Process Specifications

Project Phase 2 - Final

Team Obiwan

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Revision History:

Date	Version	Description
11/07/2010	1.0	Process Specification

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1. Introduction

1.1 Purpose
       The purpose of this document is to describe the process that Team Obiwan Consulting used to create the requirements and prototypes for the HOPE software system.

1.2 Scope
       This document describes the process that Team Obiwan Consulting used from the first meeting that elicited requirements to the completion of the final deliverable. In this document we've outlined the team vision, goals, organizational structure, process workflow, and the responsibilities of all team members.

1.3 Stakeholders
1. Users – the people who will be using the HOPE software system to assist them in their everyday activities.

2. Team Obiwan Consulting – the team responsible for establishing the final requirements and developing the prototypes for the HOPE software system.

3. Professor Lawrence Chung – responsible for the initial set of requirements for the HOPE software system. Professor Chung also provides guidance to Team Obiwan Consulting in their development process.
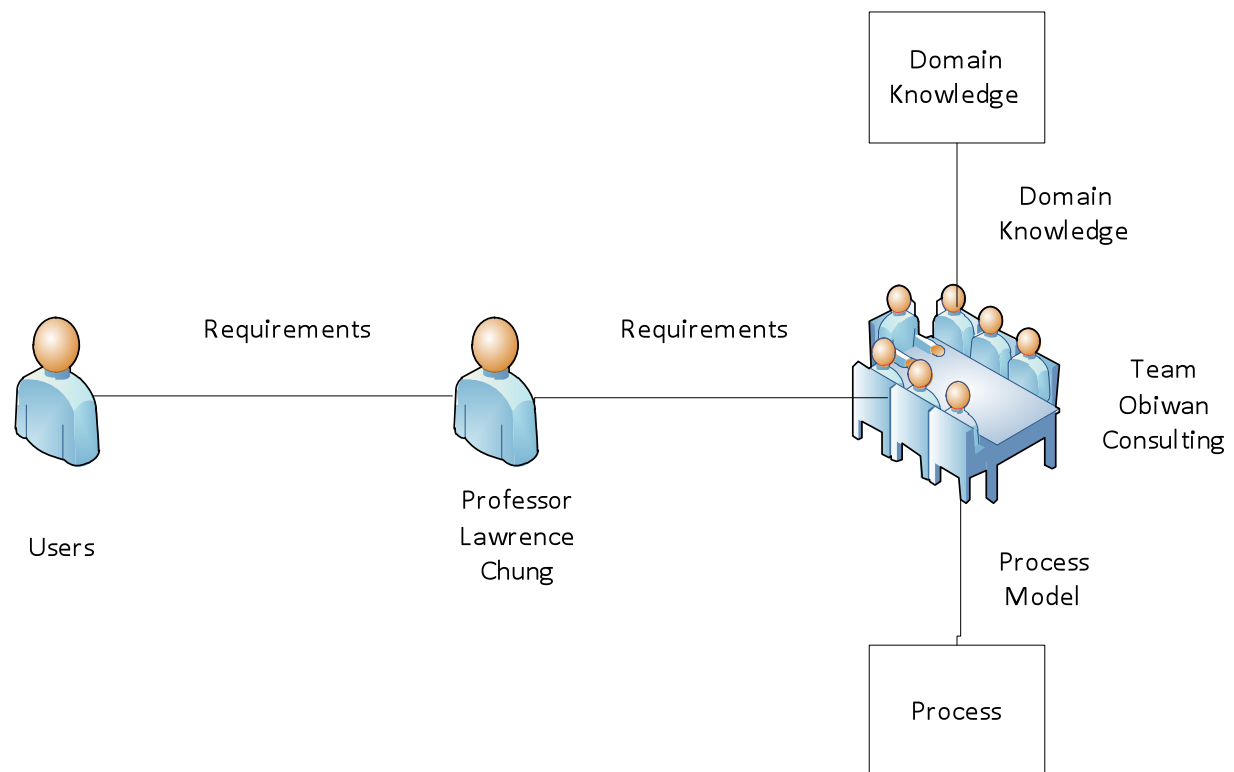
1.4 Definitions and Glossary

Android: The operating system running on the smart phone.

G1: First Android smart phone - T-Mobile G1 (HTC Dream)

HOPE : Helping Old People Easily

OS: Operating System

Stakeholder – people who are affected by the outcome of the project.

Deliverable – set of documents that are combined to present the project.

Project Plan – document that describes how the project will be completed.

Process Specification – document that describes the process that a team goes through to produce a software system.

Vision Document – document that describes the people, software, and hardware that are involved in the software system.

Prototype – a working model of what the software system is supposed to be like.

User Manual – document that describes the prototype's features with descriptions and screenshots.

Spiral Model – a software development model that combines design and prototyping in multiple phases.

Domain Requirements – requirements or knowledge that is extracted from the domain.

Non-Functional Requirements – requirements that describe criteria that can be used to judge the operation of the software system.

Functional Requirements – requirements that define a function of the software system.

