Home Inventory Management System

(HIMS)

Release 01.00.00

SOFTWARE DEVELOPMENT PLAN

Document No. HIMS-01.00.00-SDP00

Revision 0

November 29, 2014

APPROVALS

Prepared by: _____
IT Analyst Date

Approved by: _____
Project Manager Date

Approved by: _____
System Sponsor Date

Approved by: _____
CEO Date

Table of Contents

2. Organizational Chart

10. ***Project Control, Tracking and Reporting***

11. ***Software Quality Assurance***

12. ***Configuration Management***

13. ***Appendices***

1.0 Introduction

1.1 Purpose

The purpose of this project is to provide the general public with a useful and beneficial home inventory management system that will allow them to document their assets and take action if one is damaged, stolen, not working correctly or needs to be returned.

1.2 Overview

This HIMS project provides our potential users with a dynamic and responsive website paired with a mobile application for capturing home inventory pictures and details. The website will be the main portal for the users to browse their inventory, finalize the details of certain possessions and initiate insurance and warranty claims. The web and mobile applications should seamlessly communicate with each other to provide our users with up-to-date information on each page. Users will be able to email the claims departments of their insurance companies for damaged/stolen items or initiate a warranty claim. An application programming interface (API) will be developed and exposed for retailers to integrate with the system. Other functionality will include the ability to find a nearby location for the purchase of a replacement item or return of an item.

1.3 SDP Change History

Revision	Date	Author	Reason
A	12/3/2014	Fan	Issued for Review and Comments

2.0 Definitions and Acronyms

Term/ Acronym	Definitions/Acronym Expansion
API	Application Programming Interface
HIMS	Home Inventory Management System
IEEE	Institute of Electrical and Electronics Engineers
IS	Information Services
IT	Information Technology
SDP	Software Development Plan
SDS	System Design Specification
SMS	Short Messaging Service
SMTP	Simple Mail Transfer Protocol
SOW	Statement of Work
SRS	Software Requirements Specification
TCP/IP	Transmission Control Protocol/Internet Protocol

3.0 References

The following references were used in the preparation of this SDP:

HIMS-01.00.00-SOW00, *HIMS Statement of Work*
HIMS-01.00.00-SRS00, *HIMS Software Requirements Specification*
IEEE 802, *Local and Metropolitan Area Networks*
IEEE Std 29148-2011, IEEE Recommended Practice for Software Requirements Specifications
ISO 21500:2012, *Guidance on project management*
ISO 31000:2009, *Risk management*
ISO 10006:2003, *Quality management systems*
ISO 10007:2003, *Quality management systems*

4.0 Project Framework

4.1 Objectives

The objectives of the HIMS project is to provide a responsive website for storing and managing home inventory, initiating insurance and warranty claims, finding retailers, and retailer integrations to the user. A mobile application for iPhone, Android and Windows devices will also be developed that provides the same functionality of the website with the ability to perform minimal action. The HIMS will provide login management for users of the system with the ability for users to update their profile, manage addresses and locations, manage inventory pictures, details, links and attachment. It will provide functionality to browse or search for specific items on a whole or by address and give the ability to initiate an insurance or warranty claim by providing the item's details. It will allow to find nearby or online retailers to purchase a replacement item or return an item and will provide integrations for retailers to add an item to a user's account upon purchase. HIMS will also provide Auto Detection of the smart devices by the app when connected to the user's home network and will generate time automated alerts sent to those devices for security check, if taken out of range of home network.

4.2 Major Functions

The major functions of the HIMS application are to:

- Provide users to add inventory and the details associated with that inventory to their account
- Add and associate address and location within the address to the inventory items
- Provide API to retailers to submit an inventory item detail to a user's account directly after the purchase
- Ability to search the nearby stores and retailers using the map in HIMS
- Provide the ability for the user to initiate insurance claim for one or more inventory item
- Provide the ability for the user to initiate warranty claim for one or more inventory item
- Ability to associate user's home wireless network system with HIMS via smart devices
- User's smart device will use same API as retailer's to automatically submit item details to a user's account
- Administrators can generate ad-hoc reports according to search criteria provided
- Identify and send bill notice to the members who are subject to bill due periodically

4.3 Business and Technical Constraints

The HIMS project shall require the developers and the other personnel required are available for the project. It will require multiple servers nationwide to balance the load. The tracking of the smart devices will be done using users home wireless system using TCP/IP protocol. HIMS will use standard encryption protocols on passwords and will enforce password lockouts. All payments shall be processed by third-party payment processors and only billing and payment history, not details, will be recorded by the system. HIMS will be designed to run on a standard Windows server with IIS support.

