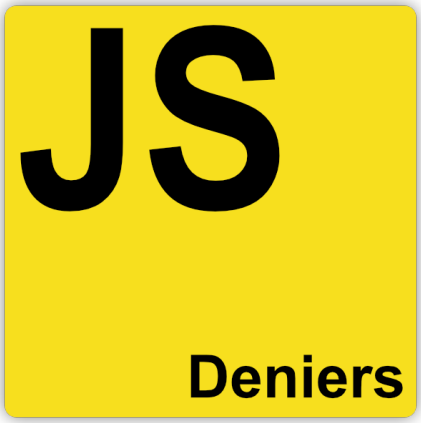
Research Outreach

Requirements Specifications



JavaScriptDeniers

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Course: CptS 322 - Software Engineering Principles I

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Document Revision History
Rev 1.0 2021-10-13 Initial version

I. Introduction

l.1. Document Purpose
The purpose of this Software Requirement Specification is to create a mutual understanding of our project and its intended purpose. This document will lay out the framework of its design and its expected result. The intended audience of our SRS is our development team and the people involved with overseeing this project (such as Sakire and TA's).

l.2. Product Scope
Research opportunities for students have a mutual benefit for faculty and students alike, but finding these opportunities can be a struggle. The purpose of our product is to allow students to easily find research opportunities in one central area and make applying easier than ever. Our program will also make it easy for faculty to post research positions, and see if a student is fit based off of their profile.

l.3. Document Overview
The rest of our document will contain requirement specifications detailing our project's development path. This document will serve as a guide to refer to during development, it will list out our use cases and initial mockups for our pages. This document will also identify who our customers, users and stakeholders are.

I. Requirements Specification

I.1. Customer, Users, and Stakeholders

Customers: There are two main users/customers for this website, students and faculty. Students will be able to navigate the website in order to find research positions to apply for, and faculty will be able to post research positions for students to apply to.

Users: Students and faculty

Stakeholders: Washington State University, or any other University that utilizes the research website.

I.2. Use Cases

Use case #1

Name	Create Account
Users	All users
Rationale	In order to access the site and see/create listings all users will be required to create an account. Registration for all users will include setting a username which is a WSU email account, a password, and contact information including first name,

	last name, WSU ID, email, and phone. Students will also be able to create their account with additional information such as technical elective courses completed and the grades they received, select research topics they are interested in, programming languages they have experience with, and prior research they have done.
Triggers	The user selects the “register” option
Preconditions	The user is not already logged in
Actions	1. The user selects the register option. 2. The site responds by loading the registration form. 3. The user inputs their information into the form. 4. The site confirms the data is valid and either saves it to the database or prompts for re-entry.
Alternative paths	
Postconditions	An account is registered for the user and the user is routed to the homepage
Acceptance Tests	Make sure that valid data is submitted to the form, and that the username is not already registered to another account. Make sure that the user is successfully registered and entered into the database.
Iteration	Iteration 1

Use case #2

Name	Login
Users	All users
Rationale	In order to access the site and see/create listings all users will be required to login.
Triggers	The user selects the “login” option
Preconditions	The user is not already logged in
Actions	1. The user selects the login option. 2. The site responds by loading the login form. 3. The user inputs their information into the form. 4. The site confirms the data is valid and either validates the user and logs them in or prompts for re-entry.
Alternative paths	
Postconditions	The user is validated and logged in and routed to the homepage
Acceptance Tests	Make sure the username and password entered belongs to a registered user in the database and that they can be authenticated.
Iteration	Iteration 1

Use case #3

Name	View open research positions
Users	Students

Rationale	The main purpose of this website is to allow students to see research positions and apply for them. In order to view open research positions students will navigate to the homepage where all open research positions will be listed.
Triggers	The user selects the “home” option from the navigation bar or is redirected upon successful registration or authentication.
Preconditions	The user is logged in and is a student account
Actions	1. The user selects the home option. 2. The site responds by loading the homepage where all posts are listed.
Alternative paths	In step 1 instead of selecting the home page option, the user is redirected automatically upon successful authentication or registration of a new account.
Postconditions	All open positions are displayed by routing the user to the homepage
Acceptance Tests	Make sure that only open positions are displayed to the user.
Iteration	Iteration 1

