Software Requirements Specification

for

UPOD - Web Design

**Version 0.1**

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**Table of Contents**

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**Revision History**

**1. Introduction**

1.1 Purpose

1.2 Document Conventions

1.3 Intended Audience and Reading Suggestions

1.4 Product Scope

1.5 References

**2. Overall Description**

2.1 Product Perspective

2.2 Product Functions

2.3 User Classes and Characteristics

2.4 Operating Environment

2.5 Design and Implementation Constraints

2.6 User Documentation

2.7 Assumptions and Dependencies

**3. External Interface Requirements**

3.1 User Interfaces

3.2 Hardware Interfaces

3.3 Software Interfaces

3.4 Communications Interfaces

**4. System Features**

4.1 System Feature 1

4.2 System Feature 2 (and so on)

**5. Other Nonfunctional Requirements**

5.1 Performance Requirements

5.2 Safety Requirements

5.3 Security Requirements

5.4 Software Quality Attributes

5.5 Business Rules

**6. Other Requirements**

**Appendix A: Glossary**

**Appendix B: Analysis Models**

**Appendix C: To Be Determined List**

**Revision History**

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| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
|  |  |  |  |
| Tom West | 17/05/16 | Functional Requirements Draft Complete. Adding High Level Requirements Draft. | v0.2 |
| Tom West | 13/05/16 | Initial Draft | v0.1 |

# Introduction

## Purpose

*This document outlines the requirements for the web interface design of the UPOD website.*

## Product Scope

*UPOD(Undergraduate Physics Online Database) is a website designed to the students with information about physics. The goal is to provide accurate and up to date physics knowledge for undergraduate students.*

*<Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.>*

# Overall Description

## Product Perspective

*<Describe the context and origin of the product being specified in this SRS. For example, state whether this product is a follow-on member of a product family, a replacement for certain existing systems, or a new, self-contained product. If the SRS defines a component of a larger system, relate the requirements of the larger system to the functionality of this software and identify interfaces between the two. A simple diagram that shows the major components of the overall system, subsystem interconnections, and external interfaces can be helpful.>*

## Product Functions

*The Web Design must allow students to navigate UPOD quickly*

*<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of the SRS. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.>*

## User Classes and Characteristics

*<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>*

## Operating Environment

*The UPOD website will be hosted on the Wilfrid Laurier University Hopper server. All data must be stored locally, and search functions will be supported by the database structure.*

## Design and Implementation Constraints

*UPOD will be maintained by Wilfrid Laurier staff after the end of the Spring 2016 school term. (July 26, 2016) As such, the admin portal must be functional by this date. Only specified staff may be allowed administrator access. The individuals are as follows:* insert list here

*<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer’s organization will be responsible for maintaining the delivered software).>*

## User Documentation

*<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>*

## Assumptions and Dependencies

*<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>*

# External Interface Requirements

## User Interfaces

*<Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.>*

## Hardware Interfaces

*<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.>*

## Software Interfaces

*<Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.>*

## Communications Interfaces

*<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>*

# System Features

## Landing Page

4.1.1 Description and Priority

The UPOD landing page is the first thing students will see when accessing UPOD. The UPOD design philosophy is to encourage users to search the site quickly - the focus on and size of the search bar on the landing page will promote a quick search to whatever term the student is looking for. Think of the Google Search page for a similar product.

A permanent link back to the main landing page is common on many sites, as is a left side menu. Students will be familiar with sites like Wikipedia and Google Scholar, so a similar design philosophy should be employed for similar educational tools. Further, by hiding the contents of the left side menu, users will be more likely use the search bar to search

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.1.2 Stimulus/Response Sequences

4.1.3 Functional Requirements

4.1.3.1: The UPOD logo and search bar must be displayed in the main content panel of the landing page. The search bar will take up 75% of the width of the page, and must be centered. The UPOD logo must be displayed above the search bar.

4.1.3.2: The top bar must contain the UPOD logo, which should act as a hyperlink directing the user to the landing page. This logo and its functionality will remain the same across each page within the UPOD site.

4.1.3.3: The top bar must also contain a menu button, displayed at the top left of the page. (Logo will be displayed directly to the right of the menu button) The menu button will be displayed as a “hamburger style” button.

4.1.3.4: Upon clicking the menu button, a menu bar must slide in from the left of the screen. The menu bar must be n pixels wide.

4.1.3.5: The menu bar must include links to each of the six main physics disciplines covered on the UPOD site:

* Fundamentals of Physics
* Classical Mechanics
* Optics
* Electricity and Magnetism
* Quantum Mechanics
* Statistical Mechanics

4.1.3.6: Site admins must be able to add additional disciplines to the site at their discretion, and the appropriate discpline title must be added to the menu bar.

