

**Information Processes & Technology**

Major Project Portfolio

Phase 2 - Final Release Report

Table of Contents

[Introduction 3](#_Toc104980076)

[Final Product Details 4](#_Toc104980077)

[**Website Structure** 4](#_Toc104980078)

[**Login Page** 4](#_Toc104980079)

[**Home Page** 4](#_Toc104980080)

[**Projectile Motion Text Information Page** 5](#_Toc104980081)

[**Projectile Motion Image Gallery Page** 5](#_Toc104980082)

[**Projectile Motion Video Page** 5](#_Toc104980083)

[**Circular Motion Text Information Page** 5](#_Toc104980084)

[**Circular Motion Image Gallery Page** 5](#_Toc104980085)

[**Circular Motion Video Page** 5](#_Toc104980086)

[**Motion In Gravity Text Information Page** 6](#_Toc104980087)

[**Motion In Gravity Image Gallery Page** 6](#_Toc104980088)

[**Motion In Gravity Video Page** 6](#_Toc104980089)

[**Summary Video Page** 6](#_Toc104980090)

[**Summary Quiz Page** 6](#_Toc104980091)

[**Phase 1 Fixes** 6](#_Toc104980092)

[**Final Database Schema / File Design** 8](#_Toc104980093)

[**Site Map** 8](#_Toc104980094)

[Final Testing 9](#_Toc104980095)

[**Final Test Plan - Additional Testing** 9](#_Toc104980096)

[**Increment 2 Test Plan** 9](#_Toc104980097)

[**Final Testing Feedback** 11](#_Toc104980098)

[**Final Issues Summary** 11](#_Toc104980099)

[**Final Testing - General Feedback Comments** 12](#_Toc104980100)

[Project Evaluation report 13](#_Toc104980101)

[**How Well The Criteria Were Satisfied** 13](#_Toc104980102)

[**Possible Future Enhancements** 13](#_Toc104980103)

# Introduction

This report documents the outcomes of the Phase 2 - Final Release of the SPX Physics Online System.

Included in this report are:

* Products being delivered in this release
  + Description in detail about each feature of the product being released
* Physical Design decisions
  + Database Schema diagrams
  + Database Data Dictionary
  + Sitemap
* Phase 2 Testing Plan
  + Documenting the Tests and Expected and Actual Results
* Phase 2 Testing Feedback Report
  + Summarising the key outcomes of the testing and the impact on the product for Phase 2 or Final Release of the Product.

# 

## Final Product Details

### **Website Structure**

* The basic website will be created using HTML/CSS/PHP/JAVASCRIPT and MySQL DBMS.
* The following menu and submenu items will be included in the navbar and on the home page:
  + Home (Goes to home page)
  + Projectile Motion (Opens Submenu)
    - Text Info (Goes to Text Info on Projectile Motion)
    - Image Gallery (Goes to Image Gallery on Projectile Motion)
    - Video (Goes to Video On Projectile Motion)
  + Circular Motion (Opens Submenu)
    - Text Info (Goes to Text Info on Circular Motion)
    - Image Gallery (Goes to Image Gallery on Circular Motion)
    - Video (Goes to Video On Circular Motion)
  + Motion In Gravity (Opens Submenu)
    - Text Info (Goes to Text Info on Motion in Gravitational Fields)
    - Image Gallery (Goes to Image Motion in Gravitational Fields)
    - Video (Goes to Video On Motion in Gravitational Fields)
  + Summary (Opens Submenu)
    - Quiz (Goes to Summary Quiz)
    - Video (Goes to Summary Video)
  + Logout (Logs user out to login page)
* The website supports the purpose of the system, by allowing students to access content quickly and easily in the topic area of HSC Physics Advanced Mechanics. This website allows users to view information in multiple locations and devices and has been made responsive for smaller screens such as mobile phones.
* New menu items include:
  + Motion In Gravity (Opens Submenu)
    - Text Info (Goes to Text Info on Motion in Gravitational Fields)
    - Image Gallery (Goes to Image Motion in Gravitational Fields)
    - Video (Goes to Video On Motion in Gravitational Fields)
  + Summary (Opens Submenu)
    - Quiz (Goes to Summary Quiz)
    - Video (Goes to Summary Video)

### **Login Page**

* This page will allow users to login to the website.
* Multimedia Elements included here are
  + Text Information.
* This Page supports the purpose of the system as it makes it a “allowing students to locate the information on the Physics topic they wish to study” (1)

### **Home Page**

* This page will contain information about the website.
* Multimedia Elements included here are
  + Text.
  + Hyperlinks.
* This page supports the purpose of the system by “allowing students to locate the information on the Physics topic they wish to study” (2)

