Case Study

Spring Breaks ‘R’ Us (SBRU) is an online travel service that books spring break trips to resorts for college students. Students have booked spring break trips for decades, but changes in technology have transformed the travel business in recent years. SBRU moved away from having campus reps with posted fliers and moved to the Web early on. The basic idea is to get a group of students to book a room at a resort for one of the traditional spring break weeks. SBRU contracts with dozens of resorts in key spring break destinations like Florida, Texas, the Caribbean, and Mexico. Its Website shows information on each resort and includes prices, available rooms, and special features. Students can research and book a room, enter contract information, and pay deposits and final payments through the system. SBRU provides updated booking information, resort information updates, and travel information for booked students when they log into the site.

The resorts also need access to information from SBRU. They need to know about their bookings for each week, the room types that are booked, and so forth. Before the spring break booking season starts, they need to enter information on their resorts, including prices and special features. Resorts need to be paid by SBRU for the bookings, and they need to be able to report and collect for damages caused by spring breakers during their stay.

PART 1

SBRU has recently decided to upgrade its system to provide social networking features for students. It is currently researching possibilities and collection information from prospective customers about desirable features and functions. From the business standpoint, the idea is to increase bookings by enhancing the experience before, during, and after the trip.

1. **Who are the stakeholders for SBRU? For each type of stakeholder, what aspects of the SBRU booking system are of particular interest?**

Few stakeholders of SBRU are:

**1. College Students:** Use the SBRU system for browsing the resorts and its availability, facilities, price, booking and tracking their booking confirmation etc. social networking features, students will be interested in the ability to connect with other students who are booking trips to the same resort, share information about the resort, and plan activities together.

**2. Resorts:** Partners with SBRU and posts the information about the number of rooms available in their resort, its price and features.

**3. SBRU Employees:** For maintaining and updating the booking system, providing customer support to students and resorts, and tracking monthly bookings through the site, testing the efficiency and functionality of the system.

**4. Investors:** Investors of SBRU are interested in the company's financial performance and growth potential. They would want to know the number of bookings made through SBRU, the revenue generated by the company, and the company's market share in the spring break travel industry.

**5. Advertising partners:** SBRU may partner with companies to advertise their products or services to college students booking spring break trips. Advertising partners are interested in the number of bookings made through SBRU and the demographic information of SBRU's customers.

1. **What are the main functional requirements for the major subsystems (i.e. resort relations, student booking, accounting and finance, and social networking)?**

Functional Requirements:

1. **Resort Relations:**

* Ability to add, update, delete resort room details including, availability dates, number of beds, facilities, surrounding views, number of persons that it can accommodate, rules and regulations, pricing etc.
* Report damages caused by the students.
* Collect money for damages caused by the students.
* Should be able to track past bookings.

1. **Student Booking:** 
   * Should be able to browse resorts with available rooms, its price, and facilities.
   * Should be able to book rooms in the resort.
   * Should be able to make payment for the bookings.
   * Should be able to communicate with customer care in case of any issues related to bookings, confirmed bookings, making payments, about the resort etc.
   * Canceling the confirmed bookings.
2. **Accounting and Finance:**
   * Should be able to generate monthly, quarterly, and yearly reports for resort bookings through SBRU.
   * Generate booking invoice for student booking confirmation.
   * Generate invoice for payment settlements to resort.
   * Generate penalty invoices for the damages made by students.
3. **Social Networking:** 
   * Should be able to communicate with other students who booked the same resort on same days.
   * Should be able to share pictures with other students who booked the resort on the same days.
   * Should be able to plan and create custom events together on the networking platform.
   * Should be able to RSVP to resort events.
   * Should be able to like, and comment on posts shared by other students.
   * Should be able to post pictures taken suring their stay at resort and tag other students on posts.
4. **Describe some usability requirements for students, booking interactions, and social networking interactions.**

**Usability Requirements:**

1. **Students:** 
   * Getting notifications about the confirmation of the booking and any changes to booking *on the application and to mobile via SMS.*
   * Should be able to make payments with *security and faster turnaround time*.
2. **Booking Interactions:** 
   * Making *Cancellation policy* available on the application which includes clear rules and procedures for canceling bookings, fees, penalties and refunds.
3. **Social Networking:**
   * Users should be able to access the networking platform easily *on phone, tab, laptop*.
   * Students should be able to search other students with different *filters like gender, location, age* etc.
4. **What are some security requirements? Is there any reason why students in Europe, Asia or other locations could not book rooms through SBRU? What issues might be anticipated?**

**1. Authentication:** Users should be required to authenticate themselves with a unique identifier (such as a username or email address) and a password, to prevent unauthorized access to the system.

