




System Design and Testing for StayHub

Task 1: Description of the project:

StayHub is a short-term rental platform connecting hosts who list properties with guests seeking accommodations. Hosts create and manage listings, while guests book stays through the platform. The StayHub platform is maintained by internal administrators, ensuring system stability and security. The executive team sets strategic objectives, while the marketing team drives user acquisition. A third-party payment processing partner handles financial transactions, and the customer support team resolves user issues. Various use cases cover creating listings, booking accommodations, managing reservations, processing payments, reviewing experiences, resolving disputes, and executing advertising campaigns.

Task 2: Description of the Stakeholders and Use Cases: Queries from AI Tool (ChatGPT)


 <https://chatgpt.com/c/5d2834f7-554e-4612-b491-d69954da6073> 

atGPT 

i need some Stakeholders and use cases for an online marketplace that connects people who want to rent out their property with people who are looking for accommodations, typically for short stays. This system offers hosts a relatively easy way to earn some income from their property give 'StayHub' as the name of my project

Cancel

Send

 Sure! Let's say your project is called "StayHub," a similar platform use cases for StayHub, along with their respective stakeholders:

Stakeholders

• **Hosts**

Type: External Operational Stakeholder

Role: Adding and updating property listings on StayHub is the responsibility of hosts, who are external users. They are essential in providing accurate and enticing information (price, descriptions, and photographs) to draw customers. Hosts use the platform directly to handle reservations and ensure a satisfying stay for their guests.



• **Guests**

Type: External Operational Stakeholder

Role: Guests are external users who browse, reserve, and stay at properties listed on StayHub. They rely on the platform to find and choose suitable accommodations based on the information provided by hosts. By using the platform's services to book lodging, guests contribute to its success.

• **StayHub Platform Administrators**

Type: Internal Operational Stakeholder

 Message ChatGPT 

ChatGPT can make mistakes. Check important info.

and guests.

- **StayHub Executive Team**

Type: Internal Executive Stakeholder

Role: The leadership team sets the strategic objectives and goals for StayHub's IT solutions. They make high-level decisions regarding feature development, platform expansion, and business partnerships. The executive team aligns the IT solutions with broader company goals, ensuring innovation and sustainability in the short-term rental market.

Use Cases

1. Use Case: Creating a Listing

- **Actor:** Host

- **Description:** The host creates a new listing by entering details such as property type, location, amenities, house rules, pricing, and uploading pictures.

2. Use Case: Booking Accommodation

- **Actor:** Guest

- **Description:** The guest searches for accommodations, reviews listings, selects desired dates, and books a property.

3. Use Case: Managing Bookings

- **Actor:** Host

- **Description:** The host receives booking requests, communicates with guests, confirms reservations, and manages availability.

4. Use Case: Claiming Insurance

- **Actor:** Host

- **Description:** In case of guest injury or property damage, the host initiates an insurance claim



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- **Description:** In case of guest injury or property damage, the host initiates an insurance claim through StayHub's Host Protection Insurance.

5. **Use Case: Administering Insurance Claims**

- **Actor:** StayHub Insurance Team
- **Description:** StayHub assesses insurance claims submitted by hosts, verifies details, and processes claims accordingly.

6. **Use Case: Platform Maintenance**

- **Actor:** StayHub Platform Administrators
- **Description:** Administrators maintain and update the StayHub platform, ensuring system stability, security, and performance.

7. **Use Case: Reviewing Guests**

- **Actor:** Host
- **Description:** After a guest's stay, the host provides a review of the guest, detailing their experience and any issues encountered.

8. **Use Case: Reviewing Hosts**

- **Actor:** Guest
- **Description:** After their stay, the guest provides a review of the host and the property, sharing their experience and feedback on the accommodation.

9. **Use Case: Resolving Disputes**

- **Actor:** StayHub Support Team
- **Description:** When a dispute arises between a host and a guest, the StayHub Support Team investigates the issue, mediates, and provides a resolution based on platform policies.

10. **Use Case: Enhancing Listings**

- **Actor:** Host
- **Description:** The host updates existing listings by adding new photos, revising descriptions, updating pricing, and modifying availability to attract more guests.



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Give more stake holders and use cases



Certainly! Here are additional stakeholders and use cases for the StayHub project:

Additional Stakeholders

- **Cleaning and Maintenance Providers**

Type: External Operational Stakeholder

Role: External service providers responsible for cleaning and maintaining properties listed on StayHub. They ensure that properties are in excellent condition before guests arrive.

- **Payment Processing Partner**

Type: External Operational Stakeholder

Role: Third-party service responsible for handling financial transactions on StayHub, including payments from guests and disbursements to hosts.

