**SRS Document Development and GitHub**

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CST 499: Capstone for Computer Software Technology

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**Software Requirements Specification**

**for**

**Student Portal**

**Version 1.1 approved**

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**Revision History**

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| **Name** | **Date** | **Reason For Changes** | **Version** |
| Dennis Walters | 10/18/2021 | Initial document | 1.0 |
| Dennis Walters | 11/15/2021 | Updated User Classes and Characteristics, Operating Environment, Appendix B: Analysis Models, and Appendix C: To Be Determined List | 1.1 |

1. **Introduction**

The intent of this document is to collect, analyze, and provide an in-depth insight of the complete student portal site by defining the problem statement in detail. The detailed requirements of the student portal site are provided in this document.

**1.1 Purpose**

The purpose of this document is to gather and analyze the ideas that have been presented to define a student portal site and its requirements with respect to the students. In addition, an attempt will be made to anticipate and sort out how this product will be utilized so as to gain a better understanding of the overall project, capture and define concepts for later development, and document any other ideas that are to be considered, but may be abandoned later as development proceeds.

* 1. **Document Conventions**

Not applicable.

**1.3 Intended Audience and Reading Suggestions**

The intended audience for this document includes the academic staff, project manager(s), product manager(s), developers, testers, and end-users (students). Reading suggestions will be provided in a later version.

**1.4 Product Scope**

The product scope for this document outlines the functional and non-functional requirements for a student portal site. The various functionality that will be implemented on the site will be defined within this document.

**1.5 References**

Functional vs non functional requirements. (2020, April 28). *GeeksforGeeks*. Retrieved from

<https://www.geeksforgeeks.org/functional-vs-non-functional-requirements/>.

Hagh, F. (2020, July 2). *SRS – Software Requirements Specification*. NASA Software

Engineering Handbook (Ver C). Retrieved from <https://swehb.nasa.gov/display/SWEHBVC/SRS+-+Software+Requirements+Specification>.

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

This software system will be an online academic portal for any university wishing to manage their academic needs online. More specifically to design and develop a simple and intuitive system which shall cater to the academic needs of any institute. The system shall provide features to the user of an educational institute to allow users to manage their enrollment in available courses.

**2.2 Product Functions**

The functions for this product will allow the user to register, create an account and profile, log into the student portal after registration, allow users to manage their enrollment (enroll, add to waitlist, or drop) in available classes, and notify users on a waitlist when they become eligible to enroll in class.

**2.3 User Classes and Characteristics**

The classes to be used in the product for the student portal functions are as follows:

* Auth()
* Core
  + Controller()
  + Error()
  + Model()
  + Router()
  + View()
* Controllers
  + Register()
  + Login()
  + Profiles()
  + Enroll()
* Models
  + Enrollment()
  + Security()
  + User()

These are not necessarily the only classes that will be utilized as the need for new classes may arise as the product is developed.

**2.4 Operating Environment**

The student portal site will support and function properly in the following web browsers:

* Google Chrome (latest version) — Windows, Mac OS X, iOS, Android
* Apple Safari (latest version) — Mac OS X, iOS
* Microsoft Internet Explorer 11+ — Windows
* Microsoft Edge (latest version) — Windows, Android
* Mozilla Firefox (latest version) — Windows, Android

The student portal site should still be accessible and functional in other browsers; however, the pages may not display as designed or provide the best user experience.

**2.5 Design and Implementation Constraints**

The student portal site functionalities will be implemented utilizing PHP 7.x and to store the user registration, login, profile, and class enrollment information MariaDB 10.x will be utilized for the database.

**2.6 User Documentation**

All user documentation including online help, tutorials, and user manual, will be provided at the time the functionality is released.

**2.7 Assumptions and Dependencies**

Not applicable.

1. **External Interface Requirements**

**3.1 User Interfaces**

The user interface will consist of a registration page, a login page, a user home page, a user profile page, and a class enrollment page. These user interfaces are not necessarily the only interfaces that will be developed and utilized as the need for new interfaces may arise as the product is developed.