4.4 Project Software Life Cycle Selection

The HIMS project shall use an Agile Evolutionary "semi-structured" software life cycle.

4.5 Project Development Methodology

The IS standards listed in Table 4.5.1 will be used during the HIMS project:

Note: The most current revision of the standard shall be used at the time the document/work product is prepared.

HIMS Project Standards

STANDARD NUMBER	TITLE
ISO 21500:2012	Guidance on project management
ISO 31000:2009	Risk management
ISO 10006:2003	Quality management systems
ISO 10007:2003	Quality management systems
IEEE 802	Local and Metropolitan Area Networks
IEEE Std 29148-2011	IEEE Recommended Practice for Software Requirements Specifications
IEEE Std 1016-2009	IEEE Recommended Practice for Software Design Specifications

4.6 Deliverables

The HIMS project deliverables and responsibilities are listed in Table 4.6.1.

HIMS Project Deliverables

ORG	TITLE	SOW	SRS	SDP	SQAP	SCMP	SDS
C-Suite	CEO	R/A	R/A	R/A	I	I	R/A
Dev	Project Sponsor	R/A	R/A	R/A	R	R	R/A
COE	Project Manager	P	R/A	R/A	R/A	R	R/A
	Functional Analyst	P	P	P	P	P	P
Report	Documentation	I	I	I	I	I	I
IT	Developer	I	R/A	I	R	R	R
	Database Admin	I	R/A	I	R	R	R
PSO	PSO Manager	R	R	R	R	R	R
Quality	SQA Representative	I	R	I	R/A	I	R

LEGEND: **P** - Prepare **R** - Review **A** - Approve **I** - Info Copy Only
RC - Review Coordinated by TEC Project Manager

NOTES:
1. SQAP and SCMP documents are appended as part of the SDP.

4.7 Metrics Data

HIMS Project metrics shall be collected using the SPI Metrics Guidelines and shall be entered in ISSEI application.

Success Criteria	Metric	SOW	SRS	SDP	SQAP	SCMP	SDS
Budget	Cost						
	Resources						
Schedule	Time						
	Days to Completion						

4.8 Training

No additional training is required for the software development team.

5.0 Project Estimates

This section provides the estimates of project size, effort, cost, and schedule.

5.1 Estimation Techniques

- SOW Phase – Conceptual estimate using Feature/Function Point method.
- Requirements Phase – Feature/Function Point methods.
- Design Phase – Feature/Function Point methods.

5.2 Size/Effort/Cost

HIMS Project is a large project based on the size criteria per IS-WIN-SEPG-1, Software Process and Product Tailoring guide.

The estimated effort and cost based on a labor rate of $55 per hour are summarized as follows:

PHASE	FEATURE POINT & FUNCTION POINT	REMARKS
CONCEPTUAL	4636 Mhrs ($252,270)	SOW level
REQUIREMENTS	5477 Mhrs ($301,231)	SRS/SDP level
DESIGN	(LATER)	SDS level

Note: Copies of the project estimate summary form and Project Estimation by Feature/Function Point Form are provided in Appendices C and D, respectively.

5.3 Schedule

The HIMS project shall use the MS Project to track its progress. A copy of the project schedule is attached in Appendix H. An updated copy of the project schedule will be included in the Project Notebook.

5.4 Assumptions

The primary assumption made throughout the estimates is that the project staff as described in Section 8.1 is actually available to conduct the project.

6.0 Project Risks

The risks associated with HIMS Project are identified in the Risk Analysis Form, see Appendix E. The risks identified in the Risk Analysis Form will be closely monitored and reviewed at major milestone completion.

The general instructions for tailoring the Software Risk Management work instruction will be followed for this project.

7.0 Project Work Breakdown Structure (WBS)

Refer to Appendix B for HIMS Work Breakdown Structure.

8.0 Project Resources

8.1 Human Resources

The HIMS project staff consists of one Functional Analyst, five Developers, two QA Testers, one IT Analyst and one Server Administrator.

8.2 Software Resources

The existing IS standard software development environment is all that is required for this project.

8.3 Hardware Resources

Existing application development workstations and clean build PC are all that is required for this project.

8.4 Critical Computer Resources

No critical computer resources are required for this project.

9.0 Project Organization

9.1 Responsibilities

Responsibility	Project Team Member	Organization
CEO	Joe Blow	Chair
Project Sponsor	Murray E. Jennex	Application Development
Project Manager	John Powers	Center of Excellence
Functional Analyst	Tim Lee	Center of Excellence
Documentation	Luke Wang	Reporting Department
Developer	David William	IT Development
Data Base Administrator	Susan White	DB
PSO Manager	Lisa Hodge	PSO
SQA Representative	Tom Steward	Quality Assurance

9.2 Organizational Chart

Refer to Appendix A for HIMS Organizational Chart.