Use case #4

Name	Apply for research position
Users	Students
Rationale	In order to submit an application for a position a student will be able to select the apply option associated with a post. When this option is selected a student will be able to submit a brief statement describing why they are interested in the research topic, as well as the name and email of one faculty member who they can provide as a reference.
Triggers	The user selects the “apply” option
Preconditions	The user is already logged in as a student, the home route is loaded, the position is currently available for a post
Actions	1. The user selects the apply option. 2. The site responds by loading the application form. 3. The user inputs their information into the form. 4. The site confirms the data is valid and either saves it to the database or prompts for re-entry.
Alternative paths	
Postconditions	The user is redirected to the homepage
Acceptance Tests	Make sure that the data submitted is valid and posted to the database successfully. Make sure that the application is associated with the user.
Iteration	Iteration 2

Use case #5

Name	View submitted applications
Users	Students

Rationale	Students will be able to see the positions that they have applied for, as well as the status of their application. When the application is submitted the initial status will be pending. After a faculty member accepts the application it is updated as approved for interview. Students will then be able to reach out to the faculty to schedule an appointment for the interview. After the interview the faculty member updates the status as either hired or not hired.
Triggers	The user selects the “view applications” option
Preconditions	The user is already logged in as a student, and the user has submitted at least one application.
Actions	1. The user selects the view application option. 2. The site responds by loading the view applications route and displaying all applications submitted by the user. 3. If the application is accepted, the contact information for the faculty member who the position belongs to is displayed to the user.
Alternative paths	
Postconditions	All applications and their statuses are displayed to the user
Acceptance Tests	Make sure that all applications are displayed. Make sure that all statuses for applications are displayed properly.
Iteration	Iteration 2

Use case #6

Name	Withdraw application
Users	Students
Rationale	If the student is no longer interested in a research position, they can withdraw their application.
Triggers	The user selects the “withdraw application” option
Preconditions	The user is logged in as a student and the user has at least one pending application.
Actions	1. The user selects the withdraw application option. 2. The site responds by deleting their application from the database.
Alternative paths	
Postconditions	The user is routed back to the submitted applications page
Acceptance Tests	Make sure that the application for the associated user is deleted from the database.
Iteration	Iteration 2

Use case #7

Name	Create research positions
Users	Faculty

Rationale	In order for students to be able to apply for positions, faculty need to be able to create and post them.
Triggers	The user selects the “create research position” option
Preconditions	The user is logged in as a faculty
Actions	1. The user selects the create research position option. 2. The site responds by loading the research position form.3. The user fills out the form with data and submits it. 4. The site responds by storing the data in the database and posting it to the homepage.
Alternative paths	
Postconditions	The user is routed back to the homepage.
Acceptance Tests	Make sure that the new position form is submitted and stored in the database, and that the new position is added to the homepage.
Iteration	Iteration 1

Use case #8

Name	List applications
Users	Faculty
Rationale	The faculty need to be able to see who has applied for a position in order to approve their application.
Triggers	The user selects the “view applicants” option
Preconditions	The user is logged in as a faculty and has at least one created position.
Actions	1. The user selects the list applicants option. 2. The site responds by displaying all applicants for the associated position along with information for each applicant including if the student has been approved for an interview or hired for another position.
Alternative paths	
Postconditions	The user is routed back to the view applicants route.
Acceptance Tests	Make sure that applicants for each position are displayed. Make sure information for each applicant is displayed including the other positions they have applied for that they have either been approved for an interview for or were hired for.
Iteration	Iteration 2

Use case #9

Name	View qualifications
Users	Faculty
Rationale	In order for the faculty to make a decision on whether or not to approve an applicant they need to be able to see the applicant's qualifications for the position.

