

## Use Cases for Spa scheduling.

UC. 1 User Login
<b>Goal in context</b> Create an account to book spa services. Through this use case, potential customers can register and set up an account to make spa reservations.
<b>Scope</b> <ul style="list-style-type: none"> <li>Customers can create an account to make spa reservations.</li> </ul>
<b>Level</b> <ul style="list-style-type: none"> <li>User goal</li> </ul>
<b>Actors</b> <ul style="list-style-type: none"> <li>Customers</li> <li>Stakeholders and managers</li> <li>Customer – Creation of account in a simple and secure manner</li> <li>IT Management- Expand customer base, Guarantees complete and accurate data collection</li> </ul>
<b>Preconditions</b> <ul style="list-style-type: none"> <li>User access to registration page: The user must have access to the website registration page. This involves clicking a "Sign Up" or "Register" button on the homepage or elsewhere on the website.</li> <li>Personal information: The user must provide personal information such as their name, email address, and password.</li> <li>Strong password: The user must create a strong password that meets the website or application's password requirements.</li> <li>User must accept terms and conditions of the application.</li> <li>Accessibility of the website: The website must be accessible to the user, including any necessary technology or software requirements. This may involve a compatible web browser, internet connection, or operating system.</li> </ul>
<b>End Condition Success</b> <ul style="list-style-type: none"> <li>Account created for customers.</li> <li>Email confirmation for account creation is sent to customers.</li> </ul>
<b>End condition failure</b> <ul style="list-style-type: none"> <li>Existing account - account not created.</li> <li>Terminated account – This account has been terminated, please contact the customer support for further details.</li> <li>Customer does not accept terms and conditions – account will not be created.</li> <li>Infrastructure failure – Customer tries at a later point in time</li> </ul>
<b>Main success scenario</b> <ol style="list-style-type: none"> <li>Customer authentication using email.</li> <li>Validate customer email.</li> <li>Capture customer demographics from registration page</li> <li>Validate data</li> <li>Capture credit card data</li> <li>Validate credit card data</li> <li>Verify credit card data</li> <li>Create account in the registration page</li> <li>Send email confirmation for account creation</li> </ol>

## **Extensions**

a. Infrastructure failure

2.a Customer retries again later

2.b Capturing data from registration page

- Any missing data notify the user

2.c Capture of incorrect/ invalid data

- Highlight the data that is incorrect and request for updating of data in the registration page

4.a Existing account

- Notify customer about existing account and terminate process

4.b Previous terminated account found

- Notify customer about previous terminated account and terminate process

9.c Customer decides not to create account

- Discard data and terminate process

9.a Incomplete data

- Highlight missing data and prompt for re-entry

9.b Invalid credit card data

- Highlight invalid/ incorrect data and prompt for re-entry

9.c Credit cards expired

- Notify customer and prompt for alternative credit card

9.d Credit number does not match type

- for re-entry Indicate error to customer and prompt

9.e Credit card number not associated with the customer

- Place hold on card and notify user about possible fraudulent use of credit card

9.f Credit card reported lost or stolen

- Decline cards and notify user about possible fraudulent use of credit card

11.a Email not deliverable

- Flag account as inactive

<b>Special Requirements, including performance.</b> <ul style="list-style-type: none"> <li>• Customer should be within a radius of 20miles from Milwaukee</li> </ul>
<b>Technology and data variants</b> <ul style="list-style-type: none"> <li>• Should be accessible via mobile devices or on a computer</li> </ul>
<b>Open Issues</b> <ul style="list-style-type: none"> <li>• What should be the correct action for closed accounts?</li> <li>• How do we recognize existing or terminated account?</li> <li>• What credit card types will support?</li> <li>• Do we need to capture card holder name and credit cards billing address as part of this use case?</li> <li>• How do we handle transactions that exceed the user's available credit limit?</li> <li>• What security measures do we need to implement to prevent fraud and unauthorized transactions?</li> <li>• What are our obligations for cards reported lost or stolen?</li> <li>• What is the process for issuing refunds?</li> <li>• How do we handle expired credit cards or accounts with insufficient funds?</li> </ul>
<b>Related use cases</b> <ul style="list-style-type: none"> <li>• UC. 2 User account update</li> <li>• UC. 3 User account closure</li> </ul>
<b>Non-functionality requirements</b> <ul style="list-style-type: none"> <li>• Usability – Simple navigation and language, a simple interface, and ease of use</li> <li>• The Spa application should be available 24/7 with minimal downtime.</li> <li>• The Spa application should be secure sockets layer certified.</li> <li>• The Spa application should be encryption of sensitive data, secure transmission of data, and secure storage of data to prevent unauthorized access or fraud.</li> <li>• The Spa application should be compatible with different web browsers and operating systems.</li> <li>• The Spa application should be able to handle a high volume of user requests and transactions without any issues in the performance.</li> <li>• Security – No access to private customer and their account information.</li> </ul>

### **UC.2 User Account Update**

This use case allows customers to make changes to their personal information in the Spa application page, including their preferred name, contact number, email, demographics, and credit card details. The changes will be verified and validation procedures to ensure they are accurate.