10.0 Project Control, Tracking and Reporting

Work instruction IS-WIN-PTO-1, *Software PT&O Management Process* shall be used for project tracking and oversight.

Project reporting shall be in accordance with IS-WIN-PP-8, *Technical/Project/Senior Management Reviews* and IS-WIN-SQA-7, *SQA Management Reporting*.

Changes to project commitments shall be tracked in accordance with work instruction IS-WIN-SEPG-2, *Project Change Management*.

11.0 Software Quality Assurance

The HIMS Project Software Quality Assurance Plan (SQAP) has been prepared by the SQA team and a copy is attached in Appendix G.

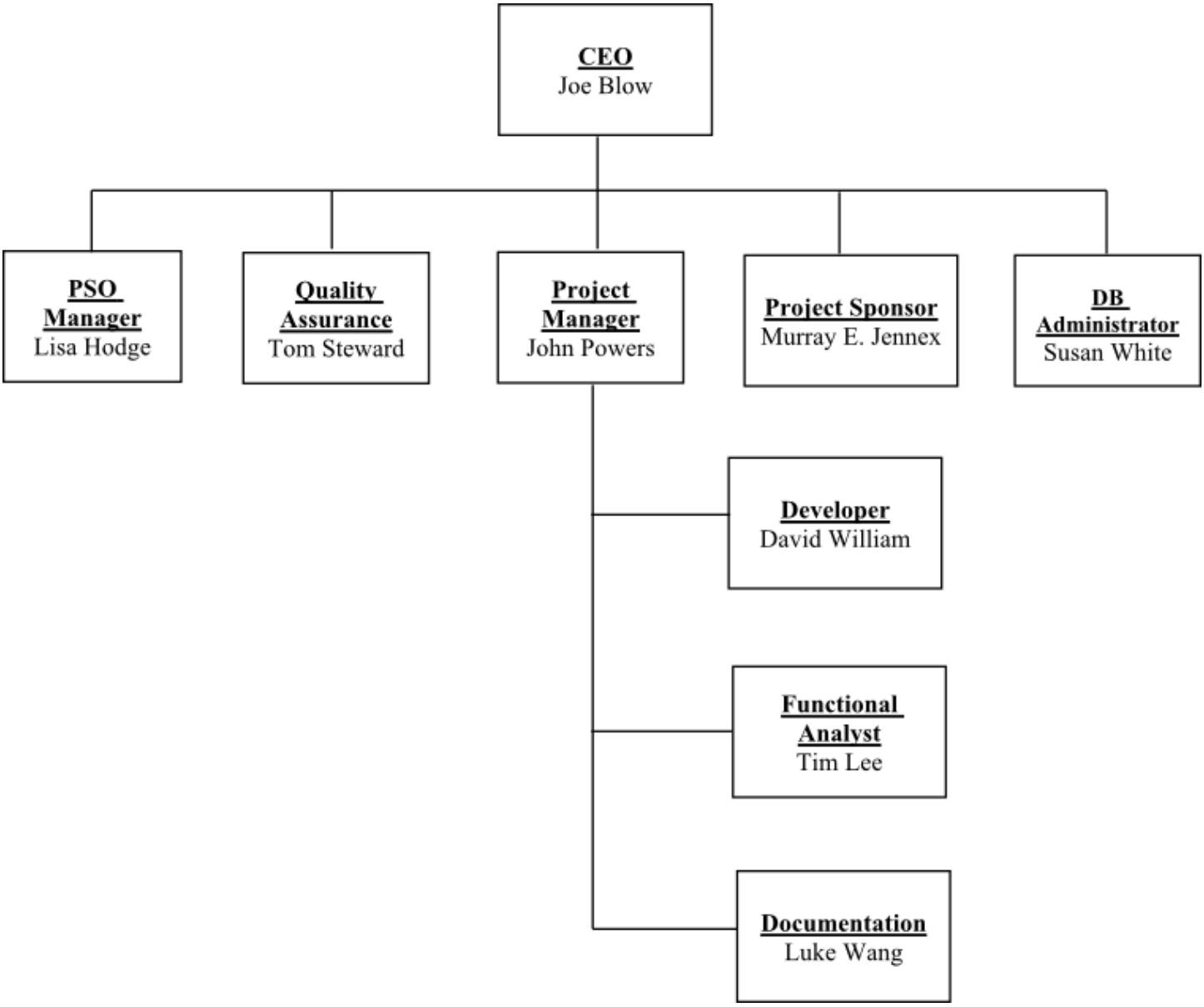
12.0 Configuration Management

The HIMS Project Software Configuration Management Plan (SCMP) has been prepared and a copy is attached in Appendix F.

