking statuses.

R13: The system shall allow administrators to manage user accounts, including suspension or deletion of accounts.

R14: The system shall notify the Booth Manager of any conflicts or issues related to booth bookings, such as double bookings or payment discrepancies.

Event Organizer

R15: The system shall allow event organizers to send announcements and updates to booth managers and registered users.

R16: The system shall allow event organizers to manage communication with booth managers through an integrated messaging system.

R17: The system shall allow event organizers to create and manage event schedules, including setting up times for specific

R18: The system shall provide event organizers with a dashboard to monitor booth bookings and user activity.

R19: The system shall allow the Event Organizer to schedule meetings or discussions with the Booth Manager and track the outcomes of these interactions.

R20: The system shall enable the Event Organizer to collaborate with the Booth Manager in finalizing booth allocations and ensuring that all requirements for the event are met.

Payment Gateway

R21: The payment gateway shall send transaction confirmation details to the user upon successful payment, including the transaction ID, amount paid, and payment method used.

R22: The payment gateway shall send detailed payment information, including a breakdown of costs (booth price, taxes, and fees), to both the user and the system for record-keeping.

Non-Functional Requirements

General User

RNF1: The system should provide a responsive user interface that works well on both desktop and mobile devices, making it easy for users to register, view available booths, reserve a booth, and make payments smoothly.

RNF2: The system should include a secure process for recovering passwords, so users can easily regain access if they forget their login credentials.

RNF3: The system should keep user session data active for at least 30 minutes of inactivity, allowing users to complete their actions without being automatically logged out.

RNF4: The system should have a fast response time, with page loads taking no more than 2 seconds under normal conditions, to ensure a seamless user experience.

Booth Manager

RNF5: The system should offer a user-friendly interface with intuitive navigation and clear instructions, enabling booth managers to efficiently manage booth details, and bookings, and generate reports.

RNF6: The system should integrate with third-party APIs for payment processing and identity verification, helping booth managers manage payments and verify booth tenants' identities.

RNF7: The system should ensure report generation is completed within a maximum of 5 seconds, regardless of the size of the data set, providing booth managers with quick access to detailed booking, payment, and user activity reports.

Event Organizer

RNF8: The system should offer a responsive user interface for the Event Organizer, accessible on both desktop and mobile devices, facilitating easy communication and collaboration with the Booth Manager.

RNF9: The system should ensure secure communication between the Event Organizer and the Booth Manager, with data encryption to protect sensitive information.

RNF10: The system should have a continuous operation with a minimum uptime of 99.5%, allowing the Event Organizer to manage event logistics and communicate with the Booth Manager without any disruptions.

Identifying Actors

1. **Vendor/User**
   - **Role**: The Vendor or User is an individual or business entity looking to participate in an event by booking a booth.

   - **Responsibilities**:
     - Register on the BMS platform by providing personal details and verifying identity through integration with the Ministry of Interior.
     - Search for available booths based on location, size, and date.
     - View booth details, including price, size, location, and available amenities.
     - Select and book a booth through the event venue map.
     - Submit payment for booth bookings via supported payment methods (credit card, TrueMoney Wallet, bank transfer).
     - Upload proof of payment when required.
     - View booking status, modify or cancel bookings, and manage personal information.

2. **Booth Manager**
   - **Role**: The Booth Manager is responsible for overseeing the availability and booking of booths at the event.

   - **Responsibilities**:
     - Manage booth availability by adding, editing, or removing booths from the system.
     - Monitor and approve or reject booking requests submitted by vendors.
     - Receive notifications when new booking requests are submitted.
     - Generate reports detailing booth bookings, payments received, and user activity.
     - Ensure that all booth-related information is up-to-date and accurate.

3. **Event Organizer**
   - **Role**: The Event Organizer oversees the entire event, including the management of the Booth Management System.
   - **Responsibilities**:
     - Set up and configure the BMS for a specific event, including uploading venue maps and setting booth prices.
     - Monitor system performance and ensure it meets the needs of the event.
     - Coordinate with Booth Managers to ensure smooth booth booking processes.
     - Access and analyze reports generated by Booth Managers to make informed decisions about the event.
     - Handle any escalations related to booth bookings or vendor issues.

