

Lifecycle Documents

Vision

Version 1.2

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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)	Documentation development system
That	Is cross platform compatible, requires no install, and has an 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

3. Stakeholder Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
University of Massachusetts, Dartmouth	UMass Senior design group	Ensure product delivery 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 Microsoft Windows 7 PC. Since this will run within Internet Explorer, it will 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, it must be compatible with Microsoft 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 use a directory structure that it creates to contains all of the created/edited Lifecycle documentation. **The product requires the user to be able to create and edit multiple documents.** The product will be able to export a Requirements Traceability Matrix, as well as export the documents as an HTML file, and as a PDF time permitting.

Our primary assumption is that the user has no knowledge of XML. The 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, as well as Oxygen XML Editor. These can be used to represent the Lifecycle documents, however, they are highly unreadable and difficult for the typical user to understand using these development environments. Our product will provide a form style interface while improving readability. This will allow an everyday user to create or edit lifecycle and requirement documents without actually editing XML code, this provides the user 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 much of the Navy's time and resources.

5. Other Product Requirements

- System must present a GUI for 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 upon user request at any point during development.
- System shall produce XML instances conformant with an XML schema.
- The XML instances shall be transformed, via XSLT processor, into an HTML-based interactive document.