

A.1. Acceptance testing

Acceptance testing for the functional and non-functional requirements, for the project “Web Interface to Interact with Assets

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Functional requirements

Map Display with Asset Integration

Function	Description	Input data	Expected output	Justification	Test Result
Map display	Verify map loads with asset markers.	CSV with valid latitude/longitude data.	Map displays assets at correct locations.	Ensures accurate visualisation of asset data.	[Pass/Fail]
	Managing missing latitude/longitude values.	CSV with missing coordinates.	Error message: "Invalid asset location"	Validates system handles incomplete data gracefully.	[Pass/Fail]
	Dynamic map updates.	Updated CSV data.	Map updates with new asset locations.	Ensures real-time map reflects updated asset data.	[Pass/Fail]

Asset management

Function	Description	Input data	Expected output	Justification	Test Result
Add asset	Verify new asset addition	Asset data: name, category, location	Asset appears in asset list	Confirms the system can register new assets.	[Pass/Fail]
	Invalid asset input	Missing fields (e.g., no category)	Error message: "Missing required fields"	Ensures system handles and reports invalid inputs.	[Pass/Fail]
Edit asset	Ensure asset updates are saved	Edited asset information	Updated asset information displayed	Validates user modifications are properly saved.	[Pass/Fail]

Approve Modification	Admin approves asset changes	Asset update request	Status changes to "Approved"	Ensures administrative control over asset changes.	[Pass/Fail]
Delete Asset	Verify asset deletion.	Asset ID	Asset is removed from system	Confirms assets can be securely and permanently deleted.	[Pass/Fail]

Data integration

Function	Description	Input data	Expected output	Justification	Test Result
CSV upload	Validate asset data from CSV	CSV file with valid data	Data imported successfully	Verifies the system can extract and store asset data.	[Pass/Fail]
	Handle duplicate records	CSV with duplicate entries	Error message: “duplicate record”	Ensures data integrity by preventing duplicate records.	[Pass/Fail]
API integration	Ensure external data sync	API request with valid asset data	Database updates with new data	Validates compatibility with external systems.	[Pass/Fail]
Data validation	Validate asset input integrity	CSV with invalid fields (wrong format)	Error message: “invalid input format”	Ensures system only accepts valid data.	[Pass/Fail]

User Interface

Function	Description	Input data	Expected output	Justification	Test Result
Search	Verify asset search functionality	Asset name or category	Relevant asset displayed	Ensures efficient retrieval of asset information.	[Pass/Fail]
Invalid search	Direct incorrect search terms	Random invalid input	Message: “No results found”	Confirms system can handle invalid queries.	[Pass/Fail]
Accessibility check	Ensure compliance with WCAG 2.1	Screen reader navigation	Accessible and usable UI	Validates system meets accessibility standards.	[Pass/Fail]
Responsive design	Justify mobile responsiveness	Access system via mobile, tablet or desktop	Consistent UI across devices	Ensures usability across different devices.	[Pass/Fail]

Non-functional requirements

Performance & Scalability

Function	Description	Input data	Expected output	Justification	Test Result
Load speed	Evaluate map rendering time	CSV with 10,000 asset records	Map renders within 3 seconds	Ensures quick data display for large datasets.	[Pass/Fail]
System load	Supervise concurrent users	500 concurrent users accessing system	No performance degradation	Verifies system stability under heavy user load.	[Pass/Fail]

Security

Function	Description	Input data	Expected output	Justification	Test Result
Authentication	Ensure secure login	Valid username/password	Access granted	Approve user identity before granting access.	[Pass/Fail]
Unauthorised Access	Restrict access to sensitive areas	Invalid credentials	Error message: “Access denied”	Ensures restricted areas are secure.	[Pass/Fail]
Data encryption	Ensure secure data transmission	Simulate data interception	Data remains encrypted (AES-256, SSL/TLS)	Confirms compliance with industry encryption standards.	[Pass/Fail]