Triggers	The user selects the “view qualifications” option
Preconditions	The user is logged in as a faculty member, has at least one applicant for their positions, and is on the view applicants route.
Actions	1. The user selects the view qualifications option. 2. The site responds by routing the user to a new page that displays the information for the applicant including their GPA, technical elective courses taken, research topics they are interested in, programming languages they have experience with, and their prior research experience.
Alternative paths	
Postconditions	The usee stays on the view qualifications route with the applicants data displayed
Acceptance Tests	Make sure that the applicants full data is displayed
Iteration	Iteration 3

Use case #10

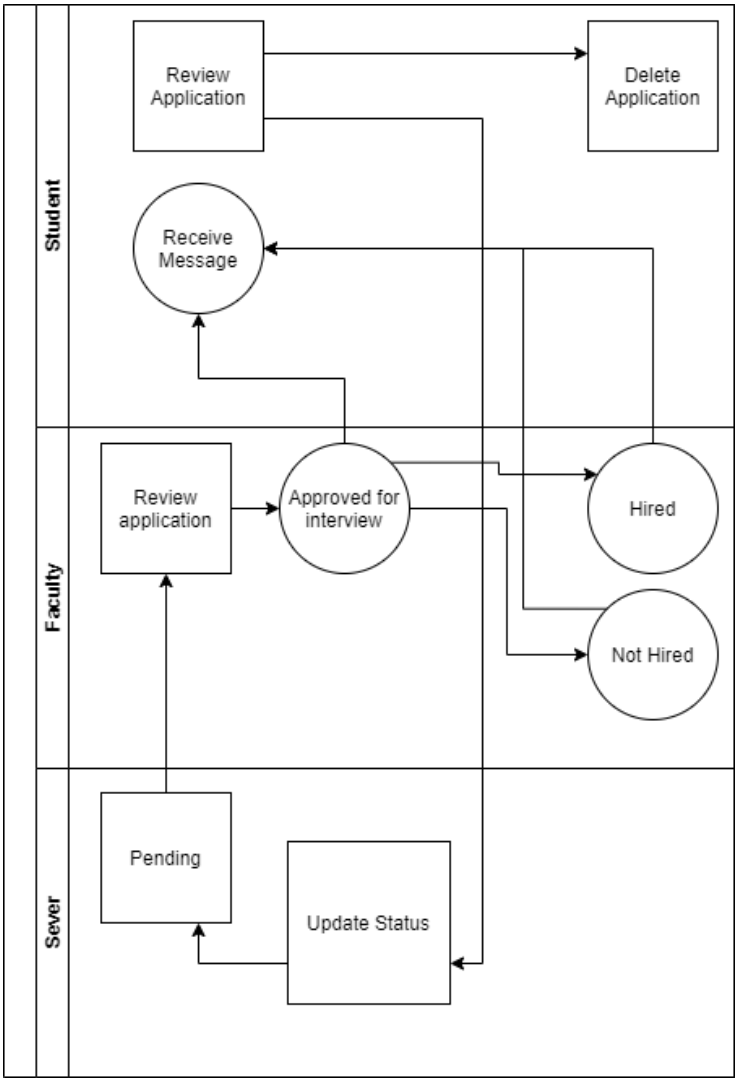
Name	Update status
Users	Faculty
Rationale	The faculty member needs to be able to manage their positions after they have received applicants. The status for an application can be changed to approved for interview, hired, or not hired.
Triggers	The user selects the “update status” option
Preconditions	The user is logged in as a faculty member, has at least one applicant, and is on the list applicants route
Actions	1. The user selects the update status option for an applicant. 2. The site responds by displaying a list of options to set the status of the position to. 3. The user selects either approved for interview, hired, or not hired. 4. The site responds by updating the position status.
Alternative paths	
Postconditions	The user is routed back to the list applicants route.
Acceptance Tests	Make sure that the status for the position is updated correctly.
Iteration	Iteration 3

Use case #11

Name	Delete position
Users	Faculty
Rationale	After a position has been hired for, or if the faculty member wants to remove their post for another reason the position will be able to be deleted. Once the position is deleted all applications for the position will be updated as position is not available.
Triggers	The user selects the “delete” option

Preconditions	The user is logged in as faculty, and has at least one position
Actions	1. The user selects the delete option for their position. 2. The site responds by removing the post and updating the status for all applicants as “position not available”.
Alternative paths	
Postconditions	The user is routed back to the homepage
Acceptance Tests	Make sure that the position was deleted from the database. Make sure that the application status for anyone who applied for it is set to “position not available”.
Iteration	Iteration 3