### **UC. 3 User Account Closure**

This use case allows customer to close their account for any reason or select any reasons provided. They can also deactivate account if they choose to.

### **UC. 4 Selection of spa service**

#### **Goal in Context**

This use case allows customers to select a service by browsing through services available in the spa application post successful login.

#### **Scope**

- Browsing through all the spa services available.
- Searching for specific spa services through filters available.
- Select the spa service of their choice.

#### **Actors**

- Customers

#### **Stakeholders and managers**

- Customers – Select the service of their choice.
- Customer Support

#### **Preconditions**

- The spa application is functioning properly and has no technical issues.
- The customer has a valid account with the spa and has completed the registration process.
- The customer has sufficient funds or payment methods to pay for the selected service.
- The time slot selected by the customer is available and not already booked by another customer.
- List of services that are available at the Spa.
- List of services that are available at time slots.
- Customers successfully login into the application to access the spa services.
- Customers must select a time slot for their spa service.
- Customer must select duration of service.

**End conditions – Success**

- Customer selecting the service of their choice.
- Reaching the payment page.

**End conditions – Failure**

- Not able to login due to various reasons which include termination, closure.
- Not able to select a time slot as it is not available it may be booked by someone else.
- If the service of choice is not available, then selection of service cannot be done.
- If the service is not available the selected time slot, then the selection cannot be done.

**Main Success Scenario**

1. Customer successfully login by authentication using their login credentials.
2. customer data is validated.
3. customer credit card details are captured, validated, and verified.
4. Browse through available spa services or search for the spa service of their choice.
5. Number of services available for the selected time slot is greater than zero.
6. Customer selects the service with the time and duration they wish to.
7. Once the selection is done, customers are directed to the payment page.

**Extensions**

- a. Infrastructure failure
  - customer tries again at later time.
  - customer would not be.
- 2a. Unsuccessful login or authentication using account.
  - Notify customer of error and prompt for re-entry, if less than 5 times.
- 3a. If customer account is terminated or closed.
  - Appropriate message is displayed, and process is terminated.
- 5a. If a particular service is not available.
  - Inform customer that the service is not available and ask them to select some other service.
- 7a. If a service gets cancelled.
  - customer is informed regarding the cancellation of appointment and any updates about it .
- 12a. If customer needs any information or more updates of the appointment.
  - customer can contact the IT support team and get the related information.
- 14a. If a customer searches for the service, it is based on the availability of the spa services available.
  - Customers get the information about each spa service and all the spa service details get updated on the appointment.

<b>Special Requirements, including Performance</b> <ul style="list-style-type: none"> <li>Any page of website can be browsed and the response time should be less than 10 secs,95% of time.</li> </ul>
<b>Technology and Data Variants</b> <ul style="list-style-type: none"> <li>Should be accessible via mobile devices and computers.</li> </ul>
<b>Frequency</b> <ul style="list-style-type: none"> <li>Maximum of 3 services can be select at a time.</li> </ul>
<b>Open Issues</b> <ul style="list-style-type: none"> <li>How many services can be selected at single appointment?</li> <li>How to select multiple services in one go?</li> <li>How to handle of refunds or rescheduling in case of service cancellation or unavailability.</li> <li>How to handle conflicts when multiple customers try to book the same time slot for a service.</li> <li>Providing information about any special requirements or preparations needed for the selected service.</li> <li>Providing the option for customers to leave reviews or feedback about the service they received.</li> <li>Providing options for customers to add additional services or products to their appointment.</li> <li>How to handle customer requests for changes to their selected service, time slot, or duration after payment has been made.</li> <li>Providing options for customers to view their appointment history and details.</li> </ul>
<b>Related Use Cases</b> <ul style="list-style-type: none"> <li>UC.1 User login</li> <li>UC.5 Selection of time slot</li> <li>UC.6 Cancellation of spa service</li> <li>UC.7 Booking Spa service.</li> <li>UC.11 Inquiries</li> <li>UC.12 Sales Report</li> </ul>