- **Customer Support Team**

Type: Internal Operational Stakeholder

Role: Internal team providing assistance to both hosts and guests regarding issues with bookings, listings, payments, and other inquiries.

- **Marketing Team**

Type: Internal Operational Stakeholder

Role: Internal team responsible for promoting StayHub, managing advertising campaigns, partnerships, and overall brand strategy to attract both hosts and guests.

- **Legal and Compliance Team**

Type: Internal Operational Stakeholder



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Additional Use Cases

11. Use Case: Scheduling Cleaning Services

- **Actor:** Host
- **Description:** The host schedules cleaning services for their property through StayHub, ensuring the property is cleaned between guest stays.

12. Use Case: Processing Payments

- **Actor:** Payment Processing Partner
- **Description:** The payment processing partner handles the financial transactions when guests make bookings and ensures funds are transferred to hosts after guest check-in.

13. Use Case: Resolving Payment Issues

- **Actor:** Customer Support Team
- **Description:** The customer support team assists hosts and guests in resolving payment-related issues, such as refunds, payment failures, or discrepancies.

14. Use Case: Managing Advertising Campaigns

- **Actor:** Marketing Team
- **Description:** The marketing team creates and manages advertising campaigns to promote StayHub and attract new hosts and guests to the platform.

15. Use Case: Handling Legal Disputes

- **Actor:** Legal and Compliance Team
- **Description:** The legal and compliance team addresses legal disputes involving hosts, guests, or third parties, ensuring that StayHub's policies are upheld and legal risks are mitigated.

16. Use Case: Ensuring Data Privacy

- **Actor:** Legal and Compliance Team
- **Description:** The legal and compliance team ensures that StayHub complies with data privacy



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StayHub Platform Administrators

Type: Internal Operational Stakeholder

Role: Administrators are internal users responsible for overseeing and maintaining the platform's technical infrastructure. They handle platform security, database maintenance, server management, and other system operations. Administrators ensure the platform's reliability and efficiency for hosts and guests.

StayHub Executive Team

Type: Internal Executive Stakeholder

Role: The leadership team sets the strategic objectives and goals for StayHub's IT solutions. They make high-level decisions regarding feature development, platform expansion, and business partnerships. The executive team aligns the IT solutions with broader company goals, ensuring innovation and sustainability in the short-term rental market.

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Type: External Operational Stakeholder

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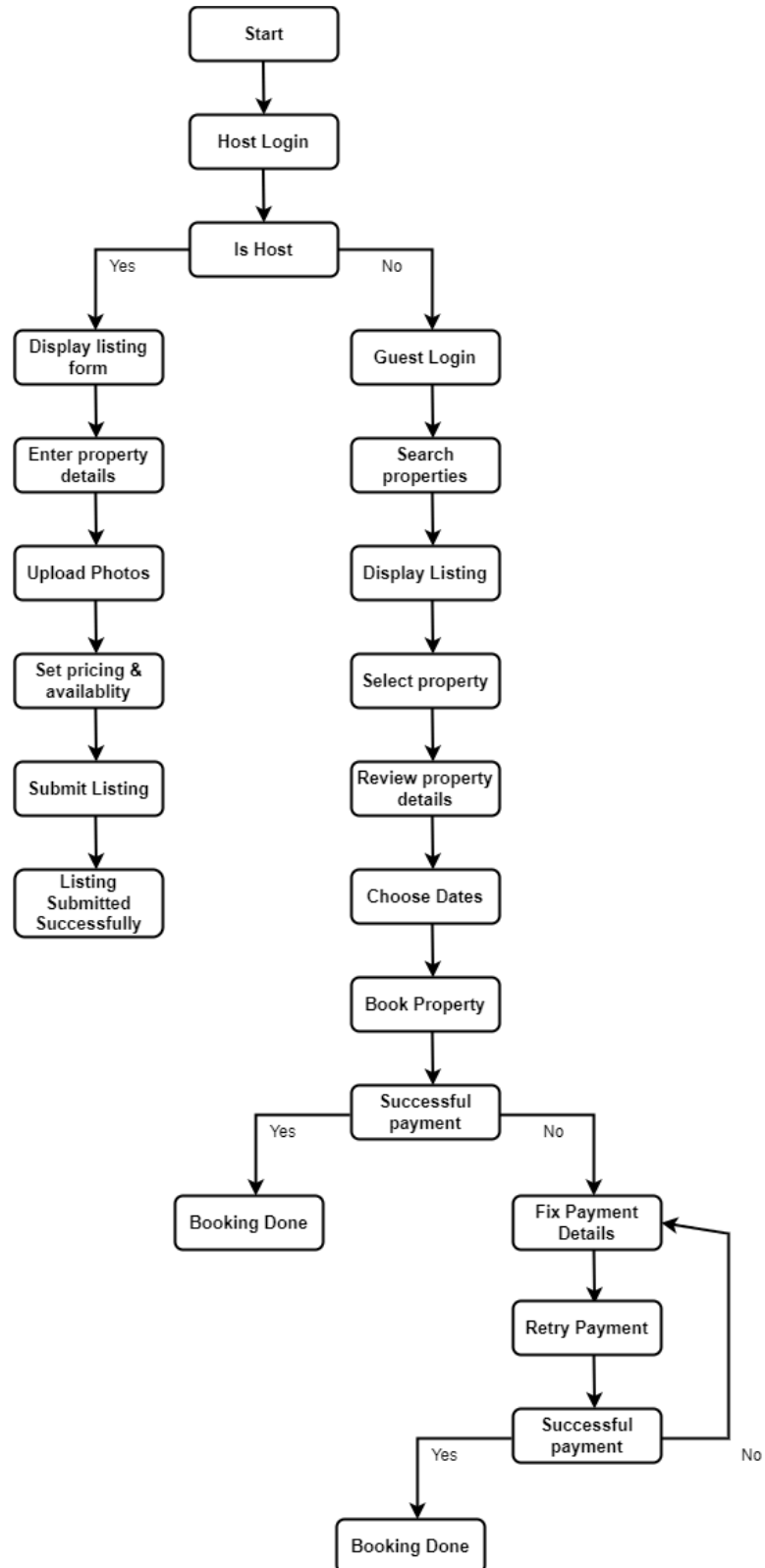
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Actor: Marketing Team