Swim Lane Diagram



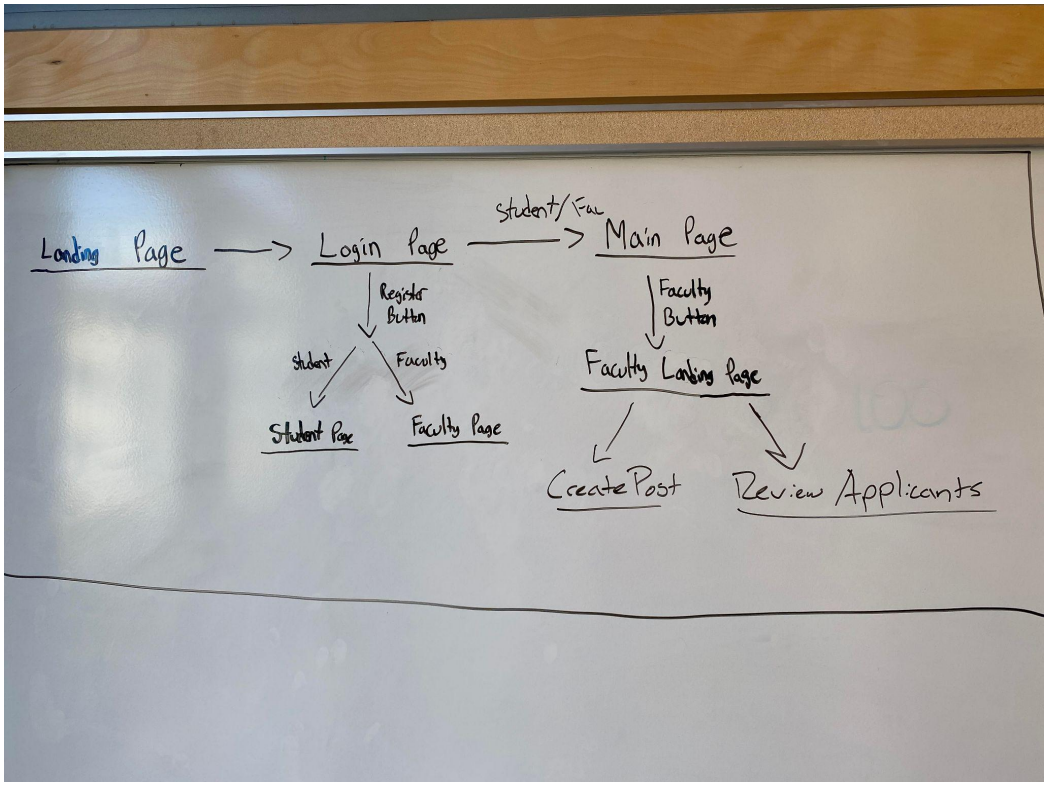
I.3. Non-Functional Requirements

1. Maintainability: A lifecycle requirement reflecting the quality of design. This can determine how easy it is for our system to be supported, changed, enhanced, and restructured over time. Considering the potential volume of usage and the amount of features we plan to implement it is important to get everything working the first time. We do however, have to anticipate for change and allow our system to be simply modifiable. Limiting revisions and modifications will make it simpler to maintain, but aiming for a long lifespan will increase the work required to maintain the software.