13.0 Appendices

Appendix A – HIMS Organizational Chart
Appendix B – HIMS Work Breakdown Structure
Appendix C – HIMS Project Estimate
Appendix D – HIMS Project Estimation Form
Appendix E – HIMS Risk Analysis Form/Risk Management Plan
Appendix F – HIMS Project Software Configuration Management Plan
Appendix G – HIMS Project Software Quality Assurance Plan
Appendix H – HIMS Project Schedule

Appendix A – HIMS Organizational Chart



Appendix B – HIMS Work Breakdown Structure

WBS#	High Level Activity	Activity	Deliverable	Description
	Planning			
PL10		Proposal	Statement of Work	Initial proposal of project management
PL20		Development Plan	Software Development Plan	Plan to conduct software development effort
PL30		Maintenance and Customer Support Plan	Maintenance/Backup Recovery Plan	Plan to conduct Maintenance/backup recovery
PL40		Quality Assurance Plan	SQAP	Plan to ensure project's deliverables are of acceptable quality
	Requirement			
RM10		Requirements Specification	Software Requirement Specification	Specifications on software requirements
RM20		Prototype Execution	Prototype	Construction of prototype
	External Design			
ED10		Final Functional Specification	Software Design Specification	Specifications on software design
	Construction			
CN10		Coding – New	System Code	General Construction of application
CN20		Unit Testing Execution	Completed Unit Test	Developer testing
	Integration and Testing			
IT10		System Testing Preparation	System Test	Verification/Validation Plan
IT20		System Testing Execution	Completed System Test	Pre-production testing
IT30		Integration Testing Execution	Completed Integration Test	Intersystem testing (dependent systems)
IT40		Acceptance Testing Execution	Completed Acceptance Test	Post-implementation Testing
	Installation			
IN10		Installation	Final System	Moving application to production includes the time for creating release documentation
	Project Management			
PM10		Personnel Management		
PM20		Project Cost Estimates		
PM30		Project Audit		
PM40		Configuration Control		
PM50		Project Management		
PM60		Quality Assurance Review		
	Other			
OT10		Generic		Any time spent in project meetings, reviews and audits

Appendix C – HIMS Project Estimate Summary

Project Name: HIMS	**Phase** ▢ Conceptual **X Requirements** ▢ Design ▢ Other (explain)	**Date** 12/3/2014
Life Cycle Type: Agile Evolutionary		

Cost value used for estimate: $55 / man-hour	**Source of value:** IS STANDARD

Estimation Method # 1:
X Feature Point ▢ Analogy ▢ Knowledge Plan ▢ Other (explain)

		Low Estimate	**High Estimate**	**Most Likely**
Size	FP SLOC			
Effort	m-hrs	4192	6761	5477
Resource Cost	$	55	55	55
Resource Cost Estimate	$	230,580	371,881	301,231
Infrastructure Cost	$	6,000	12,000	9,400
Total Cost Estimate	$	236,580	383,881	310,631
Comments or Qualifiers on estimates (new or untested technology, inexperienced staff, environmental issues, etc)				

Notes:

1. Man-hour estimates are the grand total from Appendix D.

Metrics (Hours spent creating estimate):

Analyst = 5 hrs	Developer = 2 hrs	Project Manager = 2 hr	Total Hours = 9 hrs

Appendix D – HIMS Project Estimation (Method 1)

HIMS - Estimation by Feature / Function Points (Requirements Phase)

1.1. Feature Point Estimation Tables

Website Construction Feature Point Estimation Table						
Level of Complexity	**Description**	**Effort Per Page**	**Quantity**	**Derived Man Hours**		
				LOW	**HIGH**	**MOST LIKELY**
Low	**Database retrieval only No data input Display Only Functional Menu**	**6-8 mhrs (Used 7 mhrs)**	**4**	**24**	**32**	**28**
Moderate	**Retrieval/Update Updateable pages Render tabular data Maps Integration**	**20-40 mhrs (Used 30 mhrs)**	**8**	**160**	**320**	**240**
High	**Minimal processing logic Complex SQL Non-defined search engine Complicated processing logic/algorithms Query structure design**	**50-70 mhrs Used 60**	**4**	**200**	**280**	**240**
Total mhrs				**384**	**632**	**508**