4.1.3.7: There must be a bar at the bottom of the landing page that only become visible once the user scrolls. The bar should contain legal jargon.

## Portal Page

4.2.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.2.2 Stimulus/Response Sequences

4.2.3 Functional Requirements

4.2.3.1: The conent area of this page must be split into two vertical columns.

4.2.3.2: The name of the physics discipline should be displayed centered in the right column in font at size, with a brief description below in font at size.

4.2.3.3: The left column should contain a list of topics within the given discipline. Topics should be organized by criteria.

4.2.3.4: Each topic should be described by a title in font at size, as well as a few main headings listed beneath the title in font at size.

4.2.3.5: The left column must be vertically scrollable.

4.2.3.6: The UPOD logo and menu must remain visible at the top left of the page

4.2.3.7: The Search Bar must remain visible at the top of the page. (right aligned)

* 1. **Single Entry Page (Scalable and Duplicatable)**

4.3.1 Description and Priority

*Single Entries will make up the vast majority of the content on the UPOD site. Each concept or law will have its own Single Entry page, which will display background info, important formulas, and link users to relevant information.*

4.3.2 Stimulus/Response Sequences

4.3.3 Functional Requirements

4.3.3.1: There must be a replicable template for this page in order for admins to add new content to the UPOD site.

4.3.3.2: The title of the page must be font at size.

4.3.3.3: Any subheadings on this page must be font at size.

4.3.3.4: Descriptive text must be font at size.

4.3.3.5: There must be only one main title per page. There is no minimum number of subheadings, but each subheading must outline a unique concept, and the text displayed under each subheading must relate to said concept.

4.3.3.6: The bottom of the page must dispaly a “Suggestions” section with links to relevant content. This section will only be displayed once the user scrolls downwards.

4.3.3.7: The UPOD logo and menu must remain visible at the top left of the page

4.3.3.8: The Search Bar must remain visible at the top of the page. (right aligned)

* 1. **About Us Page**

4.4.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.4.2 Stimulus/Response Sequences

4.4.3 Functional Requirements

4.4.3.1: The About Us page should be a modified form of the Single Entry Page.The page title must be “About Us” in font at size.

4.4.3.2: Text following the title should outline the purpose and origin of the UPOD website, and must be displayed in font at size.

4.4.3.3: Following the description must be a subheading - “Contact Us”

4.4.3.4: After the subheading, there must be 3 text boxes, each of which is to be displayed on its own line:

* A single line text box titled “Name”
* Another single line text box titled “Title”
* A multi-line and scalable text box titled “Comments”

4.4.3.5: Underneath the three text boxes must be a button titled “Send.” Clicking on the button must send the comments to email address. The sender must be displayed as “UPOD Feedback,” and the feedback must contain each of the fields’ content in the body of the email.

4.4.3.6: There must be text in the each text box in order for the Send button to be functional, so as to prevent accidental (empty) feedback messages.

4.4.3.7: The UPOD logo and menu must remain visible at the top left of the page

4.4.3.8: The Search Bar must remain visible at the top of the page. (right aligned)

* 1. **Legal Page**

4.5.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.5.2 Stimulus/Response Sequences

4.5.3 Functional Requirements

4.5.3.1: The Legal page should be a modified form of the Single Entry Page.The page title must be “About Us” in font at size.

4.5.3.2: Text following the title should outline the legal terms of use of the UPOD site. Content is to TBD.

4.5.3.3: The UPOD logo and menu must remain visible at the top left of the page

4.5.3.4: The Search Bar must remain visible at the top of the page. (right aligned)

* 1. **Admin Login Page**

4.6.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.6.2 Stimulus/Response Sequences

4.6.3 Functional Requirements

4.6.3.1: The Admin Login screen must contain a centered box containing the three elements of the page.

4.6.3.2: There must be a single line text box labeled “Username”.

4.6.3.3: There must be a second single line text box underneath the first text box labeled “Password”.

4.6.3.4: At the bottom of the container must be a button labeled “Login”.

4.6.3.5: Each of the listed elements must be center aligned on the horizontal axis of the container.

4.6.3.6: Clicking on the Login button must verify the admin’s credentials, and grant access to edit pages on successful verification.

4.6.3.7: The UPOD logo and menu must remain visible at the top left of the page

4.6.3.8: The Search Bar must remain visible at the top of the page. (right aligned)

* 1. **Search Results Page**

4.7.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.7.2 Stimulus/Response Sequences

4.7.3 Functional Requirements