Chapter No 08
Testing

8. Testing

Testing is the process of checking if the Road Sync app is working properly. It helps in finding and fixing any bugs or issues that might affect the app's performance. By testing, the speed and overall quality of the app can be improved. This makes sure that all users, like travelers, fleet managers, and administrators, have a smooth and easy experience.

8.1 Test Cases

Test cases are simple situations or conditions made to check if a software or app is working properly. They are used to give input to the system and see if the output is what we expect. This helps developers and testers know if the software meets the needed requirements. By running these test cases, they can make sure the software works well, gives a good experience to users, and helps find and fix any problems.

User Module Testing

#	Test Case	Description	Status
1	Sign up	Verify user registration and login	Pass
2	Sign in	Verify user registration and login	Pass
3	forgot password	User can reset their password using the "Forget Password" option.	Pass
4	Trip Creation	User can create a new trip with details	Pass
5	Join Trip with Code	Another user can join using the invite code	Pass
6	Real-time Location Sharing	User location updates in real-time on the map	Pass
7	Geofencing Alerts	Users alerted when leaving 3km radius	Pass
8	Send Notification	Users can send alerts to other trip members	Pass
9	Offline Location Storage	Location stored when offline and syncs later	Pass
10	Emergency Alert	User can send SOS alert	Pass

11	Trip History	User can see past trips and route data	Pass
12	View profile	User can view their personal profile details.	Pass
13	Update profile	User can update their profile info like name or phone number.	Pass
14	Change password	Logged-in user can change their current password securely.	Pass
15	Delete account	User can permanently delete their account after confirmation.	Pass
16	Admin login	Admin can securely login to the admin dashboard.	Pass
17	User management	Admin can view, edit, or remove registered users.	Pass
18	Trip monitoring	Admin views all trips with details, and can logout after reviewing.	Pass
19	Logout	Proper session termination	Pass

Admin Panel Testing

#	Test Case	Description	Status
1	Admin Login	Secure access to admin dashboard	Pass
2	User Management	Admin can view and manage registered users	Pass
3	Trip Monitoring	Admin can view ongoing trip	Pass
4	View Trip	View trip details	Pass

8.2 Detailed Test Cases

Test case ID: Sign Up_1 Test   **Designed by:** Aqsa noor
 Test Priority (Low/Medium/High): High Test   **Designed Date:** 06th may,2025
Module Name: Registration screen   **Test Executed by:** Eman fatima
 Test Title: Get registered with Sign Up detail   **Test Execution Date:** 06th may,2025

Description: This feature allows users to create a new account with the Application. In order to create a new account, the user has to provide required information.

Pre-Condition:
User has no existing account or has registered.

Table 8.1singup

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open app and navigate to registration screen	-	Registration screen displayed	Displayed	Pass
2	Enter valid user details	Name, Email, Password	Details accepted	Accepted	Pass
3	Click register	-	Account created and user logged in	Success	Pass
4	Logout	-	User logged out	Success	Pass
5	Login with created credentials	Email, Password	User logged in successfully	Success	Pass

Post-Condition:
User account created and accessible.

8.1.2 SignIn

In Test case ID: SignIn_2	**Test Designed by**: Aqsa noor
Test Priority (Low/Medium/High): High	**Test Designed date:** 06th may,2025
Module Name: Sign in	**Test Executed by**: eman fatima
Test Title: Sign in	**Test Execution date**: 06th may ,2025

Description: This feature allows users to create a new account with the Application. In order to create a new account, the user has to provide required information.

Pre-Condition:
A user must not have an existing account.

Table: 8.2singUp

Steps	Test steps	Test data	Expected Result	Actual Result	Status
1	Navigate to registration page		User will be registered successfully	User registered successfully and moved to dashboard	Pass
2	Provide First Name	Test			
3	Provide Last Name	User			
4	Provide Phone number	03136327745			

5	Provide Email	Ayeshabibi7680@ gmail. Com			
6	Provide Password	123456			
7	Provide confirm password	123456			
8	Click to Sign up button		User must be moved on dashboard		Pass

Post-conditions:
 A Users account is created and they will be able to access all functionalities provided by the Application.

8.1.3 forgot password

Test case ID: Forgot password_3	**Test Designed by:** Aqsa Noor
Test Priority (Low/Medium/High): Medium	**Test Designed date:** 06th may,2025
Module Name: Forgot password screen	**Test Executed by:** Eman Fatima
Test Title: Forgot password screen	**Test Execution date:** 06th may,2025

 Description: Allow user to reset his/her password

Pre-Condition:
User must be logged in and have a good internet connection.