### **Projectile Motion Text Information Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Text.
* This page supports the purpose of the system by “allowing students to study Projectile Motion” (4)

### **Projectile Motion Image Gallery Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Images.
  + Text Information
* This page supports the purpose of the system by “allowing students to study Projectile Motion” (4)

### **Projectile Motion Video Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Video.
* This Page supports the purpose of the system by “allowing students to study Projectile Motion” (4)

### **Circular Motion Text Information Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Text.
* This Page supports the purpose of the system by “allowing students to study Circular Motion” (5)

### **Circular Motion Image Gallery Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Images.
  + Text.
* The Home Page supports the purpose of the system by “allowing students to study Circular Motion” (5)

### **Circular Motion Video Page**

* This page will contain information about the Projectile Motion.
* Multimedia Elements included here are
  + Video.
* This page supports the purpose of the system by “allowing students to study Circular Motion” (5)

### **Motion In Gravity Text Information Page**

* This page will contain information about Motion In Gravity.
* Multimedia Elements included here are
  + Text.
* This Page supports the purpose of the system by “allowing students to study Motion In a Gravitational Field” (6)

### **Motion In Gravity Image Gallery Page**

* This page will contain information about the Motion In Gravity.
* Multimedia Elements included here are
  + Images.
  + Text.
* The Home Page supports the purpose of the system by “allowing students to study Motion In a Gravitational Field” (5)

### **Motion In Gravity Video Page**

* This page will contain information about the Motion In Gravity.
* Multimedia Elements included here are
  + Video.
* This page supports the purpose of the system by “allowing students to study Motion in a Gravitational Field” (5)

### **Summary Video Page**

* This page will contain a Summary of the whole Advanced Mechanics Unit.
* Multimedia Elements included here are
  + Video.
* This page supports the purpose of the system by “including multimedia elements such as video” (8)

### **Summary Quiz Page**

* This page will contain a Summary of the whole Advanced Mechanics Unit.
* Multimedia Elements included here are
  + Interactive Quiz.
* This page supports the purpose of the system by “including multimedia elements such as an interactive quiz” (10)

### **Phase 1 Fixes**

* Fixed the CSS does not update when auto filled username and password.
* Fixed the Star Twinkle in Header is hard to see, possibly make them bigger.
* Fixed the spelling mistakes delivered in phase 1.
* Fixed that the “Submit and reset buttons have slightly different colours”, to increase judicious use of colour, change it back.
* Fixed home Page has a slightly large amount of whitespace.

### 

### **Final Database Schema / File Design**

**Amendments** to DB Schema resulting from the implementation of the Final Phase of development. Incorporating ALL database features in the final product are shown below.

Below us the Data Dictionary for the single “users” Entity, and DB Schema Diagram.

Users Table Data Dictionary:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Data item** | **Data type** | **Format** | **Number of**  **bytes**  **required**  **for storage** | **Size for**  **display** | **Description** | **Example** |
| userName (PK) | Varchar | PK | 12 | 12 | Primary Key (a unique identifier for each student in the table) | 1 |
| password | Varchar | N/A | 255 | 255 | The user’s password | Sjn$3wr |
| firstName | Varchar | N/A | 25 | 25 | The user’s First Name | Charlie |
| lastName | Varchar | N/A | 25 | 25 | The user’s Last Name | Chaplin |
| role | Varchar | N/A | 10 | 10 | The user’s Role | student |

**SPX Physics Online Database Schema**

Diagram, table

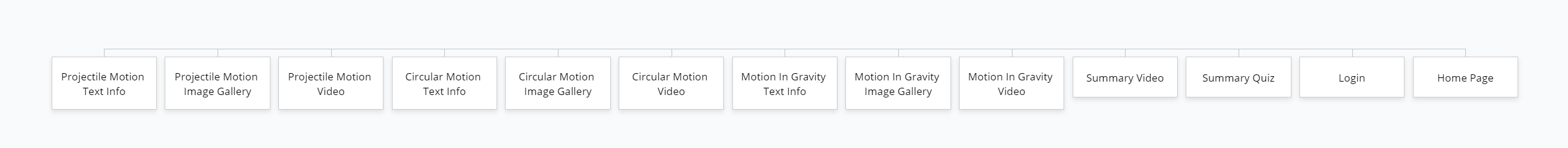
Description automatically generated

### **Site Map**

The product has been installed and available in the SPX Testing environment –

<http://spx-webtest-s01/2022/YAST03/SPXPhysicsOnline_IPTMajor/Deliverable2/>

Full URL:  
<http://spx-webtest-s01/2022/YAST03/SPXPhysicsOnline_IPTMajor/Deliverable2/index.html>



## Final Testing

The following is a copy of the Test plan that will be issued to each System Tester.

