Software Requirements Specification  
for  
UPOD - Graphics/Animation  
Version 0.2  
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1. **Introduction**
   1. **Product Scope**

The UPOD Graphics/Animation group will create the Animations and interactive diagrams with SVG which will allow the user to gain a better understanding of Physics concepts through interactive diagrams. We are hoping to create 5-15 animations touching on each of the physics categories in UPOD. The specific diagrams to be animated will be on decided in tandem with the Physics Research group.

* 1. **Definitions, acronyms, and abbreviations**

MVC is a software architectural pattern for implementing user interfaces on computers. Traditionally used for GUIs.

Model (MVC): Represents the equation or physics concept illustrated

View (MVC): Sliders, buttons, and other UI elements to interact with the model. Objects to reflect inputs and demonstrate the concepts

Controller (MVC):Liases and controls the view to reflect the model

SVG: Scalable Vector Graphics

* 1. **References**

IEEE Std 610.12-1990, IEEE Standard for Software Project Management Plans <http://bohr.wlu.ca/cp317/notes/IEEE_830.pdf>

WLU CP317 Class of Spring 2013: Pong Tracker used as Example

* 1. **Overview**

The UPOD Graphics/Animation Requirement document outlines the following:

* Description of the Graphics/Animation
* User's interaction with the graphics/animations
* The software used to create the Graphics/animations

1. **Overall Description**
   1. **Product Perspective**

Graphics and animation relates to the physics research due the fact information on what physics animations should be made and also what type of physics diagrams should be used.

* + 1. **System Interfaces**

The Graphics and animations should be able to operate on the following browsers

* Google Chrome
* Mozilla Firefox
* Internet Explorer
* Safari
  + 1. **User Interfaces**

The users should be able to use a mouse to interact with certain animations or diagrams on UPOD.

* + 1. **Software Interfaces**

Animations and graphics displaying the physics content will be created using javascript SVG.

* + 1. **Communication Interfaces**

Graphics and animations in UPOD should be portable across internet browsers.

* + 1. **Memory Constraints**

Memory constraints should be expected while creating the graphics and animations. More information shall be added later.

* 1. **Constraints**

UPOD graphics and animations must be added onto the site before the end of the 2016 spring term (July 26, 2016). Budget is $0 so any software used to create the graphics and animations must be free to use.

1. **Specific Requirements**
   1. **External Interfaces**

Different javascript SVG animation libraries are being researched.

* 1. **Functions**

Graphics and animations to be included on the UPOD web interface.

* 1. **Performance Requirements**

Graphics and animations should be able to be seen and be intractable on different browsers. More detail will be added.

* 1. **Logical Database Requirements**

All physics content and graphics will be stored on a relational database.

* 1. **Software System Attributes**
     1. **Reliability**

UPOD Graphics and Animations are expected to be used permanently in the site. Maintenance should be expected and be announced before hand making UPOD unavailable.

* + 1. **Availability**

Software used to create Graphics and Animations must be supported across the previously listed browsers.

* + 1. **Security**

All Graphics and animations on UPOD are free to use for all and therefore are no major security constraints.

* + 1. **Maintainability**

Graphics and animations should be coded to standard protocols and should be well documented in order for future maintenance. UPOD is to be assumed available for the future; therefore having a set of individuals in charge of maintenance will not be constant.

* + 1. **Portability**

Graphics and animation will be developed on UNIX based software. Any new software to be installed on hopper will be communicated to David Brown once they are identified and validated.

1. **Supporting Information**

More information on other aspects of UPOD can be found on the other requirement documents:

* Web design
* Back end database
* Physics Content