Table: 8.3 forgot password

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open login screen	-	Login screen displayed	Displayed	Pass
2	Click on "Forget Password"	-	Password reset screen displayed	Displayed	Pass
3	Enter registered email	user@example.com	Email accepted	Accepted	Pass
4	Submit reset request	-	Password reset email sent	Sent	Pass
5	Check inbox	-	Reset link received	Received	Pass
6	Reset password from email link	New password	Password updated	Updated	Pass
7	Login with new password	New credentials	Login successful	Success	Pass

Post-Condition:
User is able to reset and login with new password.

8.1 .4 trip creation

TC_02 - Trip Creation	**Test Designed By:** Aqsa Noor
Test Case ID: TC_02	**Test Execution Date:** 06th may,2025
Module: Trip Creation	**test executed by:** Eman Fatima
Test Priority: High	**test execution date:** 06th may,2025

Description: User can create a new trip with correct details.

Pre-Condition:
User must be logged in and connected to the internet.

Table : 8.4 trip creation

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Navigate to trip creation screen	-	Trip creation screen opened	Opened	Pass
2	Enter trip name	Weekend Ride	Trip name accepted	Accepted	Pass
3	Select start and end locations	Location A, Location B	Locations set correctly	Set	Pass
4	Click create	-	Trip created and user added as admin	Created	Pass

Post-Condition:
 Trip visible in user dashboard and Firebase.

8.1.5 invite & join trip

TC_03 - Invite & Join Trip   **Test Designed By: Aqsa Noor**
Test Case ID: TC_03   **test designed date: 6th may,2025**
Module: Invite & Join Trip   **test execution by: Eman Fatima**
Test Priority: High   **test execution data: 6th may,2025**
Description: Users can join an existing trip using an invite code.

Pre-Condition:
User must be logged in and have a valid invite code

Table: 8.5 invite & join trip

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open app and navigate to join trip screen	-	Join trip screen opened	Opened	Pass
2	Enter valid invite code	ABC123	Code accepted	Accepted	Pass
3	Click join	-	User added to trip	Added	Pass

Post-Condition:
 User included in trip group and location sharing enabled.

8.1.6 real -time location sharing

TC_04 - Real-time Location Sharing	**Test Designed By:** Aqsa Noor
Test Case ID: TC_04	**Test designed Date:** 6th may,2025
Module: Real-time Location Sharing	test execution by: Eman Fatima
Test Priority: High	test execution date: 6th may,2025

Description: User location updates in real-time on the trip map

Pre-Condition:
 User is part of an active trip and location permissions are granted.

Table: 8.6 real _time location sharing

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Start trip and enable location sharing	-	Location sharing enabled	Enabled	Pass
2	Move device physically	-	Location marker moves on map	Moves	Pass
3	Verify other users' locations update	-	Locations visible on map	Visible	Pass

Post-Condition:
 Real-time locations synced and displayed.

8.1.7 Geofencing Alerts

TC_05 - Geofencing Alerts **Test Case ID:** TC_05 **Module:** Geofencing Alerts **Test Priority**: Medium	**Test Designed By:** Aqsa Noor **Test designed Date:** 6th may,2025 **Test execution by:** Eman Fatima **Test execution date**: 6th may,2025

Description: Users get alerted when leaving the 3km trip radius.

Pre-Condition:
User must be part of an active trip with geofencing enabled.

Table: 8.7 geafencing alerts

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Start trip with geofencing enabled	-	Geofence active	Active	Pass
2	Move device outside 3km radius	-	Alert notification received	Received	Pass
3	Return inside radius	-	Alert cleared	Cleared	Pass

Post-Condition:
 Geofence alerts function correctly.

8.1.8 send notification

TC_06 - Send Notification	**Test Designed By:** Aqsa Noor
Test Case ID: TC_06	**test designed date:** 6th may,2025
Module: Send Notification	**test execution by:** Eman Fatima
Test Priority: Medium	**test execution date:** 6th may,2025

Description: Users can send notifications to other trip members.

Pre-Condition:
User must be in an active trip with network access.

Table: 8.8send notification

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open notification panel	-	Notification panel displayed	Displayed	Pass
2	Compose message	Meet at gas station	Message ready	Ready	Pass
3	Send notification	-	Notification received by members	Received	Pass

Post-Condition:
Notifications delivered successfully.

