Software requirements specification

PA Historical Finder

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# Introduction

## Purpose of this Specification Document

This document specifies the requirements for the software, being developed. The system, referred to as PA Historical Finder, is one that enables users to explore significantly historical information within Pennsylvania.

## Glossary

* **PA Historical Finder** - Name of the system being built
* **Historical Landmarks** - Any historical person, event, or place. Referred to as landmarks for short.
* **Tag List** - A list created by a user that contains a collection of landmarks.
* **Map** – A visual representation of geographical data for a given demographic.

## Scope of the Product

The purpose of the software is to allow users to search for historical information and to view search results in an interactive interface.



**Figure 1.0**

## References

This document references the User Software Specification for PA Historical Finder. References are in the format Use Case (UC) followed by its numerical label. For example, US 1 refers to Use Case 1.

## Overview of the Remainder of the Document

The latter part describes the system’s functional and non-functional requirements.

# General Description

# Product Perspective

The product will provide the capabilities to explore various landmarks within PA.

Development is done via Agile Development methodologies. Project management will utilize industry standard source control system(s) and open source tools and libraries.

# Product Functions

The software will provide the following functions:

1. User authentication and authorization
2. Search and view historical landmarks
3. Create tag lists of historical landmarks

# User Characteristics

General users of this software are expected to be any individual with average electronic consumer savvy skills and an interest in Pennsylvania’s history.

## Operating Environment

The application will be written in web technologies, supplemented with MongoDB, which will be hosted on a Windows or Linux based machine on separate or same machines respectively. The user simply needs access to a web browser to use the application.

## Technology/Tools Usage Licenses

* **MongoDB:**  GNU APL v3.0 License [1]
* **NodeJS: “...**permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software...” [2]
* **Select2:** MIT License [3]
* **Google Map JS API:** Google Map APIs Terms of Service [4]

## Design and Implementation Constraints

All design and implementation will be completed within an agile methodology within the given time frame.

# Assumptions and Dependencies

1. The map rendering is dependent on Google’s API service. Limits, constraints and adhering to license terms apply.

# User Documentation

No written document will be produced. User documentation will be in the form of in-application usage tutorials where deemed necessary.

# Deployment

# Hardware

At minimum, a server is needed to host the web application and MongoDB. Hosting the website and MongoDB on separate machines is also a choice and the set-up is quite similar in regard to software installation and configuration.

# Software Prerequisites

Before beginning installation of software, the host machine needs to have:

* Python 3.6+ installed
* NodeJS and NPM installed *(latest versions are recommended)*

# Installing and Configuring the Web Application

After downloading the project files on the host machine, you simply need to:

1. **Installing Dependencies:** In the command line or terminal, cd into the project root directory and run the command npm install --save. Doing so will install all the dependencies for the web application.
2. **Environment URL:** In the project’s root folder, navigate to views>shared>footer.ejs file and look for the EnvironmentUrl variable near the end and change it to your server’s URL for HTTP traffic.
3. **Google reCaptcha:** After you have setup reCaptcha API keys in the admin dashboard, which at the time is <https://www.google.com/recaptcha/admin>, simply change the secretKey to one in the admin dashboard. The secretKey is found in post request handler for “/submitlogin” in the server.js file.

# Installing MongoDB

After choosing the host machine for the MongoDB instance, you simply need to:

1. **Install MongoDB:** Using the normal installation methods as available on <https://docs.mongodb.com/manual/installation/>.
2. **Load the Landmark Dataset:** Ensure to run the command pip install pymongo, then change the client variable’s connection parameter to point to your instance on MongoDB.

# Risks Analysis

Please view the attached “PA Historical Finder Risks Analysis.xlsx” file for the full list of risks identified during the analysis stages of preliminary, life-cycle (development), and operations.

# Related Licenses

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| [1] | F. S. Foundation, "GNU Affero General Public License," [Online]. Available: http://www.gnu.org/licenses/agpl-3.0.html. |
| [2] | N. Foundation. [Online]. Available: https://raw.githubusercontent.com/nodejs/node/master/LICENSE. |
| [3] | K. Brown. [Online]. Available: https://github.com/select2/select2/blob/master/LICENSE.md. |
| [4] | Google, "Google Map APIs Terms of Service," 4 January 2018. [Online]. Available: https://developers.google.com/maps/terms. |