**2. Authorization:** Users should only have access to the features and data that they are authorized to view and use, based on their roles and permissions.

**3. Data encryption:** Sensitive data such as passwords, user information, and financial information should be encrypted to protect against unauthorized access.

There are no reasons why students across different locations shouldn’t be able to book resorts. But payment authorization between foreign banks might be one of the issues they might face when booking rooms through SBRU.

1. **To collect information on functional requirements for the social networking subsystem, what are some techniques that might be used? Be specific and include some sample questions you might ask by using various techniques.**

There are 2 techniques for gathering functional requirements information:

1. **User Goal Technique,** where we interview all the potential users of the social networking subsystem. We can interview them in multiple ways and few of them are listed below:
   1. **Interviews:** Conducting interviews with stakeholders and users of the system can provide valuable insights into what functionalities the social networking subsystem should have.
   2. **Surveys:** Surveys can be used to gather information from a large number of users or stakeholders.
   3. **Focus groups:** Focus groups can be used to gather opinions and feedback from a small group of users or stakeholders.
   4. **Prototyping:** Creating prototypes of the social networking subsystem and testing them with users can provide valuable feedback on what functionalities are working well and what needs improvement.
   5. **Analysis of existing social networking platforms**: Examining the functionalities of existing social networking platforms can provide insights into what features are popular and what functionalities users are already accustomed to.

Some sample questions we might ask using these interview techniques mentioned above are:

1. What are the most important features you look for in a social networking platform?
2. What are some features you wish were available on social networking platforms but are currently missing?
3. What are your biggest frustrations when using social networking platforms?
4. How do you feel about the privacy and security of social networking platforms?
5. What are the biggest criticisms of existing social networking platforms, and how can these criticisms be addressed in the new subsystem?
6. Are there any additional features you would like to see added to this subsystem?
7. **Event Decomposition Technique,** where we identify different external and temporal events to which the system must respond.

Few examples of events are:

1. Send message notifications
2. Send event change notifications
3. Add a new friend
4. Browse resort events
5. Post reviews on resort
6. Post memorable moments on the networking platform
7. Like, comment and tag on posts.

PART 2

Spring Breaks ‘R’ Us (SBRU) includes many use cases that make up the functional requirements. Consider the following description of the Booking subsystem. A few weeks before Thanksgiving break, it is time to open the system to new bookings. Students usually want to browse through the resorts and do some planning. When a student or group of students want to book a trip, the system allows it. Sometimes, a student needs to be added or dropped from the group or a group changes size and needs a different type of room. One month before the actual trip, it is time for the system to send out final payment requirement notices. Students cancel the booking or they pay their final bills. Students often want to look up their booking status and check resort details. When they arrive at the resort, they need to check in; and when they leave, they need to check out.

1. Using the event decomposition technique for each event you identify in the above description, name the event, state the type of event, and the name of the resulting use case. Draw a use case diagram for these use cases.

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| --- | --- | --- |
| **Event** | **Event Type** | **Use Case** |
| Browse through resorts | External | Browse available resorts |
| Book a Trip | External | Book a resort |
| Change to different room | External | Maintain booking details |
| Time to send final payment requirement notice | temporal | Send final payment requirement notice |
| Cancel booking request | External | Cancel booking after confirmed |
| Pay final bills | External | Process the payment |
| Lookup booking status and resort details | External | View booking details |
| Checkin student | External | Process student resort checkin |
| Checkout student | External | Process student resort checkout |

**Student Booking Subsystem**

Student

SBRU System

1. Consider the new Social Networking subsystem that SBRU is researching (mentioned in the case introduction). Think in terms of the user goal technique to identify as many use cases as you can think of that you would like to have in the system. SBRU Is guessing you might want to join, send messages, and so forth, but there must be many interesting and useful things the system could do before, during and after the trip. Draw a use case diagram for these use cases.
2. Join network platform
3. Browse through events
4. Add a new friend or remove a friend
5. Post reviews on resort
6. Post pictures
7. Like, comment and tag on posts.
8. Report or Block User
9. RSVP to resort events
10. Create custom resort events.
11. Exchange messages

**Social Networking Subsystem**

Resort

Student