Research Position Search App
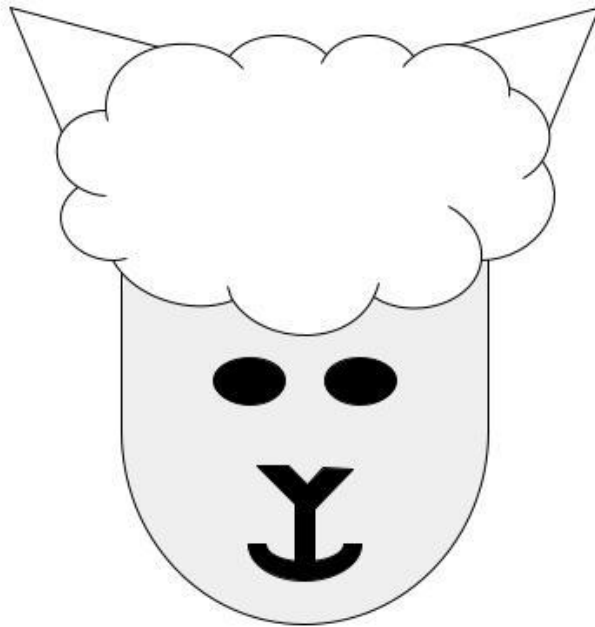
Requirements Specifications

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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

I.1.   Document Purpose

   The Software Requirement Specification (SRS) document provides information about the possible use cases of the Research Position Search app. This document will explain the use & application of the app, along with its functions and user interactions. Reading through this document will help in explaining the scope of the application. This document is intended for both users & the stakeholders. The intended audience of this software is for college level undergraduate students and professors.

I.2.   Product Scope

   The software provides easy access for the undergraduate students in the WSU to find and apply for the research opportunities. The software could be used as well for the faculty to create and post research opportunities. Whereas previously accessing information about the research opportunities was difficult, as most of the research opportunities were told by the faculty to their classes without spreading this information publicly. With the software, however, it becomes very easy to share the information about the research opportunities. This, in turn, could significantly boost the research output of the WSU as a university.

I.3.   Document Overview

   Meanwhile part I provides general information about the app, part II of the document contains the summarized information about the possible customers and the beneficiaries of the Software. It also covers the use cases which depict the general architecture of the Software displayed with the help of the use cases. For better understanding, the swim-lane diagram is used which depicts the possible outputs from the user inputs, which should aid in providing the general understanding of the inner workings of the software. To further summarize the software inner workings, the user interface schematics is provided. At the end of the documents, the informational sources used in the creation of the documents are specified, with website citations provided for easy access to the information sources used in the creation of this document.

II.   Requirements Specification

II.1.   Customer, Users, and Stakeholders

   The customers for the software would vary between the Undergraduate students looking to find available research positions as well as advertise themselves into fields they are interested in, and the faculty members of the university looking for available students who are interested in the research positions they offer, who fit their criteria of researchers they are looking for. The stakeholders of this software would be the faculty members of the university as they are the ones who are picking and choosing what applications as well as positions available are to the public, they will be the ones who most are affected by the design choices made for the software in terms of how they are able to access,

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operate, and control it to be able to achieve their goal of finding available student researchers. Both the students at the university as well as the faculty will be the users of the software, with the first using it to look for research positions in their field, while the latter will use it to reach out to undergraduate students with positions and opportunity in their research should they meet their set criteria.

II.2.   Use Cases

Use Case 1

Name	Login
Users	All Users (Student , Faculty)
Rationale	A Student can login to their account to edit their profile, look up research positions, apply to positions, check their application status, and remove themselves from an application. Faculty can login to their account to edit their profile, post research positions, remove research positions, view applicants + other offers if any, and change applicant application statuses.
Triggers	The user enters their login info and hit the submit button
Preconditions	The user must have an existing account
Actions	1. The user enters their login info 2. The system validates their credentials 3. The system logs the user in, displaying the main page
Alternative paths	1. In step 2, if the system isn't able to validate the user's credentials then it will display an error message: Username or Password is incorrect
Postconditions	None
Acceptance Tests	None
Iteration	1

