

# Test Plan for iMove Inventory Management

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A Mobile Solution

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This is the test plan of mobile inventory management project for iMove.

# Approval

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ACKNOWLEDGMENT			
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## Related Documents

Ref #	Document Name
01	IEEE Test Plan Template
02	Requirement Driven Test Plan Template

## Glossary

Term	Definition
Bug	See Defect
Defect	Software function does not work as per specification
Defect Owner	The person who created the defect
Issue	Software function does not work as expected or is not specified
RDT	Requirement Driven Testing
SDLC	Software Development Life Cycle
SME	Subject Matter Expert
TDD	Test Driven Environment
UAT	User Acceptance Testing

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# Introduction

This test plan document describes the scope, strategy, resources and schedule of intended testing activities to be undertaken for iMove inventory management system.

## Purpose

This document provides the following guidance:

- Test Strategy
- Testing objectives and scope;
- Test phases;
- Test schedule and milestones;
- Entry for each milestone's phase;
- Tasks to be performed during each phase;
- Deliverables and exit criteria for each milestone;
- Roles and responsibility;
- A description of resources and tools to be used to conduct testing.

## Project Overview

iMove Company is headquartered in Hong Kong and has a loyal customer base of over 2000 throughout Asia. It has its own distribution centers and maintains a fleet of delivery vehicles. Its information systems are all centrally maintained by the Information Systems (IS) staff.

The CEO of iMove wants to expand their customer base and reduce the cost of doing business. Each employee at iMove has internet access through the corporate hub. The most common use of the internet is for e-mail with sales staff (about 10) and other business partners (about 25). The company maintains a website that provides information on the company and its products.

The CEO has decided to implement a mobile solution for inventory management, which will provide its sale staff and business partners up-to-date data on its inventory anywhere any time.

We have taken the contract of this project.

# Testing objectives and scope

The testing is aimed to validate and verify system functionality works to project requirements. Here in specific, the system can provide up-to-date data on iMove's inventory all over the world 24x7 to its sales staff(about 10) and business partners(about 25). Furthermore, provide confidence for iMove our solution meets their needs.

## Features to be tested

1. Stable and robust inventory data centre.
2. Real-time inventory data access and update.
3. Web access from the Asia and world
4. Multi-platform Mobile access
5. Secure access management based on work flow modelling

## Features Not to be tested and constraints

1. Optimization of workflow  
We are not providing a ERP system and not specialized in these field.
2. Supply chain management and barging  
The actually price and amount of supplies are made by managers.
3. Client side applications  
This system is used by our internal users.

## TESTING STRATEGY

The purpose of the testing is to verify the functionality of all components, ensuring they satisfy the defined and agreed technical and business requirements.

The model of your system is shown below.

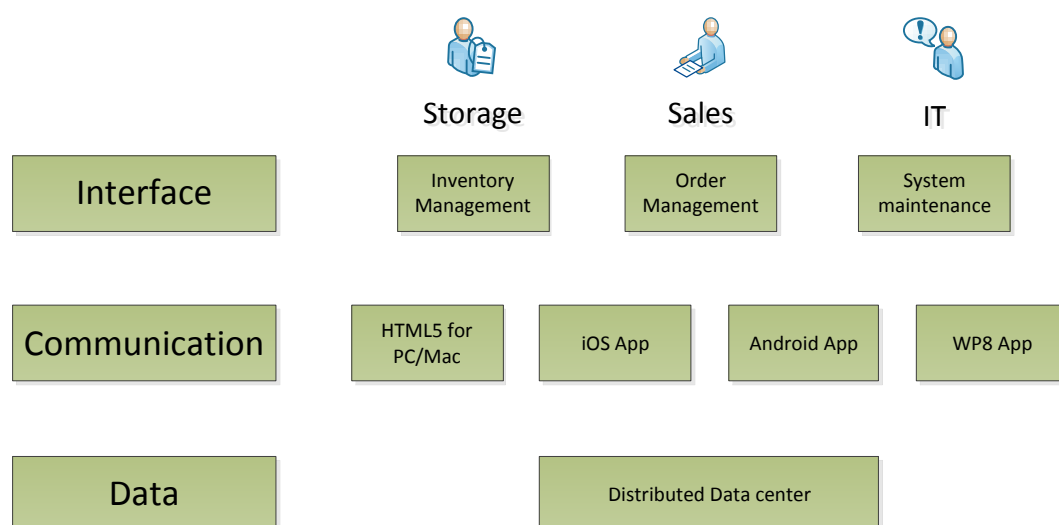


Figure 1 – System architecture

The system is composed of three layers, User Interface, Communication and Data.

User interface provides users various functions depending on their roles and the work flow of iMove company. The storage staffs manage the inventory, the sales quarry the inventory and make orders, and the IT staffs maintain the system. According to this architecture, our test plan is divided into four parts, requirements testing, unit testing, integration testing, and user acceptance testing.