Traceability – the relationship between multiple levels of the software development process.

1.5 References

1. R. Pressman, *Software Engineering: a Practioner's Approach*. Boston McCraw-Hill 2005.

2. Organizational Structure

2.1 Vision and Goals

Vision

The team vision is to create an organized, professional and efficient group of individuals that all have the same goal of developing an application to help people with disabilities. By going through the process of developing this application we will improve our requirement engineering and teamwork skills which we can be applied in our future lives. We believe that by focusing on the team development aspect that the end product that we create will be much better which is not only good for the end users but the team's reputation as a whole.

Goals

Organization
    Clear objectives
    Well defined team member roles
    Steady flow of work so the team is not overwhelmed
Efficiency
    Distribute workload evenly
Development of Team Interaction
    Effective communication between members
Quality

2.2 Team Roles

The role for each team member will change for every deliverable to help spread the workload around and ensure that no one team member is overwhelmed.

Phase	Product Manager	Project Manager	Requirement Engineer	Developer / Quality Assurance
1.1	BenJamin Morin	Kevin Lloyd	Kirk Smith Owolabi Legunsen Sam Shaw Patrick Trantham Chris Yancey	Chris Lindee / Radu Matcovschi
1.2	Kirk Smith	Owolabi Legunsen	Sam Shaw Patrick Trantham Chris Yancey Chris Lindee Radu Matcovschi	BenJamin Morin / Kevin Lloyd
2.1	Sam Shaw	Patrick Trantham	Chris Yancey Chris Lindee Radu Matcovschi BenJamin Morin Kevin Lloyd	Kirk Smith / Owolabi Legunsen
2.2	Chris Lindee	Radu Matcovschi Chris Yancey	BenJamin Morin Kevin Lloyd Kirk Smith Owolabi Legunsen	Sam Shaw / Patrick Trantham

Product Manager

The Product Manager will be responsible for communicating with Dr. Lawrence Chung and the TA for any questions that the that Team Obiwan has. The Product Manager is also responsible for drafting the initial requirements, verifying that the customer's requirements are met, and researching existing products for each team meeting.

Project Manager

The Project Manager will lead the project's development and testing. They will elaborate on the initial requirements set by the Product Manager and verify that all of the requirements that were given by the Product Manger are met in the code.

Requirement Engineer

The Requirement Engineer will be responsible for assisting the Project Manager in elaborating on requirements and dependencies.

Developer

The Developer will be responsible for assisting the Project Manager in elaborating on requirements and will be responsible for the creation of prototypes.

Quality Assurance

The QA will be responsible for ensuring that all of the requirements will be met for each deliverable.

2.3 Workflow

During each meeting the Project Manager will outline everything that needs to be accomplished before the next deliverable. The Project Manager will receive input from all of the team members before they assign jobs for each individual member. When jobs are assigned they are given a specific due date where they should be uploaded to Google Documents. After all of the documents are uploaded the team will go over and finalize them at the next meeting. In the case that there isn't a meeting before the next due date Project Manager will finalize it himself.

3. Process Specification

3.1 Requirements Engineering Model

For this project Team Obiwan Consulting will use the Spiral Model with two iterations, known as Phase 1.x and 2.x. By using multiple phases Team Obiwan Consulting will be able to handle any changes in requirements. In each phase we will develop a requirements specification document as well as a prototype to demonstrate possible solutions.
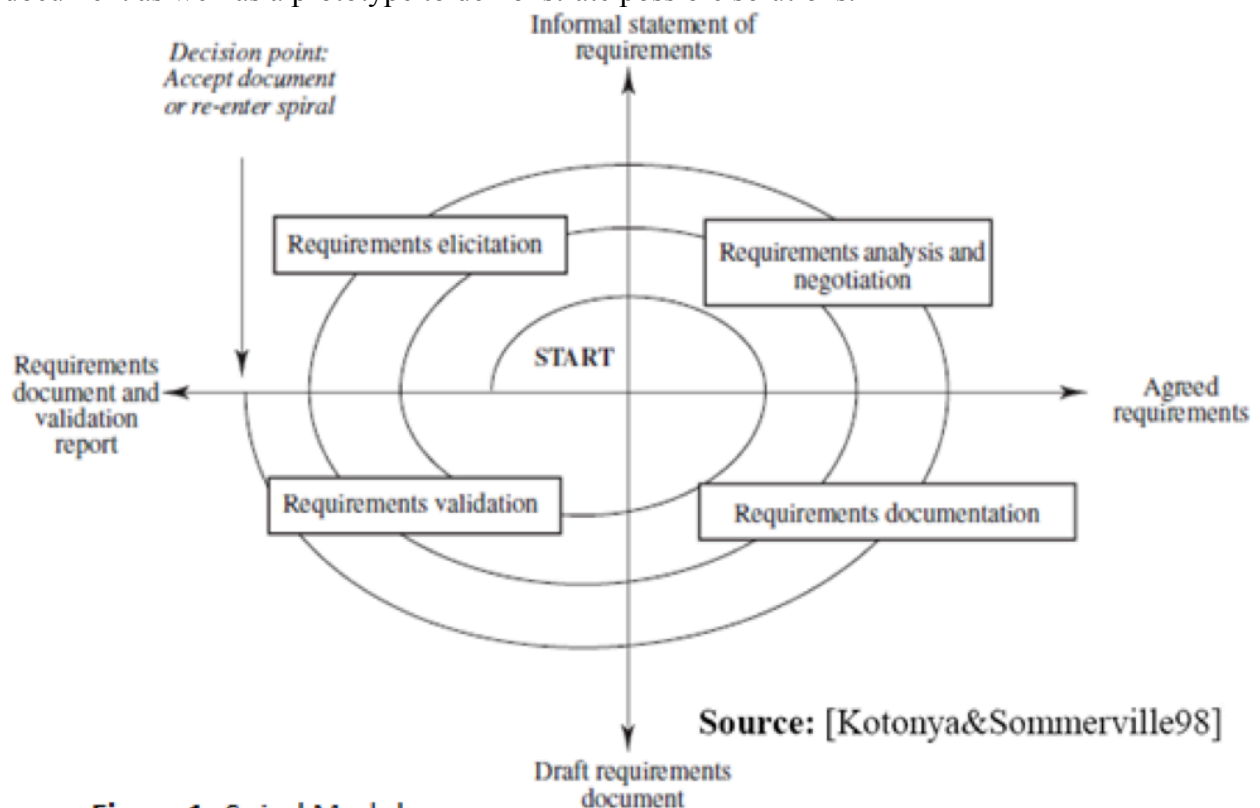