Mobile App Construction Feature Point Estimation Table						
Level of Complexity	**Description**	**Effort Per Page**	**Quantity**	**Derived Man Hours**		
				LOW	**HIGH**	**MOST LIKELY**
Low	**Database retrieval only No data input Display Only Functional Menu**	**6-8 mhrs (Used 7)**	**4**	**24**	**32**	**28**
Moderate	**Retrieval/Update Updateable pages Render tabular data Maps Integration Master Layout Push Notifications**	**20-40 mhrs (Used 30)**	**10**	**200**	**400**	**300**
High	**Minimal processing logic Complex SQL Non-defined search engine**	**50-70 mhrs (Used 60)**	**5**	**250**	**350**	**300**
Total mhrs				**474**	**782**	**628**

Report Construction Feature Point Estimation Table						
Level of Complexity	Description	Effort Per Page	Quantity	Derived Man Hours		
				LOW	HIGH	MOST LIKELY
Low	Report Template Creation	12-16 mhrs (Used 14)	4	48	64	56
Moderate	Load templates Store populated reports	16-24 mhr (Used 20)	4	64	96	80
High	Prepare Data Populate Reports	18-26 mhrs (Used 22)	8	144	208	176
Total mhrs				256	368	312

Application Interface Construction Feature Point Estimation Table						
Level of Complexity	Description	Effort Per Page	Quantity	Derived Man Hours		
				LOW	HIGH	MOST LIKELY
Low	Interface to email	4-8 mhrs (Used 6)	1	4	8	6
Moderate	Interface to SMS gateway Automated Billing Integration from Payment Processors	16-24 mhr (Used 20)	4	64	96	80
High	API for Retailers Interface to Wireless Systems and Smart Devices	90-150 mhrs (Used 120)	3	270	450	360
Total mhrs				338	554	446
SUB-TOTAL mhrs (Effort from website, mobile app, report, and interface construction)				1452	2336	1894

Procedure and Documentation Feature Point Estimation Table						
Document Title	**Doc Type**	**Development Effort (mhrs)**	**Review Effort**	**Others (mhrs)**	**Total Effort (mhrs) "Most Likely"**	**Duration (days) "Most Likely"**
SOW	**New**	**30**	**5**	**5**	**40**	**7**
SRS	**New**	**50**	**20**	**15**	**85**	**14**
SDP	**New**	**50**	**15**	**15**	**80**	**13**
SDS	**New**	**150**	**20**	**20**	**190**	**25**
SCMP	**New**	**2**	**1**	**0**	**3**	**1**
SQAP	**New**	**2**	**1**	**0**	**3**	**1**
				Total (High 125%)	**501**	**84**
				Total (Low 75%)	**301**	**50**
				Total (Most Likely)	**401**	**67**

Assumptions:
1. Analyst is assigned full time to developing draft
2. Documentation is routed as individual documents

APPLICATION ANALYSIS AND RELATED DOCUMENTATION EFFORT					
Effort value from construction	**Application Analysis and Related Documentation Effort**		**Derived Man-Hours**		
			LOW	**HIGH**	**MOST LIKELY**
mhrs	**80% of total construction**		**1162**	**1869**	**1515**

APPLICATION DESIGN EFFORT ESTIMATION TABLE					
Effort value from construction	**Application Design and Related Documentation Effort**		**Derived Man-Hours**		
			LOW	**HIGH**	**MOST LIKELY**
mhrs	**40 % of total construction**		**581**	**934**	**758**

FORMAL REVIEWS EFFORT ESTIMATION TABLE					
Effort value from construction	**Formal Reviews (SQA, etc) and related documentation effort**		**Derived Man-Hours**		
			LOW	**HIGH**	**MOST LIKELY**
mhrs	**2 % of total construction**		**29**	**47**	**38**

SYSTEM TESTING EFFORT ESTIMATION TABLE					
Effort value from construction	System Testing and Related Documentation Effort		Derived Man-Hours		
			LOW	HIGH	MOST LIKELY
mhrs	40% of total construction		581	934	758

CONFIGURATION MANAGEMENT EFFORT ESTIMATION TABLE					
Effort value from construction	Configuration Management and Related Documentation Effort		Derived Man-Hours		
			LOW	HIGH	MOST LIKELY
mhrs	1% of total construction		15	23	19

PROJECT MANAGEMENT EFFORT ESTIMATION TABLE					
Effort value from construction	Project Management and Related Documentation Effort		Derived Man-Hours		
			LOW	HIGH	MOST LIKELY
mhrs	5% of total construction		73	117	95