### **Non-Functional Requirements**

- Usability – Easy to use, simple search and browsing through events
- Reliability – 99% uptime, down time not to exceed 4 hours/month.
- Performance – availability checking response time should be under 20 seconds 95% of time.
- Security – No one should be able to get into our app with administrator privileges.
- Supportability – Is fully accessible via Android and IOS operating system.
- Scalability – The system should be able to handle a high volume of users and requests without any performance degradation.
- The website should be accessible to users with disabilities.
- Customer information should be kept confidential and only accessible to authorized staff.
- The website should be able to handle multiple users requests without any slowdown or delay.
- The website should comply with all applicable united states laws and regulations related to data privacy and security.

### **UC.5 Selection of time slot**

This use case allows users to select a time slot from provided time slots for each spa service.

### **UC. 6 Cancellation of spa services**

This use case allows customers to cancel their spa reservation in case of any unexpected situations and allows customer support to communicate this to customers. If a reservation is canceled at least five hours before the scheduled appointment, customers will receive a refund, and email communications are sent for the status of the refund.

<b>UC. 7 Booking Spa service</b>	
<b>Goal in Content</b>	This use case allows customers with spa application account to purchase any spa service.
<b>Scope</b>	<ul style="list-style-type: none"> <li>The scope of this use case is to allow customers with a spa application account to purchase any spa service. The focus is on providing a convenient and secure process for customers to purchase spa services, with the aim of increasing sales for the spa.</li> </ul>
<b>Level</b>	<ul style="list-style-type: none"> <li>User goal</li> </ul>
<b>Actors</b>	<ul style="list-style-type: none"> <li>Customers</li> </ul>
<b>Stakeholders &amp; Interests</b>	<ul style="list-style-type: none"> <li>Customers – purchase of services without difficulty, and in a secure way</li> <li>Spa – increase sales and revenue</li> </ul>
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>Architecture up and running</li> <li>Customer should have a valid account</li> </ul>
<b>End conditions – success</b>	<ul style="list-style-type: none"> <li>Spa service has been successfully purchased</li> <li>Email confirmation sent to customer</li> </ul>
<b>End Conditions – failure</b>	<ul style="list-style-type: none"> <li>Payment failure – seek alternative credit card or terminate process</li> <li>Services not available – offer alternative option to customers</li> <li>customers elects not to purchase service – terminate process</li> <li>Infrastructure failure – customer tries at a later point</li> </ul>



**Main success scenario**

1. Student authentication using account login credentials
2. Capture customer data from registration page
3. user specifies name, date, time,
4. System checks availability of service and time slots
5. System computes total amount due for spa services including miscellaneous and other changes.
6. Customer agrees to purchase tickets
7. System process payment: include UC: 8 Process Payment
8. System marks service are not available
9. System emails confirmation of the purchase to the customers
10. System initiates reservation email delivery

**Extensions**

- a. Infrastructure failure
  - customer tries again later
- 2.a Authentication Failure
  - Notify customer regarding the failure of Authentication
- 4.a customer account terminated/ closed
  - Display appropriate message and terminate process
- 8.a If spa service are not available
  - Notify customer about unavailability and suggest any other service
- 8.b Customer plans not to proceed
  - Remove any selected service and terminate process
- 9.a Failure in payment process
  - Notify customer of reason for failure and prompt for other credit card/ terminate process
- 11.a Email to customer bounces
  - Issue in sending email to the customer

**Special Requirements, including performance**

- Service purchase response time should be under 15 seconds 95% of the time

**Technology and Data Variants**

- Should be accessible via mobile devices and computers

**Frequency**

- Depends on the number of services that are held

**Open Issues**

- How do we handle multiple requests?
- How can we prevent automated purchase?
- How will the system handle refund or cancellations by customers after a service has been purchased?
- How will the system handle peak demand periods, such as holidays or weekends?
- How will the system handle customer inquiries or complaints related to spa services?
- How will the system ensure the accuracy and completeness of the spa services information, including descriptions, prices, and availability?
- How will the system handle any potential conflicts or issues related to scheduling or availability of spa services?

**Related Use Cases**

UC. 8 – Process Payment

UC. 1 - User Login

UC. 4 - Selection of Spa Services

UC. 10 – Appointment confirmation details through email

**Non-functional requirements**

- Usability – easy to use, simple to navigate, forgiving interface desired
- Reliability – 99% uptime, downtime does not exceed 8 hours
- Performance – availability checking response time should be under 15 seconds 95% of the time
- Security – no eavesdropping, or access to private customer or account information
- Supportability – accessible via mobile devices and all OS.

