# Assignment No 1

Submitted By,

Team 5

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# Task 1

**SBRU Agile Project Charter**

1. **System Objectives**:

   - SBRU is an online travel service that books spring break trips to resorts for college students.
   - SBRU requires a new information system to replace the current travel booking software product, which has missing functionality and is no longer supported by the vendor.
   - The new system must continue to support the three existing subsystems: updated booking information, resort information updates, and travel information.
   - SBRU recently decided to add a new social networking features subsystem to enhance the student experience before, during, and after the trip.
   - The new system must provide an extensive set of reports and that can be viewed and printed.

2. **Project Roles/Responsibilities:**

   **Client Staff**

   - John Mckay, SBRU Operations Manager: Project Sponsor, responsible for approving the project initially and then approving deliverables as the project proceeds.
   - Meyer Tanuan, SBRU Analyst: Project Contact / Domain Expert, responsible for working with the Technical Staff to manage the project on a day-to-day basis; also responsible for providing information and answering questions.

   **Technical Staff**

   - Dharti Patel, Senior Software Developer: Scrum Master, responsible for facilitating scrum meetings and activities; removes obstacles of the Development team.
   - Basavraj Jaliminche, Business Analyst / QA: Product Owner, responsible for business analysis and software testing.
   - Namita Amgain, Senior Software Developer: Team Lead, responsible for developing the back-end services (API) of the system.

● Tejendhra indukuri, Full Stack Developer: Development Team Member, responsible for developing the UI of the system.

**3. Business Benefits**

● The new Resort Relations subsystem will

  ● Regularly update to the with hotels about pricing of rooms to be fair and reasonable to build good relations with students.

  ● Maintain Hygienic standards of resorts to build reputation in the market.

  ● Keep the deposit on hold in case there are damages that need to be recovered from Students.

● The Student Booking subsystem will

  ● Increase security by authorising student's IDs with college database.

  ● System sends out notifications to students about final payment is due.

  ● Students can cancel bookings and get their refunds until a specific date and beyond that time SBRU may cut some charges for services and refund rest.

● The Accounting and Finance subsystem will

  ● Able to ensure accurate calculations for damage charges done by students.

  ● Improve access to individual transactions done by students and resorts.

  ● Will be able to provide insurance to resorts for any hefty damage done by spring breakers to reduce cost to SBRU.

● The Social Networking subsystem will

  ● Able to share live locations to meet each other at various locations.

  ● Students will be able to give feedbacks about their trips and mention tips for upcoming students.

  ● Provide recommendations to students for activities while they are in spring breaks. And Make students interact with each other on chats.

## 4. Requirements

### 4A. Preliminary Functional Requirements

The new information system will have use cases that addresses the following business events:

| Event ID | Business Event (who-does-what) |
|----------|-------------------------------|
| E01 | SBRU will have contracts with various resorts in key spring break destinations. |
| E02 | SBRU will have a website that shows information about resort and includes prices, available rooms, and special features. |
| E03 | SBRU will provide a login portal in their website for the students. |
| E04 | SBRU will provide a system through which payments can be initiated by the students. |
| E05 | Student can research on website, once the students logged in, they can book a room, enter contract information, and pay deposits and final payments through the system. |
| E06 | SBRU provides updated booking information, resort information updates, and travel information for booked students. |
| E07 | SBRU will provide information about bookings for each week, the room types that are booked, and so forth to the resorts. |
| E08 | Before spring break resorts need to enter information on their resorts, including prices and special features to the website. |
| E09 | SBRU pays the resort for bookings. |
| E10 | Resort will report for damages caused by spring breakers during their stay to the SBRU. |
| E11 | SBRU will pay for the damage done by the spring breakers. |

| E12 | SBRU will be able to decide whether to upgrades systems. |
|-----|--------------------------------------------------------|
| E13 | SBRU will research possibilities and collect information about desirable features. |
| E14 | Resorts should be able to explain various features of their resorts in SBRU website. |

## 4B. Non-functional Requirements

| Usability requirements | • The system must be easy to understand and use for students as well as resorts.<br>• It must be convenient for students to compare different room types and choose a room that fit their criteria.<br>• The system could work on different devices such as mobile and desktop. |
|-----|-----|
| Reliability requirements | • The database will be available for more than 99.7% time.<br>• A regular backup must be maintained for every week.<br>• Regular maintenance for server must be done to ensure that the servers are not down at any given time. |
| Performance requirements | • System must response within 5 seconds for any query.<br>• System should provide accurate results for all the functions it is meant to do.<br>• Server must consume recourses such as disk space and memory efficiently. |
| Security requirements | • The system must encrypt sensitive data such as card numbers and CVV's.<br>• The website should recognise protect itself from cyber-attacks such as MitM, DoS etc.<br>• Access restriction must be set for users at different levels to ensure nobody fragment the data/ |

## 5. Project Team Critical Success Factors

Project critical success factors are about how the project team is managed, not about how the software will be developed.

- **Managing the project scope effectively -** Clear objectives and goals must be clearly defined in the project scope. It would be nice if the scope is not changed in an active sprint, but this is the real world!  Having a realistic schedule and realistic budget are other pillars of a successful project. The project manager must always be on the alert for changes to the scope and effectively manage those changes.

- **Risk Management** - This point is relevant on the Resort Relations side. They bear the risk of property being damaged or mishandled by students. Proper assurance must be provided that the effective cost of the damages is effectively recovered.

- **Agree on the project goals.** Make sure there is agreement with management, project sponsors, and other stakeholders on the purpose and goals of the project. What problem will the project solve? What is the desired result? What need will the project fill? Goals should be specific and measurable. Clear measurable goals will help define the project scope.

