**Software/Design Requirement**

**Specification**

**For**

**Love Craft Studios website**

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# **Introduction**

In the current society, knowledge and skill obtainment is a crucial part of an individual’s professional career and the interpersonal development of themselves. However, the mainstream method of obtaining knowledge and learning a specific skill is through a formal school or classroom. While this method is an effective and systematic method of learning, it is very traditional and, in some ways, restrictive in geographic area and in the level of influence.

However, with the technological advancement of the internet and the World Wide Web, the obtainment of information and learning new skills is becoming simpler and more accessible. This results in individuals can experience the structured nature of a formal education institution at the comfort and ease of their own schedule.

## **1.1 Purpose**

The purpose of this document is to give a detailed description of the requirements of “Love Craft Studios” website provide a blueprint in the methodology in creating this website. It will illustrate the purpose and the complete declaration of the mechanisms of the web system. In this document it will also outline the diverse range of requirements that the system should provide and the full interactions between the stakeholders and the system. This document is designed to be a proposal to potential buyers of this system and also provide as a first – hand reference to the actual development of the web system.

## **Document Conventions**

This document is structure with the IEEE document conventions for the software Requirements Specification Document.

## **Intended audience and Reading Suggestions**

The intended audience for this document are:

* Any stakeholders that holds a stake in Love Craft Studios business.
* Any shareholders that Love Craft Studios acquires.
* The end – users that accesses the web system.
* Future technical teams that manages the web system.
* Future development teams that develops the web systems.
* Craft designers that the Love Craft Studios acquires.

## **Product Scope**

The “Love Craft Studios web system” is, at its core a website that facilitate the online learning of a wide range of craft disciplines. This web application is designed to be accessible to anybody and everybody who possesses an internet enabled device such as a laptop, smart phone or a desk top computer. This application will provide different levels of difficulty ranging from complex craft pieces to easy to make craft projects.

This system will also incorporate the ability to interact to other like – minded individuals. It is achieved by incorporating a online blog, where students and teachers can share their own experience to other people.

The method of delivering learning content for this web system is in the form of online video tutorials. These video tutorials will form the underlying structure of this web application. It is in this form; Love craft Studios can truly achieve the goal to allows individuals to learn in any context and setting.

Love Craft Studios web system will also be home to a wide array of hand – made craft products that are designed by our in – house craft designers. The purpose of this is to showcase the various of original designed craft pieces but more importantly, to promote the idea of craft making as an elegant form of art.

In addition to the adoption of the online blog, online video tutorials and hand – made craft pieces, Love Craft Studios will also distribute all the necessary materials and tools that will appear in the online video tutorials. This will provide a relatively easy entry into craft making due to the difficulty of obtaining the right materials and tools for the craft project.

Do – it – yourself template packages that corresponds to a particular craft piece will be another component to the Love Craft Studio’s web system. This section is designed to give those individuals the chance to complete a piece of craft work without having to obtain much craft skills. This mechanism will achieve the goal of exposing the realm of crafting to those demographics that have not yet had a glimpse of the discipline.

## **References**

This following document is based off the IEEE standard Software Requirement Specification document.

The specific document can be found with the following URL:

<https://web.cs.dal.ca/~hawkey/3130/srs_template-ieee.doc>

## **Glossary**

|  |  |
| --- | --- |
| Term | Description |
| W3C | Defines an **Open Web Platform** for application development that has the unprecedented potential to enable developers to build rich interactive experiences, powered by vast data stores, that are available on any device. |
| IEEE | Acronym for Institute of Electrical and Electronic Engineers. |
| SRS document | Acronym for the Software Requirement Specifications document. |
| UI designer | UI designers are individuals that are responsible for the aesthetic design of a system. |
| NAS | Stands for Networked Attached Storage. This type of storage configuration groups a set of hard drives and content can be accessed remotely with a connected network. |
| NBN | Acronym that stands for the Australian National Broadband Network. |
| IDE | Acronym for Integrated Development Environment. |
| OS | Acronym for operating system |

# **Overall Product Description**

This section of the Software requirement Specification document will attempt to detail:

* various components and mechanisms of the Love Craft Studios’ web system. It will also provide the context of which this web system is built on and briefly outline the user classes and the various actors that will be interacting with this web system.
* The operating environment will also be outlined in accordance to the regulation of the W3C standard that is adopted by most web applications on the World Wide Web.
* Detail the functions of the web system which encapsulates a high-level description.
* Constraints that various user classes will encounter will also be detailed.
* User documentation will also be suggested to ease the difficulties in reading the technical aspects of this document.
* Assumptions and dependencies of the development of this system will be outlined.