Figure 1: Spiral Model

3.2 Requirements Elicitation

In the first phase of the project Dr. Lawrence Chung set the initial requirements for the HOPE software system. In the second phase Dr. Chung provided optional requirements and gave Team Obiwan Consulting the choice of whether to incorporate them or not.

Team Obiwan Consulting also added requirements to the set of initial requirements given by Dr. Chung. This came from the result of team discussions, reviews of presentations from other teams, and from questioning Dr. Chung through email.

3.3 Requirements Analysis and Negotiation

The analysis started when Team Obiwan Consulting received a document from Dr. Lawrence Chung that outlined the initial requirements for the HOPE software system. Team Obiwan Consulting then went on to perform a comprehensive review of each requirement and decided whether each one was required for our system. After the review, each requirement was labeled as a domain, non-functional, or functional requirement and Team Obiwan Consulting made sure that everything was consistent and unambiguous.

Team Obiwan Consulting had a second comprehensive review after the team presentations to decide whether to change our requirements based on other teams work. After the second analysis Team Obiwan Consulting changed the requirements again and refined our understanding of the problem and eliminated any new inconsistencies or ambiguities that arose.

3.4 Requirements Specification

The requirements have been divided into domain, non-functional, and functional requirements in order to allow efficient maintenance.

3.5 Requirements Validation

Team Obiwan Consulting is creating a prototype for each phase in order to confirm that the requirements are meeting the expectations of the stakeholders. The prototypes show several functionalities of the system so that any missing services, confusing services, and/or misunderstandings between Team Obiwan Consulting and the other stakeholders will be identified as early as possible and they will be resolved before the final product is completed.

4. Project Organization

4.1 Project Phases

This project consists of two phases which are divided into two more parts (Interim and Final).

Phase I: Interim (September 2, 2010 – September 30, 2010)

In this interim phase Team Obiwan Consulting will analyze the initial set of requirements given by Dr. Lawrence Chung and create the first Project Plan. The first Project Plan will include a list of issues that will need to be addressed by Team Obiwan Consulting in the first WRS document. Team Obiwan Consulting will develop a prototype to show what the basic functionality of the HOPE software system will look like.

Phase I: Final (September 30, 2010 – October 21, 2010)

In this final phase Team Obiwan Consulting will analyze the Project Plan and WRS document and develop an improved understanding of what the problem really is. After Team Obiwan Consulting has refined their understanding of the problem, the WRS document will be revised with modified requirements.

Phase II: Interim (October 21, 2010 – November 11, 2010)

In this interim phase Team Obiwan Consulting will have seen the presentations of other teams and will revise the requirements according to what new requirements the team wishes to add. Dr. Lawrence Chung will also suggest new requirements to be added but these will be optional, as its Team Obiwan's responsibility to decide which requirement will be added and which one will not. A Process Specification will also be created in this phase to demonstrate the process that Team Obiwan Consulting as gone through so far. Team Obiwan will also create a Product Specification which will include a vision document for the HOPE software system. The user manual will be created in this phase as well, which will describe the features of the prototype with descriptions and screenshots.