Use Case 2

Name	Logout
Users	All Users
Rationale	When a user is done with everything they want to do, they can logout of the system in order to maintain their privacy by selecting the logout option.
Triggers	The user hits the logout button
Preconditions	The user must be logged in
Actions	1. The user selects the logout button 2. The system logs the user out and redirects to the login page
Alternative paths	None
Postconditions	None
Acceptance Tests	Make sure the user is logged out
Iteration	1

Use Case 3

Name	Display Student page
Users	Student
Rationale	When the user logs in, they are brought to their Student page which displays their applications they applied to and it's respective status.
Triggers	The user logs in. If the user is already logged in, they select the "Student Page" button
Preconditions	The user is logged in and is not currently on the Student Page
Actions	1. The user selects the Student Page button 2. The software will redirect the user to the Student Page and display all the respective data.
Alternative paths	1. In step 1 if the user isn't logged in, when the user logs in, the system will automatically redirect the user to the Student Page and display all the respective data.
Postconditions	The user is redirected to the Student Page
Acceptance Tests	Make sure that the system is displaying the correct information for the respective user
Iteration	1

Use case 4

Name	Create Student Account
Users	Student
Rationale	If a student wants to look at available research opportunities, they can create a student account by entering their unique information.
Triggers	The user selects the "Create Student Account" button that is displayed on the login page
Preconditions	The user must not have an existing account
Actions	1. The user selects the registration button 2. The system will bring them to the student account registration page 3. The user creates their unique Username/Password (username has to be WSU email), Contact info, Graduation date, GPA, Technical Courses complete and their grade, Interested research topics, Programming Languages experienced in, and prior research experience if any. 4. The user selects the submit button 5. The system will validate the entered info 6. The system will add the user to the database 7. The system will redirect the user to the Student Page
Alternative paths	1. In step 3, the user is only required to enter a unique username/password. They can edit/add more information later.
Postconditions	The system will add the user to the database
Acceptance Tests	1. The user must not have an existing account

	2. If a required field is left blank, username already exists, or passwords don't match, an error message will display indicating the specific error under the respective input field.
Iteration	1

Use case 5

Name	Edit Account
Users	All users
Rationale	A user can update or change their username and password along with any other fields they may need to update.
Triggers	A user selects Edit account button
Preconditions	The user must be logged in
Actions	1. The user selects the Edit Account button 2. The displays the appropriate page with all of the User's editable information 3. The user selects what fields they want to change. After they're done they select the submit button 4. The system validates the information, then saves the changes.
Alternative paths	1. In step 2, the system will determine if the user is a Student or Faculty member. Then display the appropriate page depending on the type of user.
Postconditions	1. If the user enters an invalid input in the Username Field or Passwords do not match, the system will display an error message indicating the specific problem.
Acceptance Tests	Make sure that the user's information is updated correctly and saved to the database.
Iteration	2

Use case 6

Name	View Open Research Positions
Users	All Users
Rationale	A user can view all of the open research positions and apply to them if the current user is a Student. If the user is a Faculty member, they will be able to only view other faculty member's open research positions.
Triggers	The user selects Open Research Positions
Preconditions	The user must have an existing account
Actions	1. The user selects Open Research Positions option 2. The system will redirect the user to the Open Research Positions page and display all of the available positions, prioritising the user's interests first.
Alternative paths	None
Postconditions	The system will display all the available research positions to the user

Acceptance Tests	Make sure that the user's interests are prioritised and all positions are being displayed
Iteration	1

Use case 7

Name	Display Research Position Information
Users	All Users
Rationale	If the user is interested in the research position, they will be able to select it to view more information.
Triggers	The user selects the Research Position they want more information on
Preconditions	The user must have an existing account
Actions	1. The user selects the Research position they want more information on 2. The system will display the Research position's information
Alternative paths	None
Postconditions	The system displays the additional information of the selected post to the user
Acceptance Tests	Make sure that the system displays the correct post selected by the user and all of it's related information
Iteration	2

Use case 8

Name	Apply for research position
Users	Student
Rationale	If the student finds a research position they're interested in, they can apply to the position.
Triggers	The user selects the apply option when viewing the research position's information
Preconditions	The user must have an existing account, must be a student, and hasn't applied to the position already.
Actions	1. The user selects the apply option on the position 2. The System will add the user to the queue of applicants for the position and update their status to "Pending"
Alternative paths	None
Postconditions	The user is added to the queue of applicants for the research position
Acceptance Tests	Make sure that the correct user is added to the correct research post, and their status is updated to "Pending"
Iteration	2