4. Payment Gateway

- **Role**: The Payment Gateway facilitates secure and efficient online transactions, acting as the intermediary between the system and financial institutions for processing payments.
- **Responsibilities**:

• Process Payments: Handle payments made by users via credit card, TrueMoney Wallet, or bank transfer.

• Authenticate Transactions: Verify and authenticate payment details to ensure that the user has sufficient funds and that the payment is legitimate.

• Encrypt Sensitive Data: Protect user payment information by encrypting it before transmitting data to banks or credit card networks.

• Send Payment Confirmation: Notify the system and the user once a payment has been successfully processed or declined.

• Facilitate Refunds and Chargebacks: Manage any payment reversals, refunds, or chargeback requests initiated by users or administrators.

• Monitor for Fraud: Implement fraud detection measures to identify suspicious transactions and prevent unauthorized payments.

• Generate Transaction Reports: Provide detailed transaction reports to the system for bookkeeping and reconciliation purposes.

Conclusion

Booth Management Systems (BMS) are changing the way exhibition booths are managed and booked for events such as trade shows and expos. This easy-to-use platform allows vendors to search, book, and pay for booths securely. For booth managers, BMSs simplify the process of updating details, managing bookings, and generating reports, thus reducing errors and increasing efficiency. Event organizers benefit from comprehensive tools to manage events, track progress, and address issues effectively. With its capacity for high volumes of bookings, multi-language support, and strong security measures, the BMS sets a new standard for efficient and reliable event management.

Use case diagram

Booth management system

Register
<<include>> ID verification

View available booths

Select a booth
<<extend>> Send Reminder

book a booth

<<extend>> Send Confirmation Email

Make payments

<<include>> Upload proof of payment

<<extend>> General Invoice

Submit booking request

Manage booth details
<<include>> Receive booking notifications

Approve or reject booking requests
<<extend>> Manage user accounts

Generate reports
<<include>> Oversee booth bookings

Handle booking conflicts

Send announcements

Manage event schedule

Communicate with booth managers
extend Schedule meetings

Monitor booth bookings and event activity

General User

Booth Manager

Event Organizer

Payment Gateway

Diagram key

Actor

use case

Relationship

Link of Use case diagram : <u>Use case diagram</u>

Use case narrative

Use case 1 (General user)

Use Case Name	Book a Booth
Goal in Context	Allow a General User to book a booth for an event or market.
Primary Actor	General User
Secondary Actor	Booth Manager, System
Precondition	- The user must be registered and logged in. - Available booths should be listed. - The user's ID verification should be completed.
Trigger	The General User selects a booth from the available list and proceeds with booking.
Scenario (Typical Flows of Events)	1. The user logs into the system. 2. The user browses the available booths. 3. The user selects a booth. 4. The system asks the user to confirm the booking details. 5. The user confirms, and the system sends a notification to the Booth Manager. 6. The Booth Manager reviews and approves the request. 7. The system confirms the booking and notifies the General User.

Exceptions	● The booth is already booked (The system will show an error). ● The user fails ID verification (The system will block further actions). ● The payment is unsuccessful (The user is prompted to retry).
Post-condition	The booth is successfully booked, and the General User is notified of their booking confirmation.

Use case 2 (Booth manager)

| Use Case Name	Manage Booth Details
Goal in Context	Allow a Booth Manager to manage and edit booth details, such as availability, pricing, size, and amenities.
Primary Actor	Booth Manager
Secondary Actor	General User, System
Precondition	The Booth Manager must be logged in and have access to the admin panel.
Trigger	The Booth Manager navigates to the booth management section.
Scenario (Typical Flows of Events)	1. The Booth Manager logs into the system. 2. The manager navigates to the booth management section. 3. The manager views a list of booths. 4. The manager selects a booth and edits details like price, size, and availability. 5. The system updates the booth information in real time. 6. The manager saves the changes, and the system confirms the update.

Exceptions	• The system fails to update the details due to server issues (The system prompts the manager to retry). • The manager tries to update details for a booked booth (The system prevents changes and notifies the manager).
Post-condition	The booth details are updated and reflected in the system for General Users to view.