	Derived Man-Hours		
	LOW	HIGH	MOST LIKELY
GRAND TOTAL mhrs	4192	6761	5477

Appendix E – RISK ANALYSIS FORM/RISK MANAGEMENT PLAN

Type of Risk	Risk Description and Consequences	Probability P	Impact I		Assumptions	Risk Mgmt Plan #
Cost	Desc - Cost overrun prior to completion of project. Cons – Project will be reanalyzed with CEO for potential increase in funding or dropping the project.	0.3	0.8	.24	No significant problems are experienced in performing the remaining project activities.	1
Schedule	Desc – Project not completed by estimated due date. Cons – Project will be reanalyzed with CEO for schedule increase or dropping the project.	0.3	0.7	.21	Resources will be available if rescheduling is required.	2
Technical	Desc - Functional requirements not fully satisfied. Cons – Significant software structure changes will be required.	0.2	0.8	.16	Software and Hardware structure changes are minor.	N/A
Technical	Desc – System not interfacing with wireless systems and smart devices as designed. Cons – Significant time and resources will be required to redevelop.	0.3	0.4	.12	Software and Hardware resources available can be programmed as functionally defined.	N/A
Resource	Desc - Current personnel working on the project voluntarily quit their jobs or are forced to leave. Cons – Retraining of new personnel will impact schedule.	0.2	0.7	.14	Current key personnel would stay until the project is completed.	N/A
Resource	Desc - Current personnel working on the project do not have enough time to complete their tasks. Cons - Need to reschedule tasks or free other resources to complete unfinished tasks.	0.5	0.3	.15	Other resources are available or tasks can be rescheduled.	N/A

Probability and Impact values = (Low = .1-.2; Minor = .3-.4; Moderate = .5-.6; Significant = .7-.8; High=.9-1)

Metrics (Hours spent creating this form):

Analyst = 2 hrs	Developer = 0 hr	Project Manager = 0 hr	Total Hours = 2 hrs

RISK MANAGEMENT PLAN # 1

Revision 0 Date: 11/29/2014

Project Name: HIMS

Risk Description and Consequences:
Description: Cost overrun prior to completion of project.
Consequence: Project will be reanalyzed with CEO for potential increase in funding or dropping the project.

Mitigation Strategies:
Closely monitor cost relative to the remaining project activities and notify Project management of any significant deviations immediately.

Contingency Actions and Trip Wires:
Upon identification of any problem which may potentially overrun cost by $10K, the Project Manager shall hold an emergency project meeting to review the cost overrun and request a reallocation of funds or down-scope of the project. The Project Sponsor shall be charged with approving any recommendations made by the project team.

RISK MANAGEMENT PLAN # 2

Revision 0 Date: 11/29/2014

Project Name: HIMS

Risk Description and Consequences:
Description: Project not completed by estimated due date.
Consequence: Project will be reanalyzed with CEO for schedule increase or dropping the project.

Mitigation Strategies:
Closely monitor Project activities and milestones, and review high risk areas regularly. Prototyping and early implementation of complex requirements will be conducted to eliminate any potential schedule roadblocks.

Contingency Actions and Trip Wires:
The Project Manager shall identify any potential schedule deviations greater than 1 week from the scheduled completion date. Prototyping will be done early to mitigate this risk.

Appendix F – HIMS Software Configuration Management Plan

Software Configuration Management Plan

for

HIMS

Prepared By: Sameep

December 3, 2014

Table of Contents

1.0 Introduction

The project will develop an application to provide our potential users with a dynamic and responsive website paired with a mobile application for capturing home inventory pictures and details and initiate insurance and warranty claims. It will also have a alert system for 'smart' devices and reporting features.

1.1 Purpose

This document details the configuration management planning information and requirements for the HIMS project.

1.2 Scope

All HIMS configuration items (CI) shall be managed according to this plan, SCM work instructions, IS policy and procedure. These CIs shall include all Ant build script files, common libraries, third party libraries, database scripts, configuration files, and system documentation. These CIs shall be managed throughout the development cycle until promoted into production and the SCM baseline for the HIMS project. The change management process shall take over at that time.

1.3 Definitions and Acronyms

HIMS	Home Inventory Management System
OPS	Operations Division
IS	Information Services
SDP	Software Development Plan
SCMP	Software Quality Assurance Plan

1.4 Revision history

Revision	Date	Author	Reason
0	11/20/2014	Sameep Kodia	For approval

2.0 Management

The following sections contain the organizations involved, their responsibilities, milestones, and the governing policies, directives and procedures that pertain to this SCMP for the HIMS project.