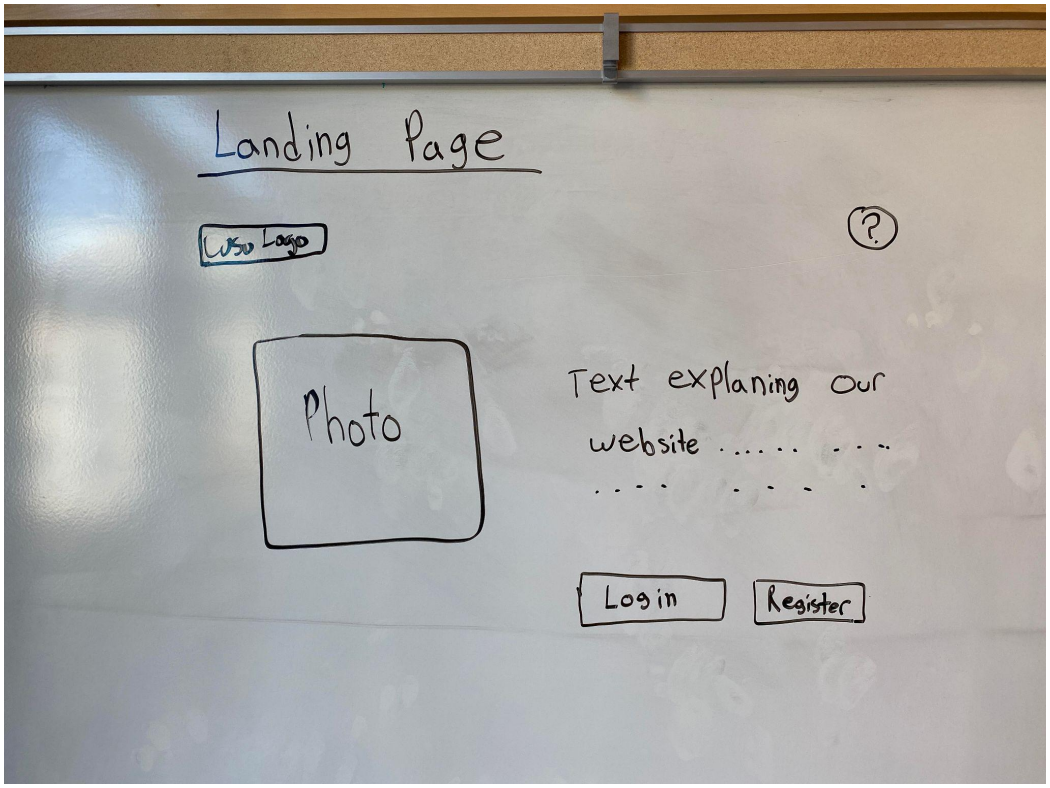
2. Security: A performance constraint dictated by how safe or secure our project and data are. We must encrypt sensitive data (which there will be a decent amount of considering the personal information required to apply for a position), we need to authenticate all access requests, incorporate denial-of-service attacks, and validate all user input.

3. Scalability: The ability for our program to adequately handle an increase or decrease in workload size. Competing with availability, reliability, and performance we will be cautious of horizontal and vertical scaling that could affect the memory or work nodes required for our software to operate.