**3.2 Hardware Interfaces**

Not applicable.

**3.3 Software Interfaces**

1. The registration page will communicate with the database to capture initial user information including login id (email address) and password.
2. The login page will communication with the database to verify and validate the user prior to allowing access to the student portal.
3. The user profile page will communicate with the database to update user information.
4. The class enrollment page will communicate with the database to provide a list of available classes and allow users to enroll in, be placed on a waitlist for, or drop classes.

**3.4 Communications Interfaces**

The HTTPS protocol will be utilized to help secure the student portal site. In addition, all communications between the web server and the database will utilize secure protocols.

1. **System Features**

**4.1 New User Registration**

4.1.1 Description and Priority

The new user registration functionality will provide the user the means to create an account and profile on the student portal. To accomplish this the user will be presented with a web page that will prompt them for the required information. This functionality is a high priority feature of the student portal site.

4.1.2 Stimulus/Response Sequences

The student is the user actor in this scenario registering for an account and profile on the student portal site. The user will be presented with a menu on the main home page that contains a Register option.

4.1.3 Functional Requirements

REQ-1: Registration page must require name, mailing address, phone, social security number, email address, and password.

REQ-2: Each user’s identifier (email address) must be unique within the system.

**4.2 System Login**

4.2.1 Description and Priority

The system login functionality will provide the user the means to access the student portal after a successful registration. To accomplish this the user will be presented with a web page that will prompt them for their user ID (email address) and password. This functionality is a high priority feature of the student portal site.

4.2.2 Stimulus/Response Sequences

The student is the user actor in this scenario logging into the student portal site. The user will be presented with a menu on the main home page that contains a Login option.

4.2.3 Functional Requirements

REQ-1: Login page must prompt for user ID and password.

REQ-2: User ID and password combination must be verified and validated against the database.

**4.3 Course Enrollment**

4.3.1 Description and Priority

The course enrollment functionality will provide the user the means to view and enroll in available courses on the student portal. To accomplish this the user will be presented with a web page that will prompt them for the semester they wish to enroll in, then a list of available classes for that semester. If a class that a student wishes to enroll in is full, they will be prompted to be added to the waitlist. This functionality is a high priority feature of the student portal site.

4.3.2 Stimulus/Response Sequences

The student is the user actor in this scenario enrolling in courses on the student portal site. The user will be presented with a menu on the user’s home page that contains an Enroll option.

4.3.3 Functional Requirements

REQ-1: Enrollment page must prompt for semester, then available classes for that semester.

REQ-2: User must have the ability to add themselves to a waitlist if a class is full.

REQ-3: User must have the ability to drop a class the previously enrolled in.

**5. Other Nonfunctional Requirements**

**5.1 Performance Requirements**

The student portal functionality requires standard commits to the database.

**5.2 Safety Requirements**

Not applicable.

**5.3 Security Requirements**

The site must be secured utilizing HTTPS protocol, and all passwords and social security numbers must be encrypted in the database.

**5.4 Software Quality Attributes**

1. Usability: Any registered user should be able to log into the system and enroll in classes.

2. Availability: The student portal site should be available 24/7 except during scheduled maintenance hours.

**5.5 Business Rules**

TBD

1. **Other Requirements**

TBD

**Appendix A: Glossary**

HTTPS: Hypertext Transfer Protocol Secure

ERD: Entity Relationship Diagram

**Appendix B: Analysis Models**

See UML Design Models document.

**Appendix C: To Be Determined List**

1. Business Rules: Still collecting information.
2. Other Requirements: Still collecting information.

**GitHub Screenshots**

**Graphical user interface, text, application, email

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**References**

Functional vs non functional requirements. (2020, April 28). GeeksforGeeks. Retrieved from

<https://www.geeksforgeeks.org/functional-vs-non-functional-requirements/>.

Hagh, F. (2020, July 2). SRS – Software Requirements Specification. NASA Software

Engineering Handbook (Ver C). Retrieved from <https://swehb.nasa.gov/display/SWEHBVC/SRS+-+Software+Requirements+Specification>.