Description: The marketing team creates and manages advertising campaigns to promote StayHub and attract new hosts and guests to the platform.

Task 3: Activity Diagram for this project



Task 4: Sequence Diagram

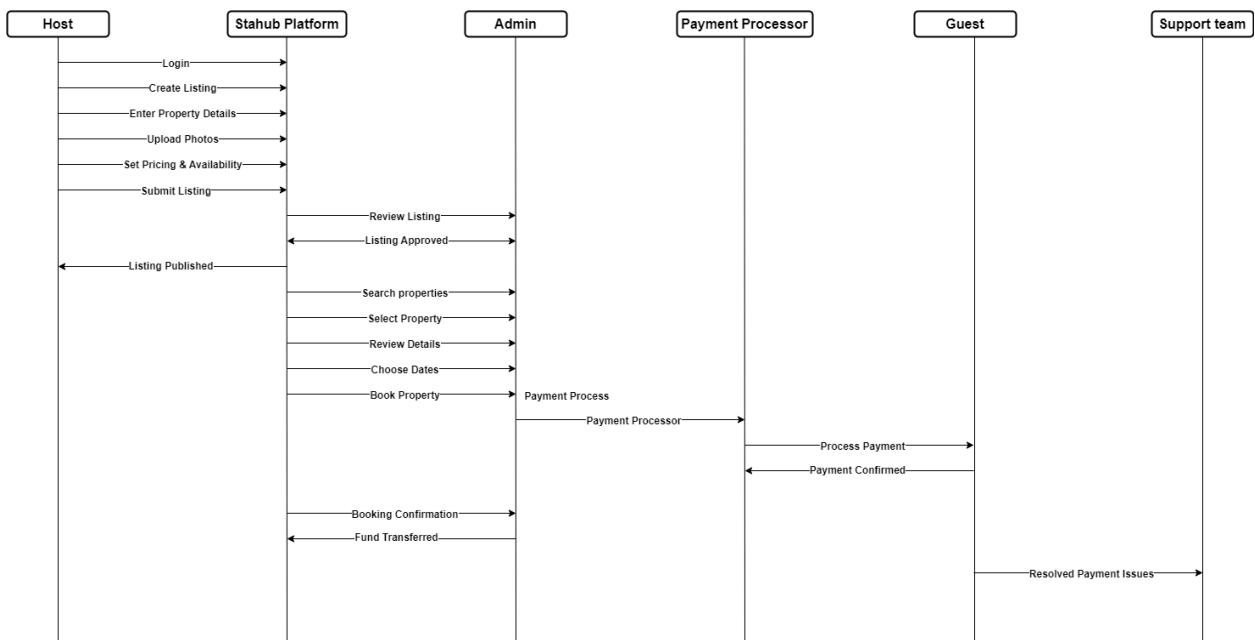


Figure 1: Activity Diagram

Task 5: Test Plans

Test Plan 1: Host Login

Description: Verify host login functionality.

Test Data:

- Username: host1

Password: password123

- Expected Output:
- Successful login and redirect to host dashboard.

Test Plan 2: Guest Login

Description: Verify guest login functionality.

