CS 411W Lab II

Product Specification

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1.1.1   Monarch Course Explorer aims to help students choose and compare classes listed at Old Dominion University

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1.2.1   Monarch Course Explorer aims to provide students and faculty resources needed to allow clear and concise communication of syllabi and class information provided by Old Dominion University.

1.3   Definitions, Acronyms, and Abbreviations

- **Beautiful Soup:** A Python library for parsing structured data.

- **Django:** A free and open-source, Python-based web framework that follows the model–template–views architectural pattern.

- **HTML:** Hypertext Markup Language, standard markup language for documents designed to be displayed in a web browser.

- **MIDAS:** Monarch Identification and Authorization System, Old Dominion University's log-in and password management system.

- **NLP:** A subfield of computer science and artificial intelligence (AI) that focuses on the interaction between computers and humans in natural language.

- **PostgreSQL:** A free and open-source relational database management system emphasizing extensibility and SQL compliance.

- **RWP:** Real World Product that will be developed and used.

- **spaCy:** An open-source software library for advanced natural language processing, written in the programming languages Python and Cython.

- **SSO:** Single Sign On. A method for providing a single login across multiple related services.

1.4   References

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1.5 Overview

Monarch Course Explorer will be used to search courses available at Old Dominion University, compare and contrast courses available at Old Dominion University, provide staff with reasonable means of uploading and maintaining syllabi for classes listed at Old Dominion University, and allowing Students and and Faculty the means of providing and responding to feedback given to courses listed at Old Dominion University.

2 General Description

The General Description for Monarch Course Explorer is listed below in subsections 2.1 to 2.3.4

2.1 Prototype Architecture Description
Monarch Course Explorer will consist of 3 main components in architecture

2.1.1   Django hosted web server through containerization.
2.1.2   Postgres/SQLite3 hosted database through containerization.
2.1.3   Python and Javascript level scripting to extract and analyze data

2.2 Prototype Functional Description

2.2.1   Monarch Course Explorer will allow the viewing of syllabi, registering of user, and user logon as its main prototype functionality.

2.3 External Interfaces

2.3.1   Monarch Course Explorer will consist of one external interface to the public by hosted web interface.
2.3.1.1   The web interface will host all possible interactions between host and client.

2.3.2 Hardware Interfaces

2.3.2.1   No hardware interfaces will be used besides client interfaces such as computer and monitor.

2.3.3 Software Interfaces

2.3.3.1   Software interfaces will consist of web browser used by client to access Monarch Course Explorer

2.3.4 User Interfaces

2.3.4.1   User interfaces will consist of client computer, monitor, keyboard, and mouse to access Monarch Course Explorer's web page

2.3.5   Communications Protocols and Interfaces

2.3.5.1   Monarch Course Explorer will use HTTPS to securely transfer data back and forth between client and server.