TEST REPORT: PROJECT LIFT

Date: May 22, 2023

Project Title: PROJECT LIFT

Test Objective: Validate that the lift system meets the defined business and technical requirements.

Test Type: Functional & Technical

Test Methodology: BDD (Behavior Driven Development)

Test Coverage: Access control, weight capacity, access methods, intercom functionality, mobile app integration, emergency code utilization.

# Functional Requirements Overview

| Requirement No. | Description |
| --- | --- |
| FR-001 | The lift serves 4 floors (Levels 1 to 4). |
| FR-002 | Lift capacity is limited to 10 adults, each not exceeding 100kg. |
| FR-003 | Level 4 access is restricted to designated NFC chip cards. |
| FR-004 | Levels 1 to 3 are accessible with a Fish Bone Fob (FBF). |
| FR-005 | Building Manager can access all levels using a synced mobile app. |
| FR-006 | Emergency service can access the lift using Code: 1423 2123. |
| FR-007 | The lift must include a functional intercom system. |

# BDD Format

Given that I have a <Access Device Type>  
And <Number of Adults> with <Average Weight>  
When I tap it on the access point  
Then I am <Access Status> to <Level>

## Test Case 1: Valid Access with Maximum Load

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Designated NFC | 10 | 100kg | Access Granted | Pass |
| 3 | FBF | 10 | 100kg | Access Granted | Pass |
| 2 | FBF | 10 | 100kg | Access Granted | Pass |
| 1 | FBF | 10 | 100kg | Access Granted | Pass |

## Test Case 2: Unauthorized NFC Attempt for Level 4

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Non-Designated NFC | 10 | 100kg | Access Denied | Fail |

## Test Case 3: Exceeding Passenger Limit (11 Adults)

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Designated NFC | 11 | 100kg | Access Denied | Fail |
| 3 | FBF | 11 | 100kg | Access Denied | Fail |
| 2 | FBF | 11 | 100kg | Access Denied | Fail |
| 1 | FBF | 11 | 100kg | Access Denied | Fail |

## Test Case 4: Exceeding Weight Limit (101kg per Adult)

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Designated NFC | 10 | 101kg | Access Denied | Fail |
| 3 | FBF | 10 | 101kg | Access Denied | Fail |
| 2 | FBF | 10 | 101kg | Access Denied | Fail |
| 1 | FBF | 10 | 101kg | Access Denied | Fail |

## Test Case 5: Valid Access with Below Capacity

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Designated NFC | 9 | 100kg | Access Granted | Pass |
| 3 | FBF | 9 | 100kg | Access Granted | Pass |
| 2 | FBF | 9 | 100kg | Access Granted | Pass |
| 1 | FBF | 9 | 100kg | Access Granted | Pass |

## Test Case 6: Zero Passenger Load Access

| Level | Access Device Type | No. of Adults | Average Weight | Access Status | Test Status |
| --- | --- | --- | --- | --- | --- |
| 4 | Designated NFC | 0 | 100kg | Access Granted | Pass |
| 3 | FBF | 0 | 100kg | Access Granted | Pass |
| 2 | FBF | 0 | 100kg | Access Granted | Pass |
| 1 | FBF | 0 | 100kg | Access Granted | Pass |

# Technical Verification

## Test Case 7: Intercom System Functionality

| Test Objective | Result | Remarks |
| --- | --- | --- |
| Verify intercom call initiation | Pass | Intercom works fine |
| Check audio clarity and feedback | Pass | Clear audio achieved |

## Test Case 8: Mobile App Integration

| Test Objective | Result | Remarks |
| --- | --- | --- |
| Verify access to all floors using synced mobile app | Pass | Access granted on all levels |
| Verify app syncs only with Building Manager’s registered number | Pass | Authenticated to a single designated line |
| Attempt sync with unauthorized number | Fail | Sync blocked as expected |

## Test Case 9: Emergency Access Code

| Test Objective | Access Device/Code | Result |
| --- | --- | --- |
| Verify emergency code (1423 2123) access | Emergency Keypad | Pass |

# Conclusion and Recommendation

Based on the outcome of the functional and technical tests, it is recommended that PROJECT LIFT be approved for deployment. To ensure long-term security compliance, the NFC designation process and mobile sync authorization must be continuously monitored.