

Pango – Manual STP:

1. Test Plan Overview

Objective:

To verify that the Pango Manager Web Application functions as intended, including user management, authentication, parking operations, and history tracking.

2. Scope

In-Scope: Functionality, E2E Tests

- User Management (Add/Delete Users)
- Authentication (Login/Logout)
- Parking Operations (Start/End Parking)
- Viewing Parking History

Out-of-Scope:

- Backend API testing
- Mobile responsiveness
- Different Drivers (the tests are in chrome driver)
- Stress and loading tests (a lot of different users use the App)

Test Strategy

- **Functional Testing:** Test all user facing functionalities.
- **UI Testing:** Basic validation of layout, elements, and navigation.
- **Boundary Testing:** Test for input limits (username length, passwords...).
- **Negative Testing:** Test invalid inputs and edge cases.
- **Regression Testing:** Ensure previous features work after updates.

4. Test Environment

- **Browser:** Chrome
- **OS:** Windows
- **Data:** Sample user data, random data

5. Test Cases

A. User Management

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|------------------------------|--|----------------------------|
| UM01 | Add valid user | 1. Navigate to User Mgmt 2. Click "Add User" 3. Enter valid details 4. Click Save | User is added successfully |
| UM02 | Add user with missing fields | Leave one or more fields empty | Error message appears |
| UM03 | Delete existing user | Select user, click Delete | User is deleted from list |

B. Authentication

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|-----------------------|------------------------------|------------------------|
| AU01 | Valid login | Enter correct email/password | Redirect to dashboard |
| AU02 | Invalid login | Enter wrong credentials | Show error message |
| AU03 | Blank login | Leave fields empty | Show validation error |
| AU04 | Logout | Click logout | Redirect to login page |

C. Parking Operations

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|--|-----------------------------|-------------------------------|
| PK01 | Start parking (valid input) | Select vehicle, click Start | Parking session starts |
| PK02 | Start parking (already parked vehicle) | Try to start again | Error: already active session |

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|--------------------------------------|----------------------------------|---------------------------|
| PK03 | End parking (valid) | Select active session, click End | Parking session ends |
| PK04 | Parking duration displayed correctly | Start → Wait → End | Duration/time is accurate |

D. Parking History

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|-----------------------|--------------------|---------------------------------|
| PH01 | View history | Go to History page | See list of parking records |
| PH02 | History empty state | no history | Show "No history found" message |

E. UI and Miscellaneous

| Test Case ID | Test Case Description | Steps | Expected Result |
|--------------|-----------------------|---|-----------------------------|
| UI01 | All buttons clickable | Try each button | All respond appropriately |
| UI02 | Responsive layout | Resize browser or open on different screen size | Layout adapts correctly |
| UI03 | Input validation | Try invalid characters | System blocks/rejects input |
| UI04 | System error handling | Simulate backend failure | Show user-friendly error |

6. Entry and Exit Criteria

Entry Criteria

- Functional requirements are finalized

- App is deployed to test environment

Exit Criteria

- All critical test cases pass
- No high/critical severity bugs remain