

Traceability Matrix for the Online Bookstore System

Functional Requirement	User Story ID	Use Case ID	Description	Test Case ID
Task Assignment	US01	UC01	Admins should be able to assign tasks to volunteers	TC01
Task Notifications	US02	UC02	Volunteers should receive notifications of their assigned tasks	TC02
Log Completion Task	US03	UC03	Volunteers can log their completion of their tasks, which can be viewed by admin.	TC03
User Registration /Login	US04	UC04	Volunteers and admins can create an account and log in using their credentials. The system ensures that only registered users with appropriate access can log in and interact with the platform.	TC04
Volunteer Reporting	US05	UC05	Admins can generate reports based on volunteer activity, such as task completion. This information helps track volunteer engagement and productivity.	TC05
Logout	US06	UC06	All users can securely log out of the platform after their session. This ensures the security of their personal data and prevents unauthorized access to their account.	TC06
Participant view	US07	UC07	Volunteers can use the site for research, learning meaningful data, and be able to see other opportunities to contribute	TC07
Contact us	US08	UC08	All users and potential users can contact GCISL and info is stored and can be viewed by the admin ,while still maintaining privacy for data	TC08

System reliability	US09	UC09	There will be automated tests to keep the system functional, adding rolling logs to track issues and ensure system meets availability requirements	TC09
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User Stories

User Story ID: US01 Task Assignment by the Admins

As an admin I want to assign specific tasks to volunteers so that everyone knows what they are responsible for doing.

As an admin, I want to assign specific tasks to a chosen volunteer so that individual responsibilities are clearly communicated.

Scenario: Assigning a task to a single volunteer.

Given the admin is on the task creation page,

When the admin selects a specific volunteer and assigns a task with a due date,

Then the system should notify the volunteer and display the task on their dashboard.

As an admin, I want to assign the same task to multiple volunteers to distribute the workload evenly.

Scenario: Assigning a task to multiple volunteers.

Given the admin is logged into the system,

When they create a task and select multiple volunteers,

Then each volunteer should receive the task notification,

And the system should track which volunteers complete the task individually.

User Story ID: US02 Task Notifications for Volunteers

As a volunteer, I want to be immediately notified when a new task is assigned to me so that I can begin working on it promptly.

Scenario: Immediate task notification.

Given the admin has just assigned a task to a volunteer,

When the system processes the assignment,

Then the volunteer should receive an email or app notification with the task details.

As a volunteer, I want to receive reminder notifications when a task deadline is approaching so that I don't miss any important deadlines.

Scenario: Task reminder notification.

Given the volunteer has an upcoming deadline for a task,

When the task deadline is 72 hours away,

Then the system should send a reminder notification to the volunteer,

And the volunteer should see the task in a "Due Soon" section on their dashboard.

User Story ID: US03 Task Completion Logging by Volunteers

Story 1: Marking a Task as Complete

As a volunteer, I want to mark tasks as complete when I finish them so that my admin knows the work is done.

Scenario: Marking a single task as completed.

Given the volunteer has completed the assigned task,

When they click "Mark as Complete" on their dashboard,

Then the system should update the task status to "Completed" and notify the admin.

User Story:

As a volunteer, I want to upload proof of task completion so that the admin can verify my work.

Scenario: Attaching proof of task completion.

Given the volunteer has completed the task and needs to submit proof (e.g., a report),
When they click "Mark as Complete,"
Then the system should prompt them to upload proof of completion,
And the admin should be able to review and approve the task

User Story ID: US05 User Registration/Login

As a user, I want to register and log in so that I can access the website's features.

Scenario: Successful registration

Given I am on the registration page

When I enter valid registration details (name, email, password)

And I click the "Sign Up" button

Then my account should be successfully created

As a user, I want to log in to my account so that I can access the website's features.

Scenario: Successful login

Given I am on the login page

When I enter valid login credentials

And I click the "Login" button

Then I should be logged in successfully

And I should be redirected to the dashboard

User Story ID: US06 Volunteer Reporting

As an admin, I want to view the list of volunteers and participants with their names and emails so that I can keep track of who is involved.

Scenario: Viewing volunteer/participant list

Given I am an admin on the reporting page

When I select the "Volunteers" section

Then I should see a list of all volunteers and participants

And I should be able to view their names and email addresses

User Story ID: US07 Logout

As a user, I want to log out so that I can securely end my session.

Scenario: Successful logout

Given I am logged in to my account

When I click the "Logout" button

Then I should be successfully logged out

And I should be redirected to the homepage

User Story ID: US08 Participant view

As a participant, I want to view a list of available opportunities so that I can decide where I want to contribute

Scenario: Viewing opportunities

Given the participant is logged in,

When they navigate to the "Opportunities" section,

Then the system displays a list of available opportunities.

