Lifecycle Documents

Vision

Version 1.1

Date: 11/19/2013

# 1.                  Introduction

The purpose of this document is to collect, analyze, and define high-level needs and features of an application that can create and edit life cycle documents. It focuses on the capabilities needed by the Naval Undersea Warfare Center in Newport, MA, and why the application is needed. The details of how the application fulfills these needs are detailed in this vision document.

# 2.                  Positioning

## 2.1               Problem Statement

|  |  |
| --- | --- |
| The problem of | Current systems available are often very complex, expensive, and require an underlying database. |
| affects | Naval Undersea Warfare Center Division Newport |
| the impact of which is | Small to average sized projects suffer because they cannot afford the necessary overhead |
| a successful solution would be | Create a browser based application capable of creating and editing Interactive Lifecycle Documents with Requirements Tracking |

## 2.2               Product Position Statement

|  |  |
| --- | --- |
| For | Michael Grimley |
| Who | Naval Undersea Warfare Center Division Newport |
| The (product name) | Document development system |
| That | Cross platform compatible, no install, easy to use form-like interface |
| Unlike | Manually editing XML or using XMLSpy |
| Our product | Provides an improved user experience while keeping a lighter platform than previously available |

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# 3.                  Stakeholder Descriptions

## 3.1               Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| University of Massachusetts at Dartmouth | UMass Senior design group | ensure the product gets delivered  monitor the project’s progress  ensure the project’s compatability |
| Naval Undersea Warfare Center Division Newport | Former Umass Dartmouth student. Works for NUWC Newport Division. | ensures that there will be a market demand for the product’s features  monitors the project’s progress  approves funding |

## 3.2               User Environment

This application will need to work on a Windows 7 PC. Since this will run within Internet Explorer it will also work well with future releases. There are no other applications that must integrate with this, however, the application must export interactive html and PDF documents.

# 4.                  Product Overview

## 4.1               Product Perspective

This product is independent however must be compatible with Internet Explorer version 10. The product will also be running on the Windows 7 operating system.

## 4.2               Assumptions and Dependencies

One dependency would be the available browser. If this were to change our application may break or provide an unintended appearance to the user. The product will create a directory for all of the created/edited Lifecycle documents. The product requires the user to be able to create and edit multiple documents. The product needs to be able to export a requirements traceability matrix, as well as export the documents as an HTML file first, and as a PDF if time permits.

Assume the user has no knowledge of XML. User should have not have to see what is happening behind the scenes from creating the project to exporting the documents using the XSLT processor.

4.3               Needs and Features

|  |  |  |  |
| --- | --- | --- | --- |
| **Need** | **Priority** | **Features** | **Planned Release** |
| RTM | 1 | Requirements Traceability Matrix | 11/22 |
| Project Space | 1 | File directory for Lifecycle Documents | 11/26 |
| XML creation and editing | 2 | Represents lifecycle and requirements | 11/26 |
| User Input | 2 | Form like GUI | 11/29 |
| HTML output | 3 | Exporting XML to Interactive HTML | TBD |
| PDF output | 4 | Exporting XML to PDF | TBD |

## 4.4               Alternatives and Competition

XMLSpy is an existing XML editor that would allow the user to create or modify an XML document. These can be used to represent the Lifecycle documents, however, they are highly unreadable and difficult for the typical user to understand. Our product will provide a much nicer form style interface while improving readability. This will allow an everyday user to create lifecycle and requirement documents with no reason to believe they are actually using XML.

A homegrown solution would be possible, especially given our customer’s XML experience, however, it would take a lot of the Navy’s time and resources.

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# 5.                  Other Product Requirements

* System must represent a GUI to users that allows them to develop and edit lifecycle documents
* System shall provide a mechanism to associate related parts of each document
* System shall be able to auto-generate a Requirements Traceability Matrix at any point during development.
* System shall produce XML instances conformant with an XML schema
* The XML instances shall be transformed, via XSLT, into an HTML-based interactive document