Use case 9

Name	View Student's pending applications
Users	Student

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Rationale	The user may want to go back and double check to see if they applied to all of the research positions they are interested in. The user will be able to view all of the applications they applied to and view their status.
Triggers	The user selects the view active applications button
Preconditions	The user must have an existing account and must be a student
Actions	1. The user selects the Active Applications options 2. The system will display all of the applications that the current user has applied to and display all of their active applications and their statuses.
Alternative paths	None
Postconditions	All of the user's active applications and related information are displayed
Acceptance Tests	Make sure that all of the correct active applications are displayed to the related User, displaying updated application statuses
Iteration	3

Use case 10

Name	Withdraw
Users	All Users
Rationale	If a student wants to cancel their application, they may be able to withdraw their name from the applicant pool for the selected position. If a Faculty member wants to withdraw their application for their research position, they may be able to do so.
Triggers	The user selects Withdraw application
Preconditions	The user must have an existing account, Applied to the research position or is the Faculty member who posted the position.
Actions	1. The user selects the withdraw option 2. The system deletes the user from the applicant pool or the research position as a whole.
Alternative paths	1. In step 2, if the user is a student, then It will withdraw them from the applicant pool. 2. In step 2, if the user is a faculty member, then it will withdraw the application from the system. Updating all of the applicant's application status to "Position not available"
Postconditions	The system will withdraw the user's application if a student. If a faculty member, the system will remove the research position and update all applicant's application status to "Position not available"
Acceptance Tests	1. Make sure that the system is withdrawing the application if a student selects the withdraw option. 2. Make sure the system is removing the research position if a faculty member selects the withdraw option
Iteration	3

Use case 11

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| Name	Create Undergrad Research Position
Users	Faculty
Rationale	If the user has a research opportunity for undergraduates, they will be able to post position openings for students to apply to.
Triggers	The user selects Create Research Position option
Preconditions	The user must have an existing account and must be a faculty member
Actions	1. The user selects Create Research Position option 2. The system will redirect the user to the Create Research Position page and display required input fields 3. The user enters the related information into the form: Research Project TItle, Description of goals and objectives, Start and End date, Required time commitment, Research Field(s), Description of desired qualifications, and Open Positions. 4. The system will validate the user's input then post the Research position
Alternative paths	None
Postconditions	The research position is posted for applicant's to apply to
Acceptance Tests	Make sure all required fields are filled out and that it is correctly posted for students to view
Iteration	2

Use case 12

Name	View Applicants
Users	Faculty
Rationale	A faculty member would be able to view a list of all applicants for the research position they posted, and for every applicant who applied to their research position, the faculty member would be able to see all of their offers from different faculty members.
Triggers	The user selects View Applicants option
Preconditions	The user must have an existing account and have posted an open research position
Actions	1. The user selects the View Applicants option 2. The system will display all of the students who applied to their research positions and also display other offers that the students have received from different faculty members.
Alternative paths	None
Postconditions	All of the applicants for the faculty member's research position are displayed along with other offers the students have received.
Acceptance Tests	Make sure all of the applicants are correctly displayed with their respective offers they have received from other faculty members
Iteration	3

Use case 13

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Name	View Student Qualifications
Users	Faculty
Rationale	The User will be able to select a certain applicant and view all of their listed qualifications.
Triggers	The user selects the Display Student Qualifications option
Preconditions	The user must have an existing account
Actions	1. The user selects the Display Student Qualifications option 2. The system displays all of the user's required qualifications
Alternative paths	None
Postconditions	All of the qualifications of the student are displayed to the user
Acceptance Tests	Make sure the system is correctly displaying all of the qualifications of the selected student.
Iteration	3