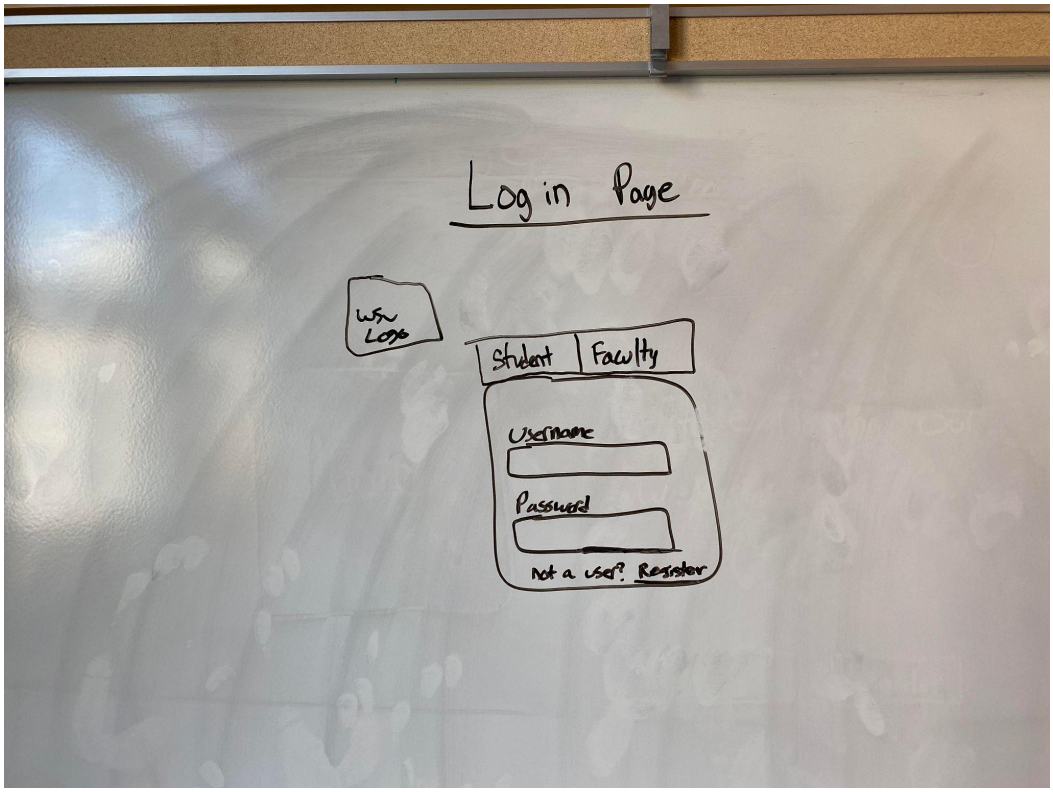
II. User Interface



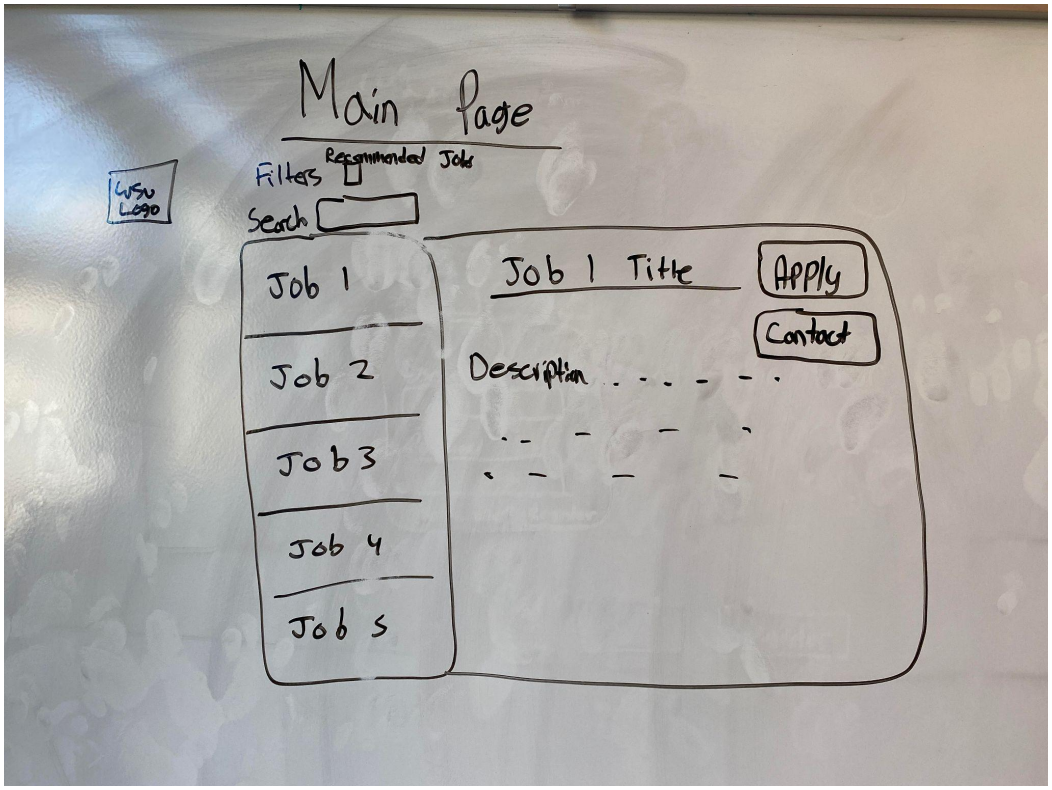
Basic Page Layout



Landing Page



Login Page



Main Page

III. References

Websites used as inspiration

https://www.gun.io/
https://wsu.joinhandshake.com/
https://www.linkedin.com/jobs/

Issues example:
https://github.com/WSU-CptS322-Fall2021/TermProjectSampleRepo/issues