8.1.9 Offline Location Storage

TC_07 - Offline Location Storage	**Test Designed By:** Aqsa noor
Test Case ID: TC_07	**Test designed Date:** 6th may,2025
Module: Offline Location Storage	**test execution by:** Eman Fatima
Test Priority: Medium	**test execution date**: 6th may,2025

Description: Location data stored offline and synced when online.

Pre-Condition:
 User has network interruption during trip.

Table:8.9 Offline Location Storage

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Start trip and enable offline mode	-	Offline mode active	Active	Pass
2	Move device while offline	-	Location data stored locally	Stored	Pass
3	Reconnect to network	-	Stored data synced to server	Synced	Pass

Post-Condition:
Offline data synced correctly.

8.1.10 Emergency Alert

TC_08 - Emergency Alert	**Test Designed By:** Aqsa noor
Test Case ID: TC_08	**Test designed Date:** 6th may,2025
Module: Emergency Alert	**Test execution by:** Eman Fatima
Test Priority: Medium	T**est execution date**: 6th may,2025

Description: Users can send emergency SOS alerts to all trip members.

Pre-Condition:
User is part of active trip.

Table : 8.10 Emergency Alert

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open emergency alert screen	-	Screen displayed	Displayed	Pass
2	Send SOS alert	-	Alert sent to trip members	Sent	Pass
3	Members receive and acknowledge alert	-	Alert acknowledged	Acknowledged	Pass

Post-Condition:
Emergency alert feature works as expected.

8.1.11 Trip History

TC_09 - Trip History   **Test Designed By**: Aqsa noor
Test Case ID: TC_09   **Test designed Date**: 6th may,2025
Module: Trip History   **Test execution by:**   Eman Fatima
Test Priority: Medium   T**est execution date**: 6th may,2025

Description: Users can view past trips and route analytics.

Pre-Condition:
User has completed at least one trip.

Table:8.11 trip history

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open trip history screen	-	History screen displayed	Displayed	Pass
2	Select past trip	-	Trip details shown	Shown	Pass
3	View analytics and reports	-	Data visible	Visible	Pass

Post-Condition:
Trip history displayed accurately.

8.1.12 admin login

TC_11 - Admin Login	**Test Designed By**: Aqsa noor
Case ID: TC_11	**Test designed Date**: 6th may,2025
Module: Admin Login	**Test execution Date**: eman Fatima
Test Priority: Medium	T**est execution date**: 6th may,2025

Description: Admin can securely login to the admin dashboard.

Pre-Condition:
 Admin has valid credentials.

Table: 8.12 admin login

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open admin login screen	-	Login screen displayed	Displayed	Pass
2	Enter valid admin credentials	Admin user, password	Credentials accepted	Accepted	Pass
3	Access dashboard	-	Dashboard displayed	Displayed	Pass

Post-Condition:
 Admin logged in successfully.

8.1.13 User Management

TC_12 - User Management   **Test Designed By:** Aqsa noor
Test Case ID: TC_12   **Test designed date** Date: 6th may ,2025
Module: User Management   **test execution by:** eman Fatima
Test Priority: Medium   **test execution date**: 6th may, 2025

Description: Admin can view, edit, or remove registered users.

Pre-Condition:
 Admin is logged in.

Table:8.13 user management

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open user management panel	-	User list displayed	Displayed	Pass
2	Select user	-	User details opened	Opened	Pass
3	Change user active and inactive status	-	Changes saved	Saved/Changed	Pass

Post-Condition:
User data managed successfully.

8.1.14 trip monitoring

TC_13 - Trip Monitoring	**Test Designed By**: Meerab shahbaz
Test Case ID: TC_13	**Test Execution Date:** 10th may,2025
Module: Trip Monitoring	**test execution by:** Fatima sarfraz
Test Priority: Medium	**test execution date**: 10th may ,2025

Description: Admin views all trips with details, and can logout after reviewing.

Pre-Condition:
Admin is logged in.

Table: 8.14trip monitoring

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Access trip dashboard	-	Dashboard opened	Opened	Pass
2	Select a trip from the list	-	Trip details shown	Displayed	Pass
3	Admin can Logout from admin panel	-	Admin successfully logged out	Logged out	Pass

Post-Condition:
Admin has viewed trips and logged out successfully.