<b>UC. 8 – Process Payment</b>	
<b>Goal</b>	<ul style="list-style-type: none"> <li>• This use case processes a credit card payment for the purchase of the spa service.</li> </ul>
<b>Scope</b>	<ul style="list-style-type: none"> <li>• This use case main goal is to process a credit card payment for the purchase of spa services.</li> </ul>
<b>Level</b>	<ul style="list-style-type: none"> <li>• Sub- function</li> </ul>
<b>Actors</b>	<ul style="list-style-type: none"> <li>• Customer - primary (through UC. 7 Booking spa service)</li> </ul>
<b>Stakeholders &amp; interests</b>	<ul style="list-style-type: none"> <li>• Customer - secure</li> <li>• Payment processor -accurate and timely processing</li> </ul>
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• Link to payment processing is up and functioning.</li> <li>• Payment amount is available</li> </ul>
<b>End conditions – success</b>	<ul style="list-style-type: none"> <li>• Student’s credit is charged correctly for the amount due</li> </ul>
<b>End conditions - failure</b>	<ul style="list-style-type: none"> <li>• Infrastructure failure -System flags as the transaction is incomplete</li> <li>• Invalid credit data- Transaction flagged as failed</li> <li>• Charge request denied -Transaction flagged as failed</li> </ul>
<b>Main success scenario</b>	<ol style="list-style-type: none"> <li>1.Systems initiates payment request with the amount due and requests credit card information form the student</li> <li>2.Customer selects stored credit card</li> <li>3.Customer provides credit verification value</li> </ol>

4. System verifies credit card data 5. System issues charge request to payment processor using details provided 6. Payment processor approves the charge 7. System returns approval authorization to calling use case for appropriate processing
<b>Extensions</b> <ul style="list-style-type: none"> <li>a. Infrastructure failure <ul style="list-style-type: none"> <li>• IT personals resets connection and tries again</li> </ul> </li> <li>9a. CVV missing <ul style="list-style-type: none"> <li>• Flag missing data and prompt for re-entry</li> </ul> </li> <li>9b. Credit card expired <ul style="list-style-type: none"> <li>• Indicate error to customer and prompt for the new credit card</li> </ul> </li> <li>9c. Unable to connect to payment processor <ul style="list-style-type: none"> <li>• Retry after a short timeout</li> </ul> </li> <li>9d. No response from payment processor <ul style="list-style-type: none"> <li>• After a pre-set timeout, reissue the charge request</li> </ul> </li> <li>9e. Payment processor denies charge. <ul style="list-style-type: none"> <li>• Capture reasons for denial to relay to customer in calling use case</li> </ul> </li> </ul>
<b>Special requirements</b> Response time should be about 10 seconds when called from UC.7 (Booking spa services)
<b>Technology and Data variants</b> None
<b>Frequency</b> <ul style="list-style-type: none"> <li>• IT depends on the number of services that are held</li> </ul>
<b>Open issues</b> <ul style="list-style-type: none"> <li>• How much security is required for this use case?</li> <li>• How soon should the transaction expire if the credit processor doesn't respond?</li> <li>• What types of failure notices may we expect from the credit processor, and what are our obligations for each one?</li> </ul>
<b>Related use cases</b> <ul style="list-style-type: none"> <li>• UC.7 -Booking spa services</li> </ul>
<b>Non-functional requirements</b> <ul style="list-style-type: none"> <li>• Usability – Simple navigation and language, a forgiving interface, and ease of use</li> <li>• Performance time – Account creation response time should be under 5 seconds</li> <li>• Security – No access to private customer and their account information</li> <li>• Supportability – None</li> </ul>

#### **UC. 9 payment confirmation**

This use case permits payment processors to send confirmation to customers upon successful payment for the Spa reservation. An invoice is sent to them stating the payment details, with amount paid, customer details and mode of payment.

**UC. 10 Appointment confirmation details delivery through email**

This use case allows the payment processor to send the appointment confirmation details to their email for which the customer has registered and made payment. The email is sent with a details consisting of service, time and customer details.

**UC.11 Inquiries**

This use case allows customer, IT support to enquire or search data related to customer account, list of spa services provided , time slots available for the spa service , spa services price for the given.

**UC. 12 Sales Report**

This use case allows stakeholders and IT support to access a sales report which generates a number of services conducted in a week. They can access the report showing the spa service sales made. This report shows sales made for every week. Weekly reports are generated, and the support team accesses them to work on improving services