Scenario: Viewing opportunity details

Given the participant is on the "Opportunities" page,

When they click on an opportunity,

Then the system shows full details (description, timeline, requirements).

User Story ID: US09 Contact us

As a user, I want to be able to send messages to the admin for inquiries or support.

Scenario: Sending a message

Given the user is on the "Contact Us" page,

When they fill out the contact form and submit it,

Then the system sends the message to the admin and notifies the user.

Scenario: Reviewing messages

Given the admin is logged into the system,

When they access the "Contact Us" section,

Then the system displays user messages.

User Story ID: US010 System reliability

As a user, I want the system to be reliable and available so that I can access it whenever I need to.

Scenario: Continuous uptime

Given the system is operational,

When a user attempts to access it,

Then the system should be available and functioning correctly

Scenario: Error logging

Given a system error occurs,

When the error is triggered,

Then the system logs the error and alerts the relevant personnel

1. Use Case: Task Assignment by Admins UC01

- Actor(s): Admin
- Goal: Assign a task to one or more volunteers.
- Preconditions: The admin is logged into the system.
- Basic Flow:

Admin navigates to the "Task Management" section.

Admin selects "Assign Task."

Admin inputs task details (description, deadline).

Admin selects one or more volunteers.

System assigns the task to selected volunteers.

System notifies the volunteers.

Task appears on the volunteers' dashboards.

- Alternate Flow: If the admin does not input necessary task details (e.g., no deadline), the system shows an error and requests additional input.

2. Use Case: Task Notifications for Volunteers UC02

- Actor(s): Volunteer, System
- Goal: Notify volunteers of new tasks and upcoming deadlines.
- Preconditions: The volunteer has tasks assigned.
- Basic Flow:

Admin assigns a task to a volunteer.

System sends an immediate notification (via email or app) to the volunteer.

Volunteer logs into the system and sees the task on their dashboard.

When the deadline is near (e.g., 24 hours before due), the system sends a reminder notification.

- Alternate Flow: If notifications fail (due to network issues), the volunteer sees the task the next time they log in.

- Alternate Flow: If the volunteer has no tasks assigned, the system shows an empty task list with a message (e.g., "No tasks assigned").

3. Use Case: Task Completion by Volunteers UC03

- Actor(s): Volunteer, Admin
- Goal: Mark a task as complete and provide proof (if required).
- Preconditions: The volunteer has completed the task.
- Basic Flow:

Volunteer navigates to the task they've completed.

Volunteer clicks the "Mark as Complete" button.

If required, the system prompts the volunteer to upload proof of completion (e.g., a photo, document).

The system updates the task status to "Completed."

System sends a notification to the admin that the task is completed.

- Alternate Flow: If the task is not fully completed, the system shows an error message explaining what is still needed (e.g., missing proof).

4. User Login and Account Creation UC04

Use Case: User Login and Account Creation

- Actors: User, System
- Preconditions: The user has internet access and is on the volunteer registration or login page.
- Main Flow:

1. The user navigates to the login or registration page.
2. If the user is new, they choose to create an account by providing their name, email, and password.
3. The system verifies the provided details and creates an account.
4. If the user is returning, they enter their login credentials (email and password).
5. The system authenticates the credentials and logs the user in.
6. The system redirects the user to their personalized dashboard.

Alternative Flow:

- If the user enters invalid credentials, the system displays an error message and prompts the user to try again or reset the password.

Postconditions:

- The user is either logged into their account or has successfully created a new account.
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5. Volunteer Reporting UC05

Use Case: View Volunteer Information

- Actors: Admin, System
- Preconditions: The admin has logged into their account and is on the reporting page.
- Main Flow:
 1. The admin navigates to the "Volunteer Reporting" section.
 2. The system retrieves a list of volunteers and participants.
 3. The admin views the names and email addresses of the volunteers and participants.

Alternative Flow:

- If no volunteers are found, the system displays a "No volunteers available" message.

Postconditions:

- The admin successfully views the volunteer information, including names and emails.
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6. Logout UC06

Use Case: User Logout

- Actors: User, System
- Preconditions: The user is logged into their account.
- Main Flow:
 1. The user clicks the "Logout" button from the navigation menu.
 2. The system logs the user out.
 3. The system redirects the user to the homepage.

Alternative Flow:

- If there is an error during the logout process, the system displays an error message and allows the user to retry.

Postconditions:

- The user is successfully logged out and redirected to the homepage.
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7. Participant view UC07

Use case: Participant looking for more opportunities

- Actors: User, System
- Goal: Allow participants to view research and other opportunities to contribute.
- Preconditions: The participant is logged into the system.

Main Flow:

1. The participant navigates to the "Opportunities" section.
2. The system displays available opportunities such as research projects, volunteering, or learning modules.
3. The participant selects an opportunity to view its details (e.g., description, timeline, requirements).
4. The system provides an option for the participant to apply or express interest.