Phase II: Final (November 11, 2010 – November 30, 2010)

This is the final phase of the project where Team Obiwan Consulting will develop a final understanding on the problem and a final revision of the requirements. The Process Specification, vision document, and user manual will all be finalized and put into their final form. The second and final prototype will be created and it will show the majority of the functionalities of what the HOPE software system will be able to accomplish. Team Obiwan Consulting will submit all documents created in all parts of each phase to Dr. Lawrence Chung on November 30, 2010.
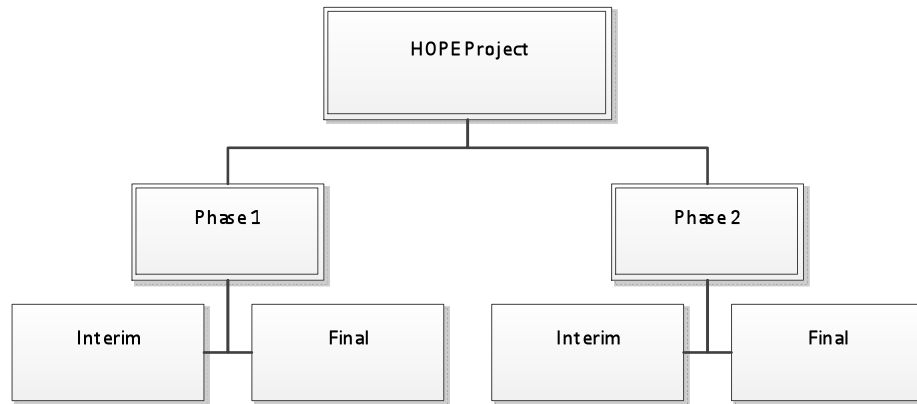
Figure 1 Project Hierarchy

4.2 Interim Phase I – Description: (September 2, 2010 – September 30, 2010)

Stakeholders
The following are the stakeholders in the Interim Phase I of the project:
    Users
    Dr. Lawrence Chung
    Team Obiwan Consulting

Goals
The following are the goals for Interim Phase I of the project:
    Establish stakeholder needs
    Generate a list of issues
    Divide requirements into sections (Domain/NFR/FR)
    Create a prototype
    Create a user manual
    Create a presentation for Interim Phase I

Inputs
The following are the major inputs for Interim Phase I:
    Initial understanding of the requirements elicitation

Process
The following is a description of the process followed during Phase I: Interim of the project:
    Determine the best times to conduct meetings
    Make sure everyone has access to Google Docs
    Receive input from team members concerning issues about the project
    Divide work among the team members and set deadlines
    Prepare meeting minutes from each meeting
    Get feedback on work done from stakeholders
    Submit all deliverables on time

Activities
The following are the major activities performed during Phase I: Interim of the project:
    In-person group meetings
    Message board discussions in the Google Group
    Skype meetings
    Create and revise deliverables
   Create and revise presentation slides
    Prepare for the presentation

Outputs
The following are the major outputs for Interim Phase I:
    Project Plan
    WRS Document
    Prototype
    User Manual
    Project Presentation

Roles and Responsibilities

Project Plan - Everyone
WRS Document - Everyone
Prototype – Sam Shaw
User Manual – Sam Shaw
Presentation – BenJamin Morin, Kevin Lloyd

act Phase 1 - Interim
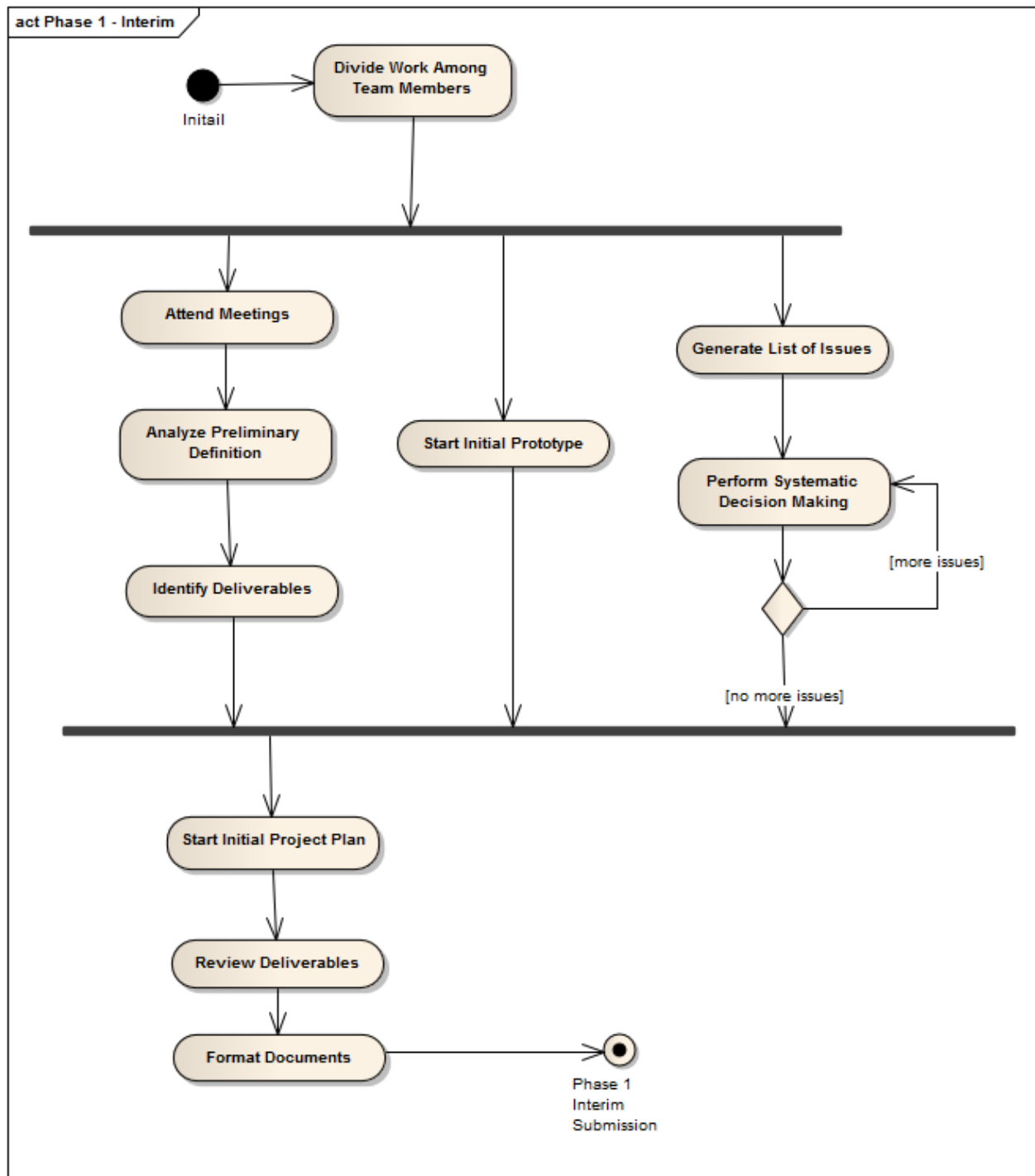
4.3 Final Phase I – Description: (September 30, 2010 – October 21, 2010)