2.1 Organization

The groups involved in this project are:

- HIMS Software Project Manager
- HIMS Software Development Team

- Configuration Control Board (CCB)

2.2 SCM Responsibilities

The Software Project Manager shall be responsible for:

- Creating the project SCM library structure
- CCB notification & obtaining authorization for test and production promotions
- Promotion of the software to system test and production
- Management of the software baseline
- Coordination of SCM activities with other groups
- CI list management and auditing

Coordination of modifications and notification of common object development plans and activities shall be coordinated by the Software Project Manager through the CCB. This notification shall the done through the SDP approval and status reporting of development schedules.

The Developer shall manage the day to day configuration control activities in the SCM library during the development process.

Configuration Control Board (CCB) shall be responsible for review and approval of the SDP and authorization of baseline promotions.

Network Engineering shall be responsible for the migration and management of the windows platform network interface configuration & standard desktop environment configuration.

2.3 SCMP Implementation

The major milestones for implementation of the SCMP are:

- SDP approval
- Each configuration baseline (Development, System Test, Production)
- SCM reviews and audits

2.4 Application Policies, Directives, and Procedures

SCM activities shall be performed according to the referenced work instructions, policies and procedures. Site procedure for Quality Affecting software development govern and override any conflicting requirements listed in the SCM guidelines. The applicable Work Instructions detail the activities required during the promotion of software to the Test and Production baselines.

3.0 SCM Activities

The following sections identify the software configuration areas used for this project, change control methodology, and audit requirements.

3.1 Configuration Identification

The HIMS software SCM library is located in the following location:

svn\trunk\hims\core\middleware\lib
svn\trunk\hims\core\web\lib
svn\trunk\hims\core\mobile\lib

The details of interval between will checking of lost items and reporting will be stored in a property file at the following location:

svn\trunk\hims\core\middleware\config

3.2 Change Control

The SDP shall document approval of project work and detail SCM modifications required. The Software Project Manager shall coordinate and obtain approval for all SCM library changes from the CCB as required in accordance with SCM work instructions.

3.3 Configuration Status Tracking

The requirements traceability matrix (RTM) and CI list are used for all status tracking for the project. These lists shall contain status of all system documentation, software modules, proposed/approved changes, and baseline composition.

3.4 Audits and Reviews

An audit of the CI list against all CIs shall be performed at each promotion to development, test or production baseline in accordance with SCM work instructions. Any discrepancies must be resolved with the Developer and/or Software Project Manager at the time the discrepancy is identified.

4.0 Tools, Techniques, and Methods

Software tools may be used to automate the required work processes. Tools and methods used to manage SCM for this project shall comply with the work instructions, policies and procedures that govern the project SCM. The SCM library structure shall contain all CIs as well as the CI list for identifying, reporting, and change management.

5.0 Records Collection and Retention

All configuration management documentation such as CI lists & audit results shall be included with the project documentation. Retention requirements are determined, along with all other project documentation, by the governing site procedures.

Appendix G – HIMS Software Quality Assurance Plan

HIMS

Release 01.00.00

Software Quality Assurance Plan

Software Quality Assurance Plan (SQAP)
Document # HIMS-01.00.00-SQAP.DOC

1.0 INTRODUCTION

1.1 Project Overview

The project will develop an application to provide our potential users with a dynamic and responsive website paired with a mobile application for capturing home inventory pictures and details and initiate insurance and warranty claims. It will also have a alert system for 'smart' devices and reporting features.

1.2 Revision History

Revision	Date	Author	Reason
0	11/16/2014	Sameep Kodia	Created

1.3 Approvals

Approved By**:** _____ **Date:** _____
John Powers , IS Project Manager

Approved By**:** _____ **Date:** _____
Bill Square, SQA Representative, IS

2.0 RESPONSIBILITIES

Mr. Bill Square will be the SQA representative for the HIMS project. The SQA representative will:

- Perform audits of completed HIMS documentation in accordance with SQA documentation.
- Perform reviews of HIMS project development processes in accordance with SQA documentation.
- Generate SQA Reports in accordance with SQA documentation.

Mr. John Powers is the HIMS Project Manager and is responsible for:

- Proper implementation of the SPI work processes into this project.
- Integrating the SQA activities documented in the plan with the HIMS project.

3.0 RESOURCES

The SQA support of the HIMS Release 01.00.00 project is estimated to require two SQA team members on a full time basis for an estimated total of less than 692 man-hours.

4.0 SCHEDULE

The SQA activities have been integrated with the HIMS product development. Product audits for each phase of the project will be performed by the designated SQA team member as the final draft of the products are completed. Process reviews will be performed during the KPA activity.

