**Based on our System design, User Story Boards, Functional and Nonfunctional requirements here are 10 test cases that we can perform on our system.**

**1 User Registration Test Cases:**

1.1 Verify that a new user can be successfully registered.

1.2 Verify that all required user fields (Username, Email, etc.) are mandatory during registration.

1.3 Verify that the registration date is accurately recorded for each new user.

**2 User Login and Session Management Test Cases:**

2.1 Verify that registered users can log in successfully with valid credentials.

2.2 Verify that the session is created upon successful login and expires according to the specified time.

2.3 Verify that the system restricts access to unauthorized users.

**3 User Policy Acceptance Test Cases:**

3.1 Verify that users are prompted to accept the application policies before using the app.

3.2 Verify that the system restricts access to users who have not accepted the policies.

**4 GPS Access Management Test Cases:**

4.1 Verify that users can grant and revoke GPS access as required.

4.2 Verify that the system respects the user's GPS access settings.

**5 Food Source Management Test Cases:**

5.1 Verify that new food sources can be added to the system with all required details.

5.2 Verify that users can view the list of available food sources accurately.

5.3 Verify that the system properly associates suppliers with their respective food sources.

**6 User Favorites Management Test Cases:**

6.1 Verify that users can mark specific food sources as favorites.

6.2 Verify that the system correctly maps users to their favorite food sources.

6.3 Verify that the system properly handles cases where users attempt to favorite the same source multiple times.

**7 Supplier Management Test Cases:**

7.1 Verify that new suppliers can be added to the system with all required details.

7.2 Verify that the system correctly establishes the relationship between suppliers and their food sources.

**8 User Authentication and Authorization Test Cases:**

8.1 Verify that the system enforces proper authentication for different user roles (admin, regular users).

8.2 Verify that only authorized users can access specific functionalities, such as adding new food sources or managing suppliers.

**9 Data Integrity Test Cases(nonfunctional):**

9.1 Verify that the database enforces data integrity constraints such as primary key uniqueness and foreign key relationships.

9.2 Verify that the data remains consistent even after various user interactions.

**10 System Performance Test Cases:**

10.1 Verify that the system response time remains within acceptable limits during peak usage.

10.2 Verify that the system can handle a large number of concurrent user sessions without performance degradation.