Use case 14

| Name	Set Application Status
Users	Faculty
Rationale	The faculty member can accept, deny, or request an interview for a prospective applicant.
Triggers	The user selects the Update Application Status option
Preconditions	The user must have an existing account, and at least one applicant to their research position
Actions	1. The faculty member selects the Update Application Status option on a specific student's application 2. The faculty member selects either "Approved for interview", "Application Dismissed", or "Not Hired"
Alternative paths	None
Postconditions	The application status of the student is updated according to the user's selection
Acceptance Tests	Make sure that the correct status is updated for the selected student, and that the selected student's application is actually the student the user selected.
Iteration	3
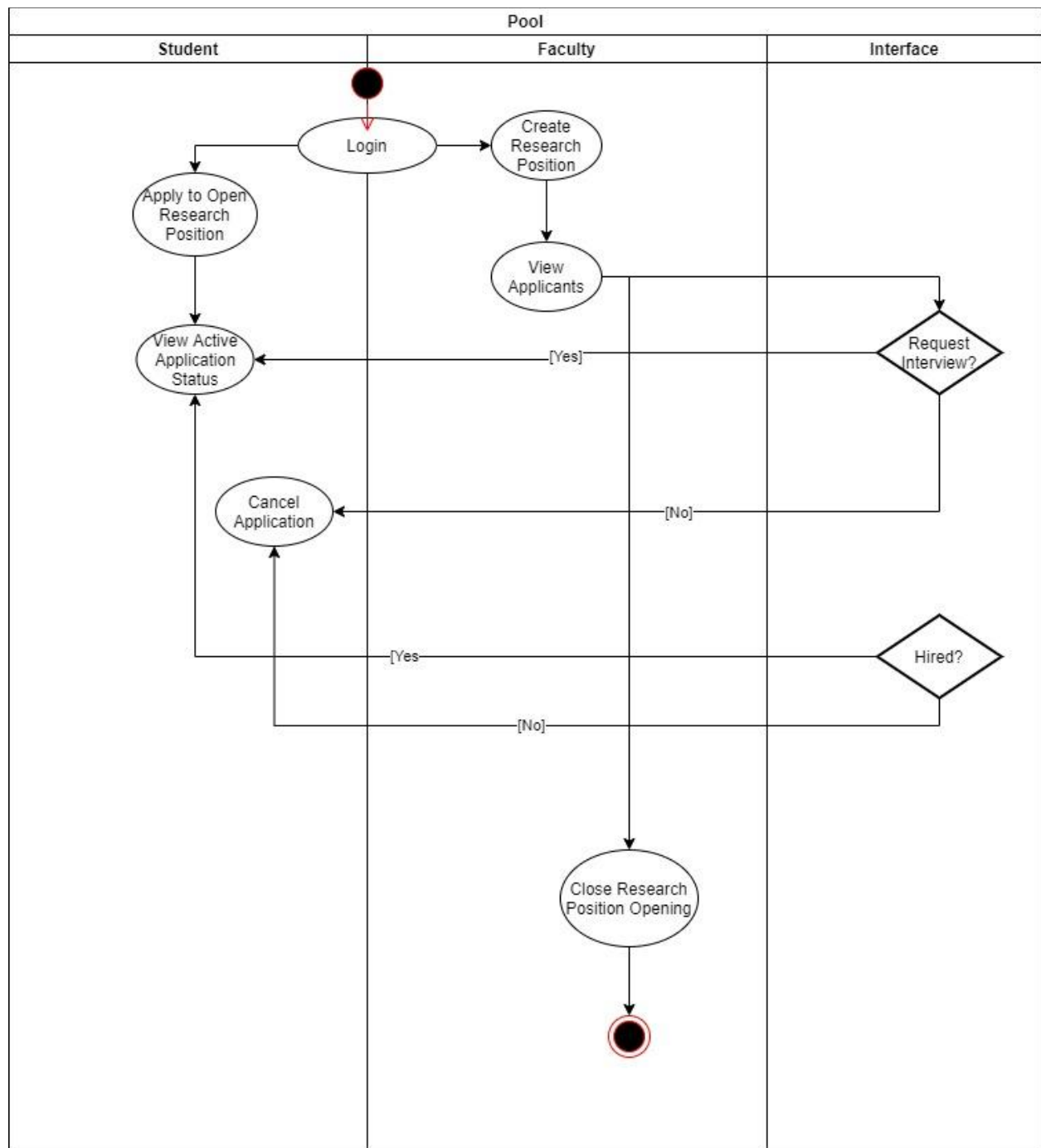
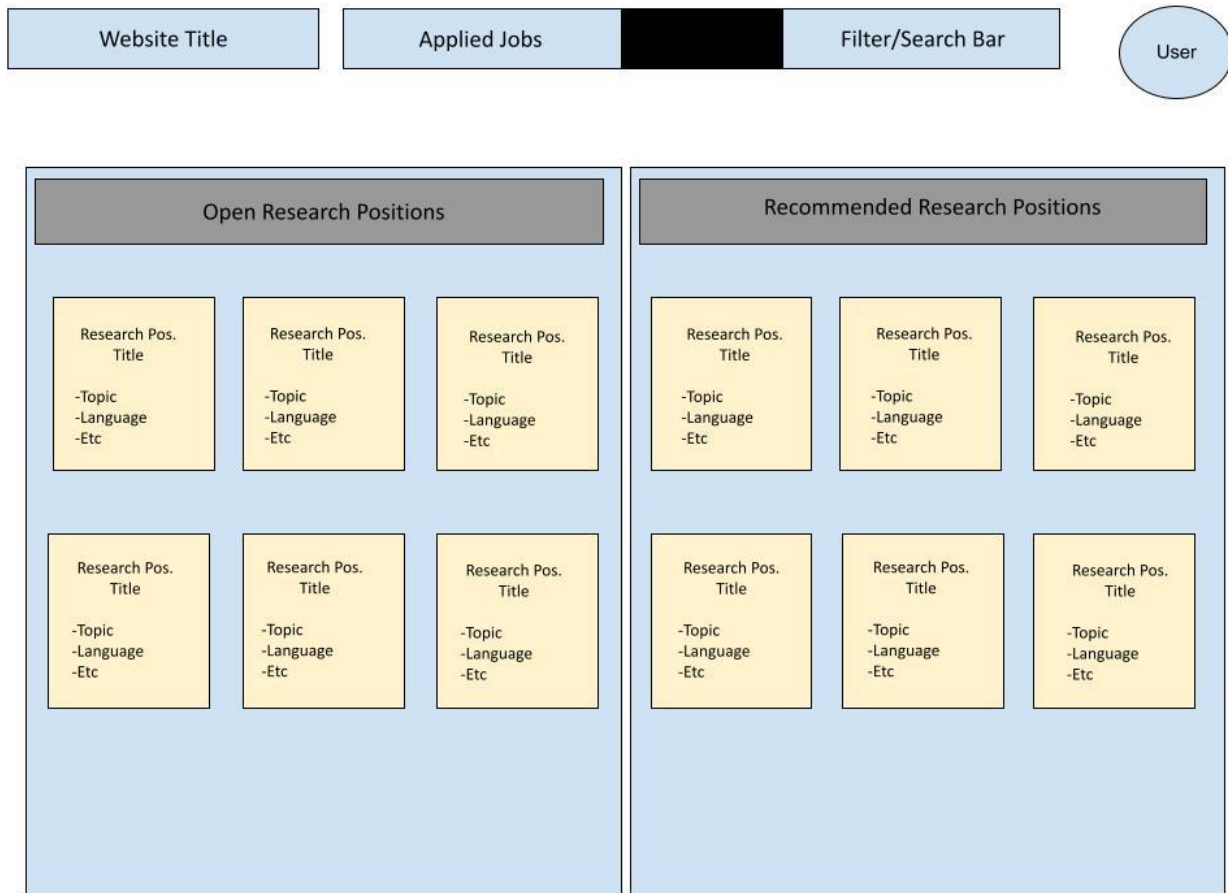**II.3.   Non-Functional Requirements**