5.0 SQA PROJECT PARTICIPATION

5.1 Project Software Development Plan

The HIMS SQAP (this document) is considered to be an appendix to the HIMS SDP and implements the paragraph 11 requirements of the SDP. It was developed in conjunction with the HIMS SDP as required by SQA documentation.

5.2 Project Standards

5.2.1 Tailoring

At this time, the HIMS project manager does not think that any standards need to be tailored to develop release 01.00.00 of the application. If tailoring is required, the HIMS project manager, with concurrence of the SQA group, will revise this SQA plan.

5.2.2 Waiving

At this time, the HIMS project manager does not think that any standards need to be waived to develop release 01.00.00 of the application. If waiving is required, the HIMS project manager, with concurrence of the SQA group, will revise this SQA plan.

5.2.3 Additions

Application development (coding) will be done in accordance with the DRAFT IS Programming

Standards.

5.3 Project Work Instructions

The following work instructions and standards were followed in creating the release documentation:

SOW - SPP-11 Statement of Work
SRS – IS-WIN-RM-1, Software Requirements Specification & Review
RTM - RM-2 Requirements Traceability Matrix
SDS - SQA Std-1 System Design Specification Standard
SDP - SPP-1 SDP
SQAP - SQA-2 SDP/SQAP Development
V&V - SQA Std-2 V&V Plan and Report Standard
Test Plan - SQA Std-3 Test Plan Standard
IS Draft Programming Standard

5.3.2 Tailoring

At this time, the HIMS project manager does not think that any standards need to be waived to develop release 01.00.00 of the application. If waver is required, the HIMS project manager, with concurrence of the SQA group, will revise this SQAP.

5.3.3 Waiving

No work instruction waivers have been requested.

5.3.4 Additions

None.

6.0 SQA AUDITS AND REVIEWS

6.1 Audits and Review Basis

Audits and reviews of the HIMS project will be scheduled for a time when SQA resources are available. Reviews of the HIMS work processes may be performed after the application is put into production. All release documents are in the library svn\trunk\hims\development\documents.

6.2 Audits

Work Product	Initiating Event	Work Instruction
SOW	Product and SQA Rep. available	IS-WIN-SQA-3
SDP	Product and SQA Rep. available	IS-WIN-SQA-3
SRS	Product and SQA Rep. available	IS-WIN-SQA-3
SDS	Product and SQA Rep. available	IS-WIN-SQA-3
Code	Product and SQA Rep. available	IS-WIN-SQA-3
Test Plan	Product and SQA Rep. available	IS-WIN-SQA-3
HIMS Implementation	Completion of qualification testing	IS-WIN-SQA-5

6.3 Reviews

Process	Initiating Event	Work Instruction
Requirements Management	Completion of RTM and SQA Rep. Available.	IS-WIN-SQA-4
Project Planning	Approval of SDP or Revision of SDP and SQA Rep. Available.	IS-WIN-SQA-4
Project Tracking and Oversight	Approval of SDP or Revision of SDP and SQA Rep. Available.	IS-WIN-SQA-4
SCM	Approval of the SCMP and SQA Rep. Available.	IS-WIN-SQA-4
SQA	At completion of the HIMS project.	IS-WIN-SQA-4

7.0 QUALITY ASSURANCE REPORTING

7.1 Responsibilities

The SQA representative assigned to the HIMS project is responsible for creating, tracking and closing project QARs.

The HIMS project manager, in consultation with the SQA representative is responsible for determining the required corrective actions and tracking those actions to completion.

7.2 Quality Action Request (QARs)

QARs will be used by the HIMS project to assess the current IS work process and work instructions to determine where changes can be made to clarify and/or improve them. The QARs will also be used to reinforce good practices. HIMS QARs will be created and managed in accordance with IS-WIN-SQA-6.

8.0 Appeal Process

If the HIMS project manager disagrees with a QAR finding and is unable to resolve the issue with the SQA representative, the HIMS project manager will appeal the QAR in accordance with the following process.

1. The HIMS project manager will present the programmatic or technical rational as to why the QAR is considered incorrect to the SQA manager. The SQA manager and HIMS project manager will work to resolve the disagreement.

2. If unable to reach an agreement on the QAR in question, the HIMS project manager and SQA manager will meet with the SEPG to gain additional insight into the basis and rational for the programmatic or technical issue under question. Considering this additional information, the SQA manager and HIMS project manager will work to resolve the disagreement.

3. If an agreement still cannot be reached, the HIMS project manager, SEPG chairman, and SQA manager will meet with the IS Manager and present the issue in question. The IS Manager will render a final decision. The IS Manager's decision will be documented in the QAR.

Appendix H – HIMS Project Schedule