8.1.15 View Profile

Test case ID: View Profile_14	**Test Designed by:** Meerab shahbaz
Test Priority (Low/Medium/High): Medium	**Test Designed date:** 11th may,2025
Module Name: View Profile	**Test Executed by:** Fatima sarfraz
Test Title: View Profile	**Test Execution date:** 11th may,2025

Description: the view profile feature is to verify that users can effectively access, review, manage, and update their personal profile information.

Pre-Condition:
The user must be logged into their account to access the view profile feature.

Table: 8.15 view profile

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Login and open side menu/profile	-	Profile screen displayed	Displayed	Pass
2	Verify displayed data	Name, Email, Phone	Matches stored data	Matches	Pass

Post-Condition:
Profile data shown correctly to the user.

8.1.16 Edit Profile

Test Case ID: Edit Profile_15	**Test Designed by:** Meerab shahbaz
Test Priority (Low/Medium/High): High	**Test Designed Date:** 12TH may,2025
Module Name: Edit Profile	**Test Executed by:** Fatima sarfraz
Test Title: Edit Profile	**Test Execution Date:** 12th may,2025

Description: Test the Edit Profile Screen

Pre-conditions:
 User must update profile /edit to the Application.

Table 8.15 edit profile

Step	Test Step	Test Data	Expected Result	Actual Result	Status

1	Open profile screen	-	Profile displayed	Displayed	Pass
2	Click on "Edit"	-	Fields become editable	Editable	Pass
3	Update name and phone		Input accepted	Accepted	Pass
4	Click "Save"	-	Data saved and updated	Updated	Pass
5	Reopen profile screen	-	Updated info visible	Updated	Pass

Post-Condition:
User profile info updated in database and reflected in UI.

8.1.17 Change Password

Test Case ID: Change password _16	**Test Designed by:** Meerab sahabaz
Test Priority (Low/Medium/High): High	**Test Designed Date:** 13th may,2025
Module Name: Change Password	**Test Executed by:** Fatima sarfraz
Test Title: Change Password	**Test Execution Date:** 13th may,2025

Description: Test the Change Password Screen

Pre-conditions:
 User must login to the Application

Table: 8.17 change password

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Open profile or settings screen	-	Settings/profile screen displayed	Displayed	Pass
2	Click on "Change Password"	-	Change password form displayed	Displayed	Pass
3	Enter current password	oldpass123	Current password validated	Validated	Pass
4	Enter new password	newpass456	New password accepted	Accepted	Pass
5	Confirm new password	newpass456	Passwords match	Matched	Pass
6	Click "Save/Change"	-	Password updated	Updated	Pass
7	Re-login with new password	newpass456	Login successful	Success	Pass

Post-Condition:
User password updated and verified with new login.

8.1.18 Delete Account

Test case ID: delete account_17	**Test Designed by:** Meerab shahbaz
Test Priority (Low/Medium/High): High	**Test Designed date:** 14th may ,2025
Module Name: delete account	**Test Executed by:** Fatima Sarfraz
Test Title: delete account	**Test Execution date:** 14th may,2025

Description: The logout section provides a way for the users to successfully sign out from the App.

Pre-Condition:
The user must be currently logged in to the system

Table 8.18 delete account

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Navigate to profile/settings	-	Profile/settings screen displayed	Displayed	Pass
2	Click "Delete Account"	-	Warning popup displayed	Displayed	Pass
3	Confirm deletion	Yes, Delete	User data removed	Removed	Pass
4	Redirect to login/signup screen	-	Redirect successful	Redirected	Pass
5	Attempt login with deleted email	Deleted user credentials	Error: "Account not found"	Error shown	Pass

Post-Condition:
User account deleted from database and access revoked.

8.1.19 logout

TC_10 – Logout   **Test Designed By**: Meerab Shahbaz
Test Case ID: TC_10   **Test designed Date**: 15th may,2025
Module: Logout   **Test execution by:**   Fatima Sarfraz
Test Priority: High   **Test execution date:** 15th may,2025

Description: Users can successfully log out of the application

Pre-Condition:
User is logged in.

Table: 8.19logout

Step	Test Step	Test Data	Expected Result	Actual Result	Status
1	Navigate to logout option	-	Logout option visible	Visible	Pass
2	Click logout	-	User session terminated	Terminated	Pass
3	Return to login screen	-	Login screen displayed	Displayed	Pass

Post-Condition:
User logged out successfully.