Use case 3 (General User)

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Use Case Name	Make Payments
Goal in Context	Allow a General User to make payments for a booked booth through multiple payment methods.
Primary Actor	General User
Secondary Actor	Payment Gateway, Booth Manager
Precondition	• The booth booking process must be complete. • The user should have payment information ready. • The system should display the correct invoice.
Trigger	The user initiates the payment process after booking a booth.

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Scenario (Typical Flows of Events)	1. The General User selects the "Make Payment" option. 2. The system presents the payment options (credit card, TrueMoney wallet, bank transfer). 3. The user selects a preferred payment method. 4. The user enters payment details and confirms the payment. 5. The system processes the payment through the Payment Gateway. 6. The system confirms successful payment and sends a notification to the Booth Manager. 7. The user receives a confirmation email.
Exceptions	● The payment fails (The system notifies the user and prompts to retry). ● The user provides incorrect payment details (The system requests corrections).
Post-condition	Payment is successfully completed, and the booth is confirmed for the user.

Data flow diagram Level 0
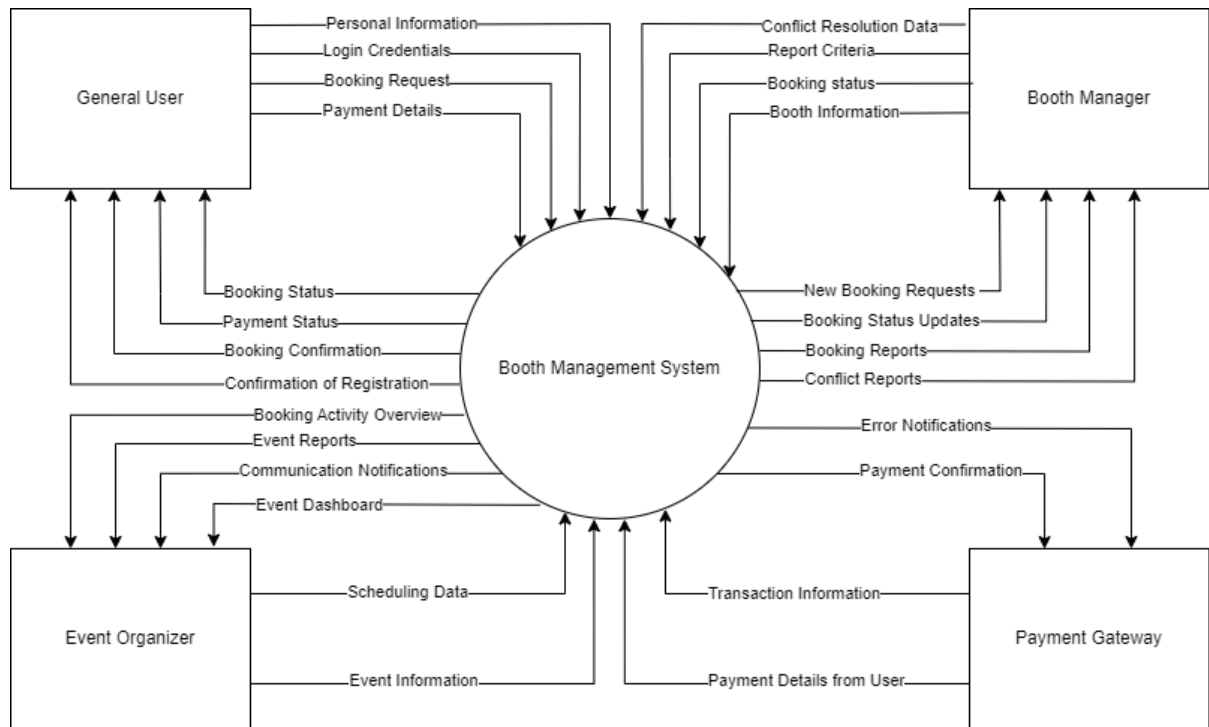
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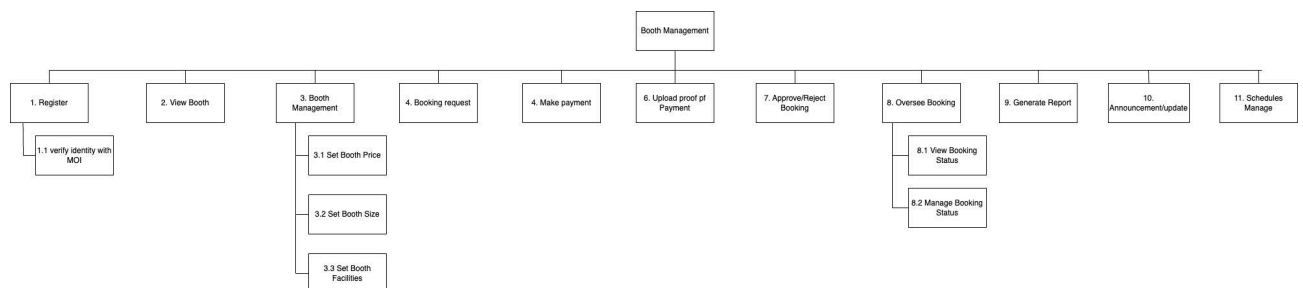
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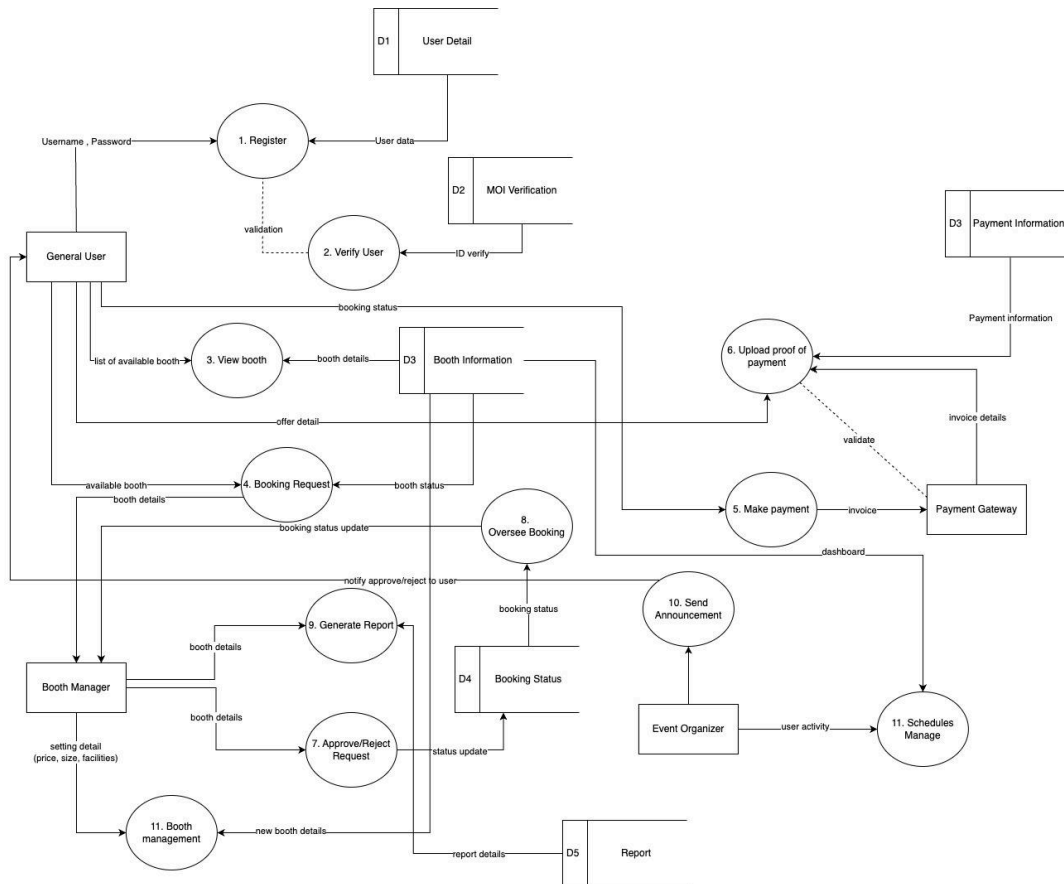
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