Alternate Flow: If there are no opportunities available, the system displays a message such as "No opportunities available at this time."

Postconditions: The participant is able to view and explore available opportunities.

8. Contact us UC08

Use case: User wants to contact admin

- Actor(s): All users, Admin, System
- Goal: Allow users to contact the administration and store the information for further review.
- Preconditions: The user is on the "Contact Us" page.

Main Flow:

1. The user fills out the contact form with their name, email, and message.
2. The system sends the message to the admin and stores it in the system for later review.
3. The admin is notified of the new message.

Postconditions: The message is successfully sent to the admin, and the user is informed of the successful submission.

9. System Reliability UC09

Use case: Report of system failure

- Actor(s): System, Admin, Developers
- Goal: Ensure system availability and handle failures through automated testing and monitoring.
- Preconditions: The system is operational and being used.

Main Flow:

1. The system continuously monitors for any service downtime.
2. Automated tests are run periodically to ensure system functionality.
3. Logs are maintained for system errors and performance issues.

Postconditions: The system remains available and stable, with any errors logged for debugging

These use cases provide a structured description of how users will interact with the system to perform the key functionalities of an online bookstore. Each use case includes actors, preconditions, a step-by-step main flow, alternative flows, and postconditions, ensuring clarity and completeness.

TC01 – Task Assignment by Admin to One Volunteer

- Test Objective: Verify that an admin can successfully assign a task to a single volunteer.
- Test Steps:

Log in as an admin.

Navigate to the "Task Management" section.

Select "Assign Task."

Enter task details (e.g., task name, description, deadline).

Select one volunteer from the list.

Click "Assign Task."

- Expected Result: The task should be assigned to the selected volunteer, and the volunteer should receive a notification.
 - Test Status: Pass/Fail
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TC02 – Task Notification for Newly Assigned Task

- Test Objective: Verify that a volunteer receives a notification after a task is assigned.
- Test Steps:

Log in as an admin.

Assign a new task to a volunteer.

Log in as the volunteer.

Check for a task notification (via email or app).

Confirm the task is visible on the volunteer's dashboard.

- Expected Result: The volunteer should receive a notification and be able to view the task in their dashboard.
 - Test Status: Pass/Fail
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TC03 – Marking a Task as Complete with Proof Submission

- Test Objective: Verify that a volunteer can mark a task as complete and submit proof of task completion.
- Test Steps:

Log in as a volunteer.

Navigate to the assigned task.

Click “Mark as Complete.”

Upload proof of completion (e.g., image or document).

Confirm task completion.

- Expected Result: The task should be marked as completed, the proof should be successfully uploaded, and the admin should receive a notification.
 - Test Status: Pass/Fail
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TC04 – User Login and Account Creation

- Test Objective: Verify that the user can successfully log in and create an account.
 - Test Steps:
 1. Navigate to the login/sign-up page.
 2. Enter valid credentials for login.
 3. Enter valid information for account creation.
 - Expected Result: The user should be able to log in or create a new account.
 - Test Status: Pass/Fail
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TC05 – Volunteer Reporting

- Test Objective: Verify that the admin can view volunteer names and email addresses.
 - Test Steps:
 1. Log in as an admin and navigate to the "Volunteer Reporting" section.
 2. Check if the system displays volunteer names and email addresses.
 3. Confirm that the information shown is accurate and up to date.
 - Expected Result: The system should display the list of volunteers with names and email addresses.
 - Test Status: Pass/Fail
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TC06 – Logout

- Test Objective: Verify that users can log out of their account.
 - Test Steps:
 1. Log in to the user account.
 2. Click on the "Logout" button from the navigation menu.
 3. Confirm that the user is logged out and redirected to the homepage.
 - Expected Result: The user should be successfully logged out and redirected to the homepage.
 - Test Status: Pass/Fail
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TC07 - Participant view

- Test Objective: Verify that participants can view a list of opportunities

Test Steps:

- Log in as a participant.
- Navigate to the "Opportunities" section.
- Verify that a list of opportunities is displayed.

Expected Result: The list of opportunities is shown, or a "No opportunities available" message is displayed.

TC08 - Contact Us

- Test Objective: Verify that users can submit the contact form successfully

Test Steps:

- Navigate to the "Contact Us" page.
- Fill in the contact form with valid information.
- Submit the form.

Expected Result: The system confirms that the message has been sent

TC09 - System Reliability

- Test Objective: Verify that the system remains operational during typical usage.

Test Steps:

- Run an automated uptime check periodically.
- Verify that the system is accessible during each check.

Expected Result: The system remains accessible at all times.

Conclusion:

This traceability matrix ensures that every functional requirement, user story, and use case is covered and can be tested with relevant test cases. The use case descriptions and test cases provide a comprehensive approach to verifying the functionality of the online bookstore system.