Test Data:

- Username: guest1

Password: password123

- Expected Output:
- Successful login and redirect to guest homepage.

Test Plan 3: Create Listing

Description: Verify host can create a new property listing.

Test Data:

- Property Details: Type: Apartment, Location: New York, Amenities: WiFi, Pool
- Photos: photo1.jpg, photo2.jpg
- Pricing: \$100/night

Availability: June 1, 2024 - June 30, 2024

- Expected Output:
- Listing created successfully with a unique listing ID.

Test Plan 4: Search Properties

Description: Verify guest can search for properties.

Test Data:

- Location: New York

Dates: June 1, 2024 - June 10, 2024

- Expected Output:
- List of available properties displayed matching the criteria.

Test Plan 5: Booking Accommodation

Description: Verify guest can book a property.

Test Data:

- Property ID: 101
- Dates: June 5, 2024 - June 10, 2024

Payment Details: Credit Card: 4111111111111111, Expiry: 12/25, CVV: 123

- Expected Output:
- Booking confirmed, payment processed, and confirmation email sent.

Test Plan 6: Payment Processing

Description: Verify payment processing functionality.

Test Data:

- Payment Details: Credit Card: 4111111111111111, Expiry: 12/25, CVV: 123

Amount: \$500

- Expected Output:
- Payment processed successfully and transaction recorded.

Test Plan 7: Review Property

Description: Verify guest can review a property.

Test Data:

- Booking ID: 501

Review: Rating: 5 stars, Comments: "Great stay!"

- Expected Output:
- Review submitted successfully and displayed on property page.

Test Plan 8: Host Communication

Description: Verify host can communicate with guests.

Test Data:

- Booking ID: 501

Message: "Welcome to our property! Let us know if you need anything."

- Expected Output:
- Message sent successfully and displayed in guest's message inbox.

Test Plan 9: Update Listing

Description: Verify host can update an existing listing.

Test Data:

- Listing ID: 101

Updated Details: Pricing: \$120/night, Availability: June 15, 2024 - July 15, 2024

- Expected Output:
- Listing updated successfully with new details.

Test Plan 10: Cancel Booking

Description: Verify guests can cancel a booking.

Test Data:

Booking ID: 501

- Expected Output:
- The booking was canceled successfully and refund was processed if applicable.

Test Plan 11: Admin Login

Description: Verify platform admin login functionality.

Test Data:

- Username: admin

Password: adminPass123

- Expected Output:
- Successful login and redirect to admin dashboard.

Task 7 :

1. Description

The task was to create a comprehensive understanding of the StayHub platform, including stakeholder identification, use case descriptions, activity and sequence diagrams, and test plans. The assignment required integrating various aspects of system design and testing into a cohesive document.

2. Feelings

Initially, I felt a mix of excitement and apprehension. The excitement stemmed from the opportunity to work on a complex system design task, while the apprehension was due to the potential challenges in ensuring all elements were accurately and comprehensively addressed. As I progressed, the initial apprehension transformed into a sense of accomplishment as each component of the assignment was completed.

3. Evaluation

Several aspects of the assignment went well:

- Stakeholder Identification: Clearly defined roles and responsibilities for each stakeholder.
- Use Case Descriptions: Detailed and specific use cases that provided clear user interactions with the system.
- Sequence Diagrams: Accurate representation of interactions between actors and the system.

However, there were challenges:

- Activity Diagram: Initially provided an incorrect representation, which needed refinement.
- Time Management: Balancing the detailed requirements with the available time was challenging.

4. Analysis

The initial error in the activity diagram highlighted the importance of double-checking work before submission. By breaking down the assignment into smaller, manageable tasks, I was able to focus on each component without feeling overwhelmed.

Collaboration tools and systematic planning played a crucial role in ensuring each part of the assignment was completed accurately.

5. Conclusion

Reflecting on this experience, it's clear that thorough planning and iterative review are essential. The initial mistake in the activity diagram was a learning opportunity that emphasized the need for careful review. Overall, the action plan was effective but could have been more detailed regarding the time allocation for each task.

6. Action Plan

To improve future assignments, I plan to:

- **Allocate Time for Review:** Dedicate specific time slots for reviewing each component to catch errors early.
- **Detailed Planning:** Create a more detailed action plan with clear milestones and deadlines for each task.
- **Seek Feedback:** Incorporate peer reviews to gain different perspectives and catch potential mistakes.

Reflective Summary

Using Gibbs' Reflective Cycle helped me critically evaluate my approach to this assignment. While the action plan was generally effective, the experience underscored the need for meticulous review and detailed planning. By incorporating these lessons into future assignments, I can enhance the quality and efficiency of my work.