Stakeholders
The following are the stakeholders in the Final Phase I of the project:
    Users
    Dr. Lawrence Chung

Team Obiwan Consulting

Goals
The following are the goals for Final Phase I of the project:
  Revise requirements from Interim Phase I
  Develop an improved understanding of the problem
  Make sure that the requirements have traceability

Inputs
The following are the major inputs for Final Phase I:
  Preliminary Project Plan
  WRS Document
  Prototype
  User Manual

Process
The following is a description of the process followed during Phase I: Final of the project:
  Receive input from team members about other team's presentations
  Discuss what requirements if any Team Obiwan should steal
  Receive input from team members concerning issues about the project
  Divide work among the team members and set deadlines
  Go over the requirements and ensure they all have backwards and forward traceability
  Prepare meeting minutes from each meeting
  Get feedback on work done from stakeholders
 Submit all deliverables on time

Activities
  In-person group meetings
  Message board discussions in the Google Group
  Skype meetings
  Revise deliverables

Outputs
  Revised Project Plan
  Revised WRS Document
  Revised Prototype
  Revised User Manual

Roles and Responsibilities

Revised Project Plan - Everyone
Revised WRS - Everyone
Revised Prototype – Sam Shaw
Revised User Manual – Sam Shaw
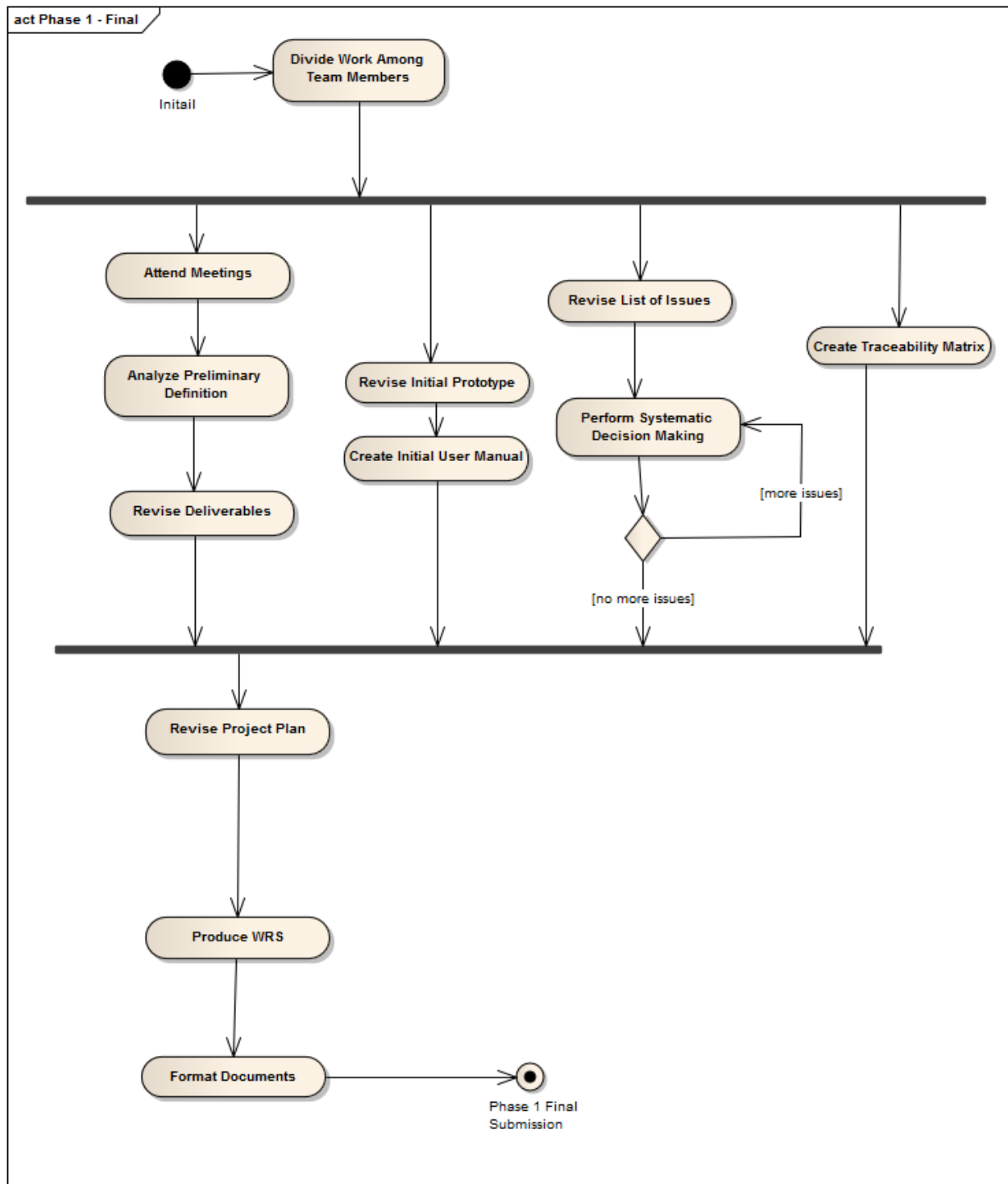
4.4 Interim Phase II – Description: (October 21, 2010 – November 11, 2010)

Stakeholders

The following are the stakeholders in the Interim Phase II of the project:

    Users

    Dr. Lawrence Chung

Team Obiwan Consulting

Goals
The following are the goals for Interim Phase II of the project:
Revise the requirements based on our improved understanding of the project and other team's presentations
Determine if Team Obiwan Consulting will add the new requirements given by Dr. Lawrence Chung
Create a second prototype showing more functionality
Update the user manual to show changes made in the second prototype
Create a Process Specification
Create a vision document and merge it with the existing WRS document

Inputs
The following are the major inputs for Interim Phase II:
Project Plan from Phase 1
WRS Document from Phase 1
Prototype from Phase 1
User Manual from Phase 1

Process
The following is a description of the process followed during Phase II: Interim of the project:
Discuss whether Team Obiwan should add the new requirements given by Dr. Chung
Receive input from team members concerning issues about the project
Divide work among the team members and set deadlines
Go over the requirements and ensure they all have backwards and forward traceability
Prepare meeting minutes from each meeting
Get feedback on work done from stakeholders
Submit all deliverables on time

Activities
In-person group meetings
Message board discussions in the Google Group
Skype meetings
Revise deliverables

Outputs
Revised Project Plan
Revised WRS Document
Revised Prototype
Revised User Manual
Process Specification
Vision Document