- Scalability: As each user using this software will be on separate devices of varying specifications, the formatting of the webpage must be able to scale and conform to any standardized sizes in order to be functional and accessible to all possible users. Not considering this would lead to smaller devices such as laptops or mobile phones from being unable to properly use the software.
- Readability: UI created to be comfortable for the human eye.
- Reliability: The software must be capable of working under several conditions whether it is on older devices or different web browsers. The software must also not have glaring issues in its functionality that could prevent users from accessing its full potential, whether it could be issues in routing to separate pages or sending information for registration.
- Responsiveness: Software must be able to swiftly respond to the user request without delays.
- Testability: In case of any problems detected by the user, software must be made easily testable in order to promptly fix any problems.
- Usability: The software must be easy to understand and use both for faculty and students. This includes pleasing and comprehensible page layouts, good readability (see readability), simple command structure in how actions are performed such as registration, logging in, and sending applications.

III. User Interface

Faculty Page:
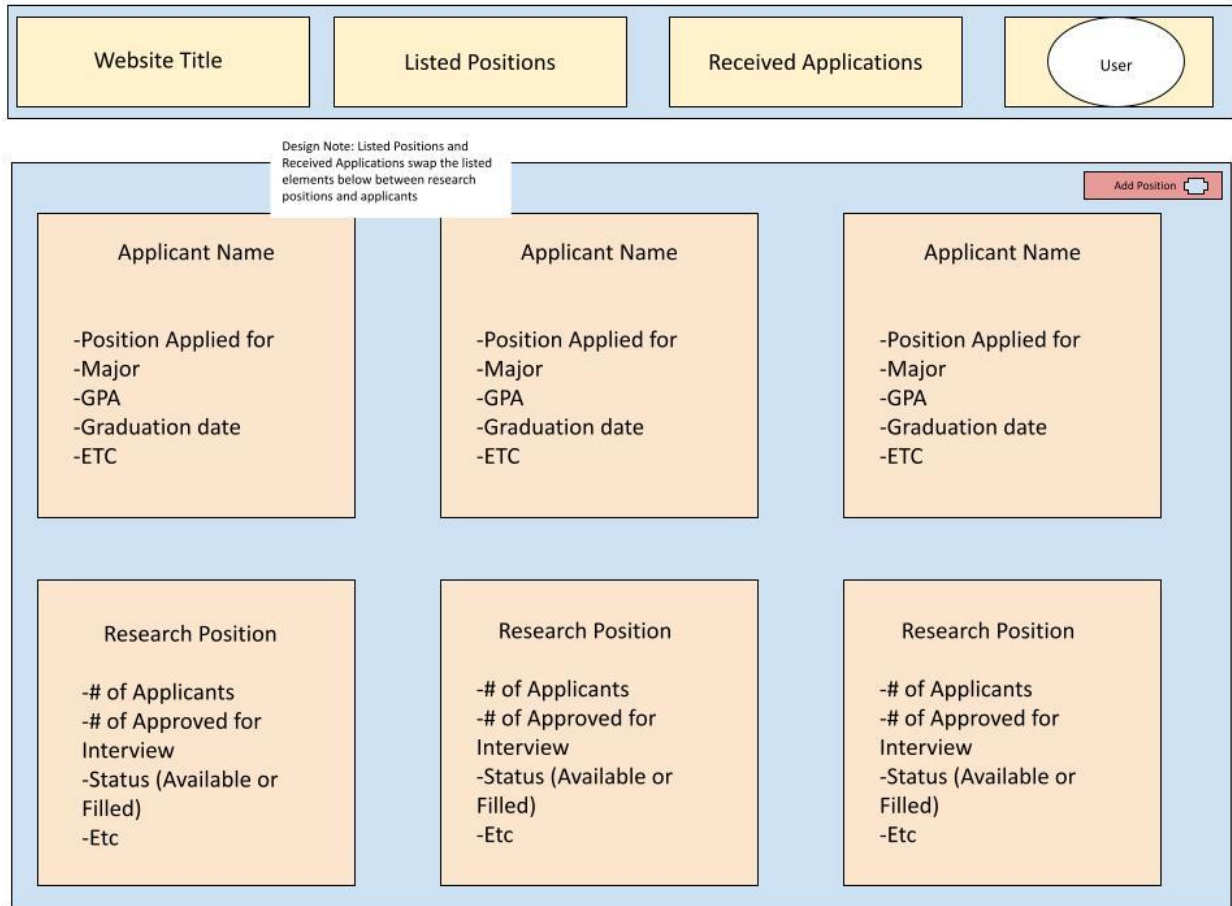
Student Page:

IV. References
Cite your references here.

- ResearchGate, I-Hsin Chou, https://www.researchgate.net/figure/Functional-and-non-functional-requirements_fig2_221147553

- "Your Guide to Writing a Software Requirements Specification (SRS) Document", Andrew Burak, https://relevant.software/blog/software-requirements-specification-srs-document/