### **Final Test Plan - Additional Testing**

### **Increment 2 Test Plan**

Here is a test plan – including test plans .

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Actual Results** | |
| **Test #** | **Feature to be tested** | **Action Taken / Data Used** | **Reason For Test** | **Expected Results** | **As Expected,** | **Comments** |
| 1.0 | Website | Quiz | No changes since Phase 1 - Run Phase 1 tests | Check original tests still work | Y |  |
| 2.1 | Website | Start up with URL:  http://spx-webtest-s01/2022/YAST03/SPXPhysicsOnline\_IPTMajor/Deliverable1/index.html | Check link is not broken | Login Page is displayed | Y | Links Working Fine |
| 2.2 | Home Page | Check Content | Check that all content appears correctly – images appear, text is consistent | Content all appears without broken links | Y |  |
| 2.2 |  | Check Format of page | Check format is consistent and user friendly | All format appears correct - content in logical places and readable | Y |  |
| 3.1 | Quiz | Answering quiz questions | Check that quiz allows answers to be entered - answering is not mandatory, will just result in null mark | Radio Buttons will only select one answer | Y |  |
| 3.2 | Quiz | Submit Quiz button pressed | Check the Answers are being marked correctly | * Answers processed, * total of correct answers displayed, * correct answers given for correct responses | Y |  |
| 3.3 | Quiz | Enter the following answers:  A  C  B D  D  A  D  B  A  D | Check all correct questions | All correct | Y | Quiz Working Fine |
| 3.4 | Quiz | Enter the following answers:  A  C  D C  D  A  C  B  A  A | Check Some Answers correct | A correct  C incorrect  D incorrect C incorrect  D correct  A correct  C incorrect  B correct  A correct  D incorrect | Y | Quiz Working Fine |
| 3.5 | Quiz | Enter the following answers:  B  D  C D  C  B  A  A  B  B | Check All incorrect Answers | All incorrect | Y | Quiz Working Fine |
| 3.6 | Quiz | Enter the following answers:  NULL  D  C D  NULL  B  A  NULL  B  B | Check Null Answers | incorrect  D correct  C correct D correct  incorrect  B correct  A correct  incorrect  B correct  B correct | Y | Quiz Working Fine |
| 4.1 | Information Guides | All links in home page navigate to required pages | Check Links | Navigates to required pages | Y | Links Working Fine |
| 4.2 | Information Guides | All links in navbar navigate to required pages | Check Links | Navigates to required pages | Y | Links Working Fine |
| 5.1 | Test each Multimedia Element |  | Check Multimedia Elements Work |  | Y |  |
| 5.1.1 | YouTube links | Click to start Video |  | Video starts | Y |  |
| 5.1.2 | You Tube Links | Click to stop video |  | Video Stops | Y |  |
| 5.1.3 | Gallery Images | Click to open Modal |  | Modal Opens | Y |  |
| 5.1.4 | Gallery Images | Click to Change Modal |  | Modal Changes | Y |  |
| 5.1.5 | Gallery Images | Click to Close Modal |  | Modal Closes | Y |  |
| 5.1.5.1 | Galley Images | Correct Modal Image is shown |  | Modal Image Changes | Y |  |
| 5.1.5.1 | Gallery Images | Correct Modal Text is shown |  | Modal Text Changes | Y |  |
| 6.0 | Social & Ethical Issues | View Nav bars on each page except for login page | Navigation consistent on each page |  | Y |  |
| 6.1 |  | Each page contains a Site Banner and heading for each page except for login page | Page Layouts consistent on each page |  | Y |  |
| 6.2 |  | Each element clearly explained | Content appropriately explained |  | Y |  |
| 6.3 |  | Links and credit for unoriginal content | Credit given to non-original content |  | Y |  |
| 6.4 |  | Screen Designs Align | Screen designs align |  | Y |  |
| 6.5 |  | Appropriate Use of white space | Check a good amount of white space |  | Y | Not a good amount of white space in the Home Page |
| 7.1 | Header | Header Starts Twinkle | Check Header Stars Twinkle |  | Y | Header starts twinkle (twinkle is hard to see) |
| 8 | Responsive | All Pages are fully responsive | Check All Pages are fully responsive |  | Y | (fully responsive website) |

### **Final Testing Feedback**

Testing of the system identified the following areas that need to be addressed in our second iteration:

#### **Final Issues Summary**

|  |  |  |
| --- | --- | --- |
| **Screen / Function** | **Description** | **Priority** |
| Better font | Use a more easily readable font on all pages | Moderate Priority |
| Star Twinkle More | Star Twinkle in Header is hard to see still, possibly make them bigger. | Low Priority |
| Quiz Colours | The quiz is marked in red and blue colours and may be hard for colourblind people to see. | Moderate Priority |
| Add a Logo | There is no SPX Physics Online Logo, add one for a more complete experience. | Change Request |

#### **Final Testing - General Feedback Comments**

Testers’ feedback and final comments:

|  |
| --- |
| The Quiz works very well and is marked properly a lot of effort has been put into the styling of the website. All navigation works correctly and goes to the correct places, all fixes from phase 1 have been made and work correctly. All test from the test plan work and yield the expected result.  Some things to consider include:  Positive:   * most pages follow a good colour scheme * very intuitive * appropriate white space used * the content pages and the gallery are both visual pleasing * use of color very good and continuous * social and ethical issues appropriately addressed * The navigation was very pleasing and pleased me very much * the whole website is completely responsive * all pages work   Negative:   * no logo * no navbar on login page * stars are still a bit hard to see on navbar * quiz has a lot of colours, can be a bit overwhelming * quiz does not follow colour main colour scheme   Testers: Jack Spurr, Will Licquorice |

## Project Evaluation report

### **How Well The Criteria Were Satisfied**

|  |  |
| --- | --- |
| Success Criteria Item. | How Well the Success Criteria Item has been satisfied. |
| Provide Digital Multimedia Content for SPX Students. | This has been implemented very well as all students can access multimedia content  Positive:   * Three multimedia elements for each topic. * A great number of extra multimedia elements.   Negative:   * A lot of elements. |
| Allow them to learn high order subjects and skills. | This has been implemented as there is a quiz.  Positive:   * Interactive quiz * Encourages interaction * Is fun.   Negative:   * Overflows screen * Very colorful * Red and green colour scheme not good for colourblind users. |
| Advanced Mechanics Unit covered. | This has been implemented well as there are three subtopics covered.  Positive:   * Three subpages with different multimedia elements. * Encourages interaction * Has a video.   Negative:   * A lot of information. |
| Projectile Motion Unit covered. | This has been implemented well as there are three subpages for this topic.  This has been implemented well as there are three subtopics covered.  Positive:   * Three subpages with different multimedia elements. * Encourages interaction * Has a video subpage.   Negative:   * A lot of information. |
| Circular Motion Unit covered. | This has been implemented well as there are three subpages for this topic. |
| Motion In a gravitational field unit covered. | This has been implemented well as there are three subpages for this topic.  This has been implemented well as there are three subtopics covered.  Positive:   * Three subpages with different multimedia elements. * Encourages interaction * Has a video.   Negative:   * A lot of information. |
| Text Multimedia Elements. | This is implemented well as it has three subpages, one for each topic, covered with text info.  Positive:   * There is a large amount of text information. * There are different colours of text in different sections.   Negative:   * A lot of information * Could be boring for students. |
| Video Multimedia Elements. | This is implemented well as it has three subpages, one for each topic, covered with text info.  Positive:   * Interesting for students. * Page is responsive.   Negative:   * Via YouTube * Not local videos. |
| Audio Multimedia Elements. | This is implemented well as there is an audio welcome element on the home page.  Positive:   * It is a long audio message. * Stored locally.   Negative:   * Very long audio message * Only one audio message on whole website. |
| Includes an interactive quiz. | This is implemented well as there is a summary quiz.  Positive:   * Interactive * Encourages students to learn   Negative:   * Uses a colour scheme which has a lot of colours. |
| Includes Images. | This is implemented well as there are three separate image gallery pages, each with 8 images.  Positive:   * Multiple images * Image gallery is responsive   Negative:   * Image gallery takes up a lot of processing due to the large amount of JavaScript. |

### **Possible Future Enhancements**

|  |  |  |
| --- | --- | --- |
| Proposal | Justification | How this is tied to Success Criteria. |
| Change to color scheme to one with less contrast. | This would make the system less straining on the client’s eyes. | The system must be user friendly, such as intuitiveness, a color scheme, white space, friendly error messages and the ability to rectify mistakes. |
| Make the password entry box sight protected not only in the html type of input. | This would allow for greater privacy from the client’s view. | username and password must be required to access the system and governs their role and governs their access to data. |
| Create more audio elements. | This would allow for a greater implementation of the “audio multimedia element”. | The success criteria states that audio multimedia elements are required. |