Roles and Responsibilities

Revised Project Plan - Everyone

Revised WRS Document - Everyone
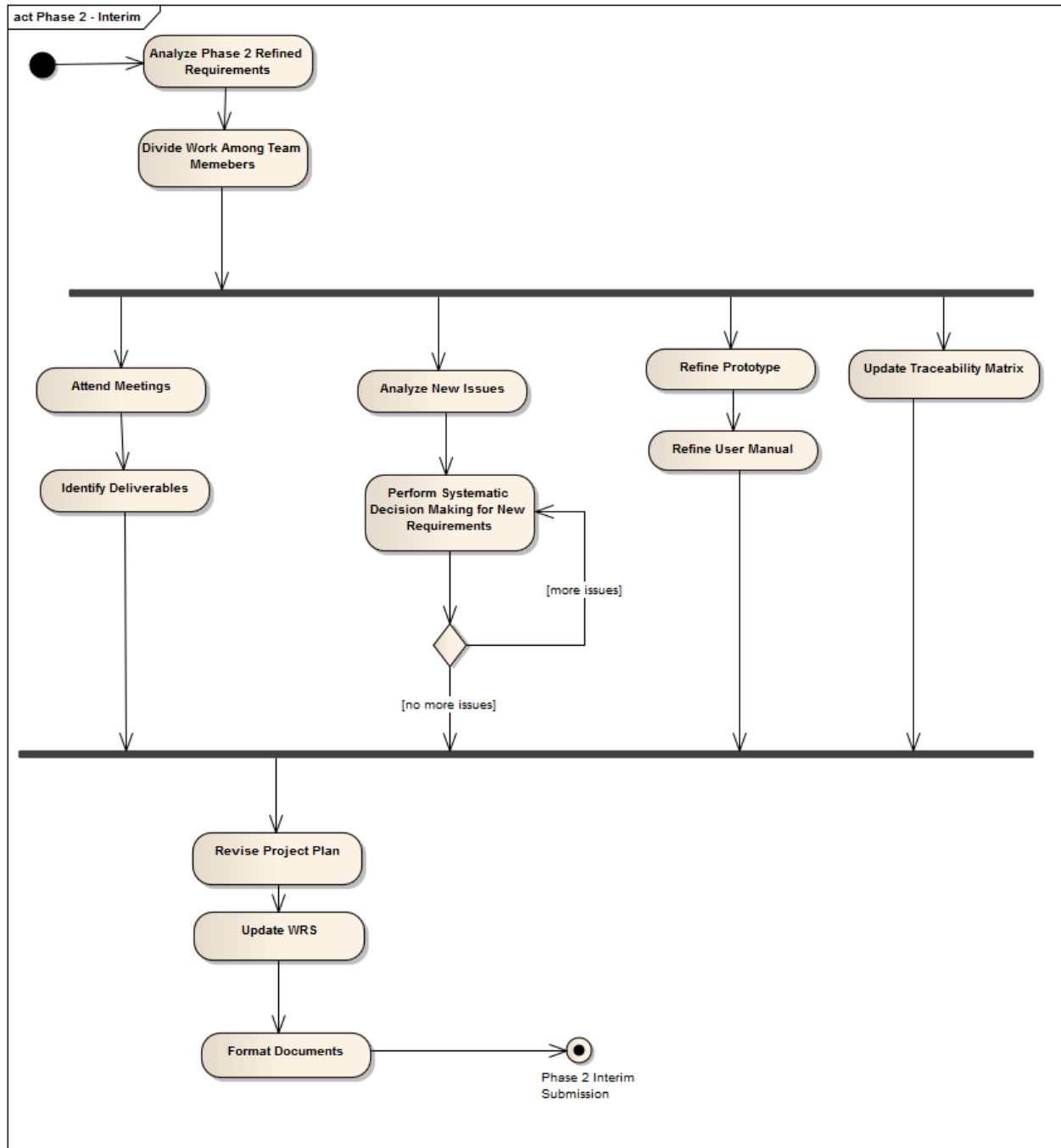Revised Prototype – Sam Shaw, Patrick Trantham
Revised User Manual – Sam Shaw, Patrick Trantham
Ensure traceability between requirements – BenJamin Morin, Chris Lindee
Process Specification – Chris Yancey, Kevin Lloyd
Vision Document – Kirk Smith, Radu Matcovschi
Modeling - Owolabi Legunsen

4.5 Final Phase II – Description: (November 11, 2010 – November 30, 2010)

Stakeholders
The following are the stakeholders in the Final Phase II of the project:
      Users
      Dr. Lawrence Chung
      Team Obiwan Consulting

Goals
The following are the goals for Final Phase II of the project:
      Revise the requirements for the last time
      Revise the Vision/WRS document for the last time
      Create a final presentation

Inputs
The following are the major inputs for Final Phase II:
      Revised Project Plan
      Revised WRS Document
      Revised Prototype
      Revised User Manual
      Process Specification
      Vision Document
      Project Presentation from Phase 1

Process
The following is a description of the process followed during Phase II: Final of the project:
      Receive input from team members concerning issues about the project
      Divide work among the team members and set deadlines
      Go over the requirements and ensure they all have backwards and forward traceability
      Prepare meeting minutes from each meeting
      Get feedback on work done from stakeholders
      Submit all deliverables on time