## Requirements Testing

The purpose of this test is to model the workflow of iMove company. Fast prototype of the data centre will deployed with Ruby and Rails and the testing environment is PC/Mac.

### Entry Criteria

Requirements testing may commence when the following criteria have been satisfied:

1. The contract is signed.
2. The requirements documents are written and sent to our company.
3. Fast prototype of the data centre server is build.

### Exit Criteria

Requirements testing will be considered complete when the following conditions have been met:

1. All requirements are filed and included in our fast prototype.
2. System fast prototype is approved by the client.
3. All three major user groups approved the work flow and user interface.

## Unit Testing

The purpose of unit testing is to validate all the low level modules are working in a right and effective ways. These modules include data base management, web server, xml data exchange, and wireless accessing. Pair coding and UML development will deployed here to make sure the code is consistent with the design.

### Entry Criteria

Unit testing may commence when the following criteria have been satisfied:

1. Requirements prototype is approved by both iMove and our develop team.
2. Mock environment is set up.
3. Fast prototype of the data centre server is build.

### Exit Criteria

Unit testing will be considered complete when the following conditions have been met:

1. Data base management is tested fast and robust.
2. Web server can be accessed by all users with no lagging.
3. Web server can generate emails automatically.

4. The user interface is displaying in their right by current major browsers, such as IE6/8/9, chrome, safari and opera.
5. All three major mobile apps can parse our prototype server in the right form, and a wap version of our server is also provided for traditional cell phones.

## **Integration Testing**

There are four steps of our integration test. First, the data base management and the web server will be integrated with mock data and operations. Second, three mobile apps and wap version of our web server will be integrated. Then the real inventory data will be put into test. At last the email function will be tested.

### **Entry Criteria**

Integration testing may commence when the following criteria have been satisfied:

1. All codes have been unit tested and passed.
2. The data server is set up.
3. Test users across different locations all over Asia are invited.

### **Exit Criteria**

Integration testing can be considered complete when the following conditions have been met:

1. Web server can manage the data base in data centre successfully with no lagging.
2. Storage manage, order manage, maintenance manage interface is working successfully with the mock data and mock operations.
3. Mobile apps can access our data centre with no lagging and operate successfully.
4. Multiple operations across different locations in the same time are successful.

## **System Testing**

The purpose of the system testing is to validate that the complete and integrated system complies with functional requirements and business requirements. Especially the 24 x 7 access and massive operations features should be tested over a week. During this period, the performance is the major concerns. The access time will be tested by auto generated operation over different locations. Ten times of normal operations will be submitted simultaneously in order to test the robustness. And orders on the same products is also should be tested.

### **Entry Criteria**

System testing may commence when the following criteria have been satisfied:

1. Integration testing has been completed.
2. Mock data and test users are invited.

### **Exit Criteria**

System testing will be considered complete when the following conditions have been met:

1. The real-time access can be guaranteed for 24 x 7.

2. All operations are successful and no conflict is left unsolved.

### **User Acceptance Testing (UAT)**

After the system testing, the system will deploy in parallel with old system for UAT. During UAT, our system will be working with old system in parallel for two weeks to make sure our system is accurate and fast. Then the old system will be shut down.



## Test Milestones and Schedules

### Month 1 (1/11/2012-30/11/2012)

Milestones	Entry criteria	Exit Criteria	Priority	Status
Requirement Development	High level architecture documentation and project scope.	Document completed and reviewed	High	Done
Requirement Test	High level architecture and scope for user story.	Prototype system is approved.	High	Not started
Unit Testing	Requirement testing finished.	Unit testing is approved. All modules are functional.	High	Not started
Integration Testing	Unit testing is finished. And mock data and users are prepared.	All four steps are passed, and	High	Not started

### Month 2 (1/12/2012 - 31/12/2012)

Milestones	Entry criteria	Exit Criteria	Priority	Status
System Testing	Integration testing is passed. And real data and testing users from different locations are invited.	The real time 24 x 7 online web access and operation is approved by test users and auto generated operations.	High	Not started
User Acceptance Testing	System testing is passed.	iMove approves our system, and shuts down the old system.	High	Not started

Done – task complete

In progress – currently working on it

Pending – ready to start but waiting for requirements

Not started – planned tasks

Removed – task no longer required

## Test Deliverables

Testing Team will provide specific deliverables during the project. These deliverables fall into the following basic categories:

1. Documents,
2. Test Cases / Bug Write-ups, and
3. Reports.

## Testing Resources

### Qu Xiaofeng - Project Manager

Responsible to:

- Develop manager

Responsible for:

- Making test plan
- Manage peoples and resources
- Coordinate with clients and develop team.

### Wang Xiaoer – Testing Engineer

Responsible to:

- Project manager

Responsible for:

- Making test case generator
- Coordinate with develop team to supervise the unit testing
- Revising integration testing plan and invite people from develop team to form the temporary integration test team
- Revising system testing plan and invite people from develop team to form the temporary integration test team

## Testing Tool

StarUML for UML drafting and code generation

Understand for static code testing

Cell phone simulators for app test.