- **Design/Architecture Choices** - Wrong Software choices eventually lead to an unscalable and risk-oriented product. Choosing stable and popular technologies lead to ample availability of technicians and developers in market as well as building a robust platform. Similarly, using Agile Technology and having a proper infrastructure contribute further to the success.

- **Clearly defined plans with assigned responsibilities and accountabilities** - All the deliverables need to be defined along with the necessary tasks to produce them and any associated risks. Responsibilities should be assigned to the tasks and deliverables with appropriate due dates and accountabilities. The planning process should also include risk management activities and communication requirements.  Developing the project schedule is only a part of the planning process.

**6. Preliminary Technical Architecture:**

**The technical architecture selected was** MERN Stack:

     **a. Development environment**
- Node JavaScript
- Express JavaScript
- MongoDB – NoSQL Database

     **b. Server Production Environment**
- Heroku Paas
- MongoDB Atlas

     **c. Client Production Environment**
- React JavaScript.
- Redux State Management
- HTML/CSS

# Task 2

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

Stakeholders of SBRU are:

1.Web Developer:

How well the SBRU website is designed, dynamic, responsive, pleasant to use, and simple to book will determine how many students choose to book their spring break with SBRU.

2.Students:

The more students that reserve their spring break through SBRU, the more money the SBRU will make.

3.Owner of Resort (Hotel, Resort)

If more resort owners agree to work with SBRU, SBRU will have more possibilities, which will eventually result in more bookings and profit.

4.Educational Institution:

If the institution permits and lists SBRU advertising on its website. In this manner, SBRU will be made known to both old and new students through social media and the classroom.

5.SBRU Management:

It depends upon how well the management is active to promote the product.

6.Hotel or Resort Workers:

Subsystems of the SBRU booking system

Students: Student booking, Accounting, and financing, Social Networking.

Project Manager: Accounting, Finance, Social Networking, Resort Relation, Student booking.

UX/UI designer: Student booking, Social Networking.

Marketing team: Student booking, Resort Relation, Social Networking.

Resort Owners: Resort Relation, Student booking.

Schools: Student booking, Accounting, and financing, Social Networking.

Developers: Student booking, Resort Relation, Accounting and financing, Social Networking.

Business Analyst: Accounting and financing, Social Networking.

Resort Workers: Resort Relation, Student booking.

**Q.2 What are the main functional requirements for each of the four major subsystems?**

Social networking:

Profiles and ads on several social media sites, connections with schools, links for applications and registrations, and a chatting room.

Accounting and finance:

collaborations with various financial institutions, a portal for these financial transactions, secure payment points for students and resorts, creation of transaction IDs, refund policies, and cancellation procedures.

Student Booking System:

Website, connections to various financial institutions, in-depth student data, student ID cards, and online applications and feedback forms.

Resort:

Policies that outline the terms of reimbursement, lodging, return, cancellation, and student security (including cleaning staff, proper meals, and security cameras), as well as the financial transaction procedure, reservation slots, and price list.

**Q.3. Describe some usability requirements for student booking interactions and social networking interactions.**

- The system must be simple to use and intuitive to understand.
- High compatibility with a variety of platforms and devices is also essential.
- Wi-Fi or cable internet connections must have a high speed. To enable uninterrupted and successful task completion by the user, the system must perform well and be stable.
- The technology might enable for layout customisation and customization as an optional extra requirement.

**Q.4 Assuming that social networking at the resorts will require wireless communication and connection to the Internet, what are some reliability requirements that resorts might be asked to maintain? What are some performance requirements? Is this a bigger issue because resorts are in international locations?**

- Students must have access to social media platforms, the SBRU website, and reliable, secure, high-bandwidth internet connectivity to publish reviews, share photos from their trips, and tag friends.
- We will make it essential for resorts to provide with basic internet connectivity to be featured in SBRU for booking. Nowadays, many resorts install Wi-Fi routers to provide internet access to their guests.
- There may be additional roaming fees for students who use their mobile phones to access the internet at some resorts because they are in foreign countries. Therefore, if internet connectivity is made available at the resorts, students can contact the SBRU team through an online service desk if they have any issues that are simple to fix.

**Q.5 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?**

Hack Proff Servers:

Because students will have access to their social media accounts and link them with their SBRU profiles to submit their images and reviews directly, we need to develop the SBRU website on secure servers that are hack proof. To prevent data breaches by hackers, we must safeguard and maintain in our server with encryption the students' personal information as well as payment information entered during payments, such as credit/debit card details. To observe and analyse for business growth, we must keep track of all SBRU accounts and payments information from students and resorts.

Students from other continents, including Europe, Asia, and others, can access the SBRU and make resort reservations, although there may be some communication or website access issues, such as language barriers.

Also, it will be costly to book tickets from the different countries. So, we must maintain the differs banking servers for each country. Or we must make tie up with the many banks and card payment services like visa, Mastercard etc. so that students can book.

Q.6 **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.**

Feedback:

We can ask our students to complete a brief, survey after the trip asking them about their general impressions of SBRU, their time at one of their resorts, and the quality of their service. What could be done to enhance their resort stay on a future trip. And where other locations they would like to travel to for their upcoming spring breaks, so that SBRU can prepare to include those in the destinations if the majority of students choose them.

Adding Features of social platforms:

We can add services like integrating social network accounts with current accounts on the new SBRU website, and we can invite visitors to take a survey to help us learn about past customer experiences and what they can expect from SBRU over the upcoming spring break.

During the trip
:We can add the section during the trip as students can post photos and feedback during the trip.