## **2.1 Product Perspective**

Love Craft Studios web system was created to provide an online platform for craft enthusiasts to be able to learn new craft pieces and showcase their own completed craft works to other craft lovers. This web system is ca completely independent system and is developed from ground up by professional software developers and engineers.

This web system is classified as an education website which distributes online video tutorials and provide real time online help to students in need. This type of web system is not the first of its kind, other similar web systems that provide the same services and functionality can be found.

The following use case diagram illustrates the general interactions of the various interactions of the system actors and the sub – systems. Note that this following diagram is not a complete depiction of the web system and further design aspects are detailed in later sections and documents.

/Users/tonyli/Documents/Love Craft Studios /Use Case Diagrams for LCS Website/General Use Case Diagram for LCS.pdf

## **Product Functions**

This web system will have the following basic functionalities which include:

* Provide a platform for craft lovers to share and learn.
* Provide instructive video tutorials for the users of the web system.
* Provide materials that the users might need for their learning.
* Provide a platform for users to share their craft pieces.
* This system will give users different levels of subscription for different needs.
* There will be a payment mechanism for users to purchase a wide range of products that Love Craft Studios provides.
* Providing basic tracking services for the posing progress.

## **User Classes and Characteristics**

The user classes for this web system will include:

* Online User
* Online user is defined as an individual that accesses and interacts with the web system. Online users are able to access a range of web pages that are permitted by their level of access. They also have the privilege of communicating any concerns and enquiries to either the system administrators and the craft designers.
* Online users are able to purchase displayed products that Love Craft Studios provides on its web system.
* System Administrator
  + System administrator’s role is to maintain and monitor the web system for any abnormalities. They have the authority to gather and organise the information that the online user provides of the web system into a portfolio.
  + System Administrator also be able to see any questions that are made by online users and can respond and refer them to the relevant actors.
  + System Administrators are also responsible for compiling user product orders and generate a comprehensive order summary to the stock operator.
* Craft Designers
  + Craft designers are able to post their pieces to the web system in a variety of formats. These include:
    - Video formats
    - Picture formats
    - Text formats
  + Craft designers are also able to notify system Administrators for any new video tutorials and pre – made products to sell on the web system.
  + Craft Designers can also communicate to online users for any new information about their craft pieces and answer any questions that online users might have.
* Stock Operator
  + Stock operator are those that prepare the stock that are ordered by the online user.
  + They will receive an order summary form the system administrators.
  + Stock operators will update the system administrator on the progress of the order.
* Design teams
  + Design teams will be responsible for the overall User interface of the web system.
  + They will give development teams the designs of the various pages that the web system needs and gives detailed description of the interactions of the web pages.
* Development teams
  + Development teams are responsible for the actual implementation of the web system.
  + They will take the design of the system and create code base to implement the interactions and the vidual mechanisms that are specified by the UI designers.
* External stakeholders / investors
  + External stakeholders and investors are those who fund the whole project.
  + They provide monetary resources and specific requirements that the system should possess.
  + External stakeholders and Investors also hold the right to alter any functionality of web system.
* Monetary transaction bodies
  + Monetary transaction bodies are external regulatory bodies that is responsible for the transaction that the web system generates and sends.
  + They are also responsible for managing the overall financial accounts and balances for Love Craft Studio.

## **Operating Environment**

The software environment of this web system are split up into different areas:

* Hardware operating environment
* Software operating environment

### **Hardware Operating Environment**

Love Craft Studios web system is at its essence a website that allows online users to access materials that are provided by its craft designers. Therefore, the hardware that will be needed to run this web system will be:

* Personal computer
  + Equipped with an up to date operating system.
  + It is used to develop the code for the web system.
  + Testing of the web system is also done here.
* Storage mechanism
  + In the initial development of this web system, external hard drives with USB ports are used for the storage of the content of the web system. It will also provide storage for the source code and backup versions of the source code.
  + When content storage needs expanding, the web system will adopt a NAS configuration.
* Reliable & fast internet connection
  + A reliable and fast internet connection will be needed for the operation of the web system.
  + The use of the NBN will be beneficial to the operation of the web system.
* Camera
  + DSLR’s are used to produce the necessary video content that the web system will upload.
  + It is also used to create the aesthetics of the web system and any. Promotional material that Love Craft Studios conducts.
* Server
  + To achieve the goal of enabling every individual to access the web system, servers will be a crucial component of the hardware operating system.
  + Servers will act as a computer that allows online users to seamlessly access the content Love Craft Studios presents.