Activates
      In-person group meetings
      Message board discussions in the Google Group
      Skype meetings
      Revise deliverables
      Create and revise presentation slides
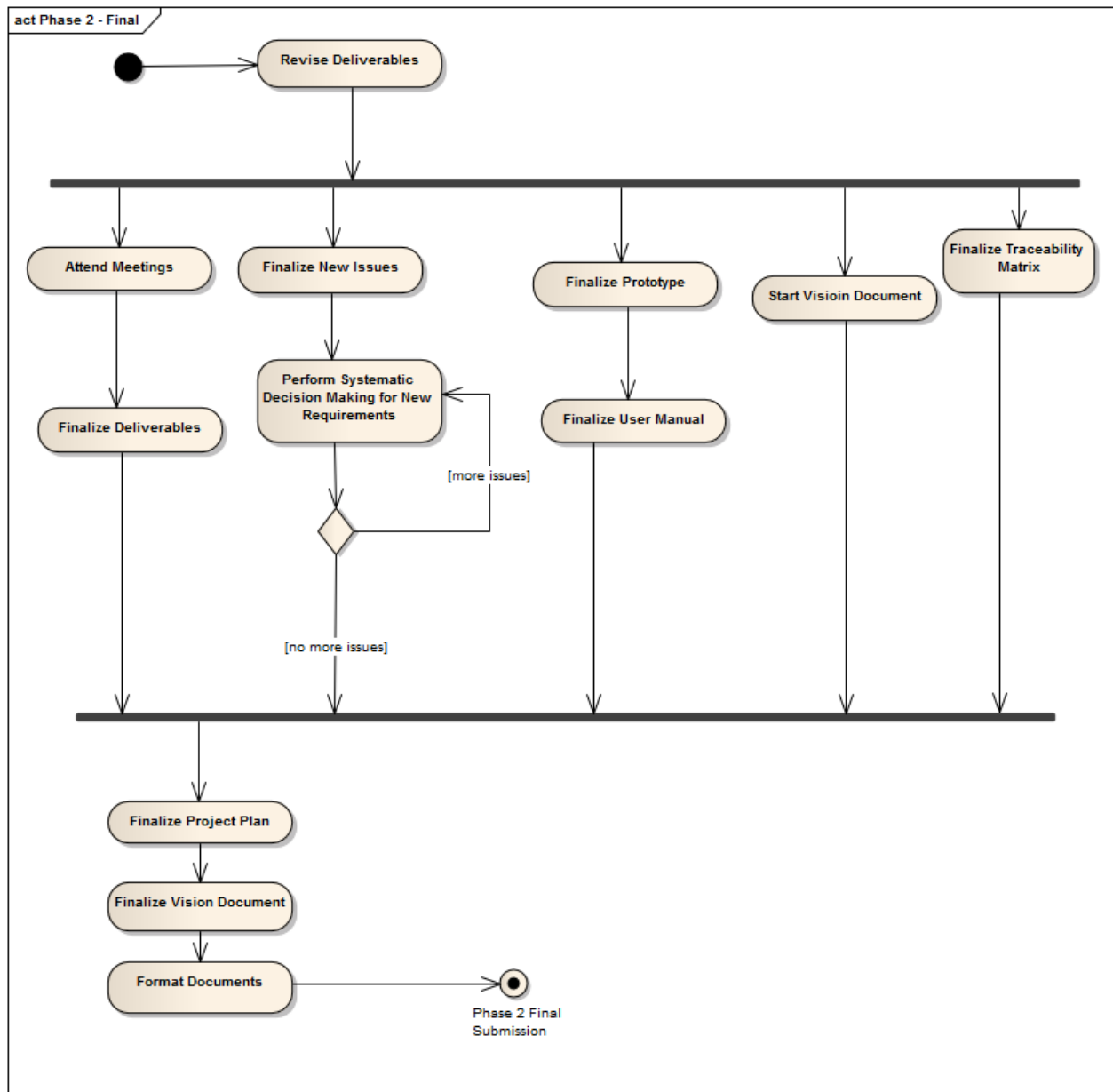   Prepare for final presentation

Outputs
      Final Project Plan
      Final WRS Document

Final Prototype
Final User Manual
Final Process Specification
Final Vision Document
Final Project Presentation

Roles and Responsibilities

Final Project Plan - Everyone
Final WRS Document - Everyone
Final Prototype – Sam Shaw, Patrick Trantham
Final User Manual – Sam Shaw, Patrick Trantham
Ensure traceability between requirements – BenJamin Morin, Chris Lindee
Final Process Specification – Chris Yancey, Kevin Lloyd
Final Vision Document – Kirk Smith, Radu Matcovschi, Owolabi Legunsen
Final Project Presentation – Everyone

act Phase 2 - Final

Revise Deliverables

Attend Meetings

Finalize New Issues

Finalize Prototype

Start Visioin Document

Finalize Traceability Matrix

Finalize Deliverables

Perform Systematic Decision Making for New Requirements

[more issues]

Finalize User Manual

[no more issues]

Finalize Project Plan

Finalize Vision Document

Format Documents

Phase 2 Final Submission

4.6 Traceability

Interim Phase I vs Final Phase I

Phase I: Interim Deliverable	Phase I: Final Deliverable
Preliminary Project Plan	Revised Preliminary Project Plan
WRS	Revised WRS
Prototype	Revised Prototype
User Manual	Revised User Manual
Phase 1 Interim Presentation	Phase 1 Interim Presentation (no change)

Final Phase I vs Interim Phase II

Phase I: Final Deliverable	Phase II: Interim Deliverable
Revised Preliminary Project Plan	Revised Preliminary Project Plan
Revised WRS	Vision Document combined with WRS
Revised Prototype	Revised Prototype
Revised User Manual	Revised User Manual
Phase 1 Interim Presentation	Phase 1 Interim Presentation

Interim Phase II vs Final Phase II

Phase II: Interim Deliverable	Phase II: Final Deliverable
Revised Preliminary Project Plan	Final Project Plan
Revised Vision Document/WRS	Final Vision Document/WRS
Revised Prototype	Final Prototype
Revised User Manual	Final User Manual
Phase 1 Interim Presentation	Final Phase 2 Presentation