**Software Requirements Specification**

**Version 1.0**

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**SPI Inventory Management System**

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**Preface**

Readership of this document includes Rachel Garcia and Josh Ganz of Where **S**cience and **P**lay **I**ntersect (SPI), Professor Jim Skon, and the four developers: Bennett Grigull, Elizabeth Iduma, Emily Rachfal, and Thomas Stanton.

This is the first version of the document, outlining the project purpose, terms, and system requirements.

**Introduction**

The purpose of this document is to create a detailed description of the inventory system that we will be creating for SPI. This inventory system will be used to organize all of the different supplies and projects that SPI has currently stored in cabinets and in a room in the basement. Currently there is little organization in place, with only a couple broad categories like “biology” or “art supply” to distinguish where different material should go. This system will provide the stakeholders with an infrastructure for a searchable system which will track what their inventory is, where their inventory is stored, and how much of it they have. The system will allow them to manage their inventory as well as modify their storage data and search for specific artifacts. The system will replace the current process in place that involves having to ask an admin where an artifact should be put away, or leave the artifact in a pile to be put away later.

**Glossary**

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| **Term** | **Definition** |
| Admin | Administrative user who designates and moves storage modules, and can also edit inventory status. |
| Artifact | An item stored at SPI, monitored by the inventory database. |
| Inventory Database | Catalog associated with a variety of storage modules each housing SPI artifacts, monitored by the system. |
| Stakeholder | Any person with an interest in the project who is not a developer. |
| Software Requirements Specification | A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document. |
| Stock | The quantity associated with a specific artifact. For example, if a tape artifact has an associated stock of 3, then there are three rolls of tape in the tape artifact’s storage module. |
| Storage Module | The physical location where specific artifacts are stored. |
| Tag | Description associated with a number of artifacts. These will function like hashtags. |
| Volunteer | User who can increase and decrease inventory numbers but cannot change where items are stored. |
| Where **S**cience and **P**lay **I**ntersect (SPI) | Location where scientific educational resources are stored. |

**User Requirements Definition**

After our meeting with the stakeholders, we had a comprehensive list of features with varying levels of priority. Here we will describe the features that we, and the stakeholders, consider most important.

The overall goal of the software is to create a system to organize all the artifacts used by SPI. In order to achieve that, we need to create a platform where users can enter data associated with artifacts, such as descriptions or images, and visualize that data in a useful way. For data entry, we decided a useful feature is tags. A tag is a short, one or two word description that facilitates the classification and search of that artifact. For example, many of the artifacts can be used for multiple projects, so potential tags for that artifact might be the different projects it is used for. When you search for a project tag, the artifact with the corresponding tag would be part of the search output. In addition, artifact data should include an image, the stock of the artifact, the artifact’s location, and an optional field for a longer description. When a user searches for an artifact, the data should be presented clearly and should help the user find where the object is located within spy. Again, the ideal outcome is that once a user searches for the object, they either know where to retrieve it from or where to place it. A stretch goal for the data visualization is to display an interactive map of SPI that displays the inventory database and location of the artifacts. The data storage should also include projects. SPI uses artifacts for educational projects. The project’s data type should record the required artifacts and, possibly, instructions on how to setup and complete the project. The database should also record instances of projects, which store information about a time that project was used during a class. This would provide the users an opportunity to comment on how effective the project was during that class, or additional information like how many students attempted the project.

**System Architecture**

**System Requirements Specification**

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| Inventory Management | 1. All artifacts are recorded in a database labeled with their storage location 2. Inputs include changing quantity of an artifact, and changing the location of an artifact. Volunteers and Admins can make these inputs. Admins can add and remove location modules. 3. Outputs include |
| Search Inventory | 1. A search can be made for the location of the inventory 2. Inputs include the name of the searchable artifact, an artifact ID number, a location, or a tag. Volunteers and Admin can make these searches 3. Outputs include the location of the item, the quantity of the item, an image of the item, and a description of what the item can be used for 4. Information needed: item location, quantity, image. Project information included instructions for the projects and the items needed for the projects. |
| Project Descriptions | 1. Science projects including the instructions, artifacts needed, and an image of the desired final project 2. Inputs include searches for a project. Volunteers and admin can make this input. New projects and all the information associated with them can be added by Admin. 3. Outputs include all the information associated with the searched project 4. Information needed: Image of final projects, instructions, artifacts needed for project, tags associated |
| Map | 1. An image on the map (schematic) labeled with location ID numbers |
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**System Models**

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