### **Software Operating Environment**

The software operating environment for developing this web system will include:

* Atom (Coding IDE)
  + Atom is the chosen IDE to develop the underlying code base of the web system.
* Video editing software
  + The online tutorials that are uploaded to the web system will be edited on video editing software.
  + The chose video editing software is Adobe Premier. However other video editing software can be considered such as Final cut Pro.
* Image editing software
  + The craft pieces that are uploaded into the web system will be edited on a designated image editing software.
  + The chosen image editing software is Adobe Photoshop.
* Server software
  + the software that will be used for the servers of the web system is Linux.
  + Linux is an operating system that is an free open – source operating system which is beneficial to the cost of developing the web system. It also allows the developers to view the source code of the operating system which makes the OS open to change.
  + Linux operating system is relatively reliable and stable. This is one of the reason Love Craft Studios chose a Linux based operating system to run its servers.
  + Servers need to be operational in most situations, therefore the underlying operating system needs to be secure to prevent any compromises to the servers. Linux OS compensates for the level of security.
* Client software
  + Client software will mainly be run on one of the following operating system:
    - Windows operating system
      * Windows operating system that is widely used by the society and is installed in almost every personal computer.
      * Most of the web browser such as Google Chrome, Fire Fox, Opera are all compatible with the Windows Operating System.
      * The web system will be compatible with the main web browsers.
    - Mac operating system
      * The Mac operating system is also one of the popular OS amongst the online clients.
      * This web system will also be compatible with the browsers that run on the Mac OS.
    - Linux operating system
      * Linux OS is not as popular as Window and Mac OS, however there is an increase in the use of the Linux OS.
      * Although making the web system compatible with the Linux OS is not the priority in the early stages of the development, it will be compatible with the Linux OS in later stages of development.

## **Design and Implementation Constraints**

During the design and development of the web system, it will encounter some constraints. It will be classified into two main categories:

* Design constraints
  + These constraints are mainly concerned with the factors that might affect the progress of the design of the web system.
* Implementation constraints
  + These constraints are concerned with factors that might affect the implementation of the web system.

## **Design Constraints**

The design constraints are those factors that will infringe the design progress of the design of the web system. These include:

* Commercial constraints
  + Cost of developing the web system needs to be accounted for in the design of the web system to ensure that the web system is of the highest quality.
  + The time that it takes for the web system to be developed also needs to be accounted for in the design of the web system. This is to ensure that the design of the web system is designed in the shortest amount of time possible.
  + The functional requirements that the clients specify might affect the design of the web system.
    - This is because clients might give requirements that might be contradictory to other functional requirements.
    - Clients might give requirements that are not practical and therefore cannot be achieved in the design process.
    - Clients might also give non – functional requirements that are impractical and therefore infringe the design process of the web system.
  + Compliance constraints such as legal regulations and web standards needs to be crossed checked and verified to ensure there is no repercussions to the validity of the web system.
  + Choosing the right design pattern needs to be considered carefully to mitigate the probability of unnecessary development time.
  + The integration of the web system to the popular browsers is a possible constraint.

### **Implementation Constraints**

The implementation Constraints are those factors that will affect the actual implementation of the web system. These constraints include:

* the cost of implementing the web system.
  + As discussed in the design constraints, the cost of designing and implementing the web system can be a deciding factor on what functionality the web system will adopt. Inevitably, there are some functionality that will be too costly to implement.
* the quality of the process of implementation is also a constraint.
  + The possibility of poor implementation of the web system is present. This poor implementation is due to the fact that the implementation does not actually comply with the requirements that is specified by the client.
* The project implementation time/schedule
  + The speed of implementation is also a constraint that will determine whether this web system will be profitable and possess a competitive edge against similar web systems.

## **User Documents**

The documents that will be included in this SRS document will include:

* W3C standards document
* IEEE SRS document template

## **Assumptions and Dependencies**

During the designing and implementing the web system, there are a myriad of assumptions that needs to be made. These include:

* The assumption that all the required teams that the project needs will be acquired and adequately compensated.
* The budget for developing and implementing the web system will be robust.
* The scheduled deadlines are assumed to be met by the development teams.
* All the necessary hardware components are assumed to be acquired and available for use.
* The assumption that there is a form of support when any team encounters issues.
* The scope of the project will not change even if there is a change in the stakeholders.
* The web system is assumed to follow the Agile development methodology.
* The project will strictly follow the government guidelines.
* The technologies that the development teams will adopt are:
  + Front End:
    - These technologies are used to develop the user interfaces
      * Hyper Text Mark Up Language (HTML)
      * Cascading Style Sheets (CSS)
      * JavaScript
  + Back End:
    - These technologies are used to give dynamic functionality to the web system
      * Databases:
        + MySQL
      * Underlying back – end languages and frameworks:
        + PHP
        + Laravel framework
      * Server web technologies
        + Apache
      * Version Control system
        + Git hub
      * Collaboration services
        + Slack

# **External Interface requirements**

In this section of the software Requirements Specifications document, it will detail the design requirements that the web system will possess. The external interfaces is the various graphical pages that the user interacts with