Project: CSE 360 Help System Phase 1

Alan Lintemuth, William McLean, Max Neville, Tushar Sachan, Taj Yoshimura

CSE 360: Thursday Group 47

**Phase One Project Overview**

Everyone struggles with finding the help they need to excel in life; few struggle as intensely as undergraduate students. As a remedy, our team is building a help system specifically designed for Computer Science and Engineering 360 students at Arizona State University. This system will leverage questions and answers from previous years' Education Discussion boards to fill out a computer application to connect students with the information they need. Students will benefit from personalized settings and the ability to seamlessly change roles depending on what information they would like to access. Instructors will benefit from a system that allows them to manage and assist students effectively. The system will be coded in the well-known coding language, Java, utilizing JavaFX to add easy to use graphical features. Our phase one deliverables will include all the methods necessary to build out our help system in the next phases.

In this system we have specified 3 specific roles of users: admins, students, and instructors. The role of admin has the ability to perform certain actions that the other user types cannot (though the role admin may also be possessed at the same time as the student or instructor role). These specific admin abilities are to:

* Invite someone to join the application by giving a new user a one-time password
* Reset a user account
* Delete a user account
* List the user accounts showing each user with their associated names and role(s)
* Remove or add a role from a user
* Log out

This differs from the abilities we give to all other users, students or instructors, which are to:

* Create an account from an invitation given by an admin utilizing a one-time password given from an admin, allowing a user to create an account with its own unique password
* Select their role: Admin, Instructor, and/or Student as allowed by an admin
* Log out

A major focus within this phase has been the security of the system. In order to keep our program, secure we added multiple measures such as a system of one-time passwords with expiration dates that are used within the process of creating new accounts, and keeping passwords protected by storing them as a more secure data type. By creating an enterprise-level help application, our team will be investing in the success of future students at ASU. With the tools generated in phase one, we will create a robust platform to build all future deliverables. We aim to create a private, secure, efficient platform that anyone can leverage to help succeed in computer science.

**Requirements and User Stories:**

We will be formatting our User Stories in the following manner: As a *role* I want to *action* so that *benefit*

As a *user,* I want to *get help with CSE 360* so that *I can succeed in Computer Science*.

As a *new user*, I want to *set up my account properly so* that *my information will be stored correctly.*

As a *user*, I want to *be assigned the proper role so* that *I can access the information that most pertain to my questions.*

As a *user*, I want to *be able to switch roles* so that *I can access the correct information for my session.*

As a *user,* I want to *have a secure password* so that *my credentials will not be stolen*.

As *a user,* I want to *easily* *view my homepage so* that *I can gain an understanding of the help system*.

As a *user*, I want to *be able to log out* so that I *can finish my session*

As an *administrator*, I want to *establish an account to manage the system database* so that *it will be properly operated.*

As an *administrator*, I want *the first person to use the system to get an admin account* so that *the system will always have an administrator*.

As an *administrator*, I want *to invite people to join my application* so that *they can use my help system*.

As an *administrator*, I want to *choose the role for people when I send an invitation out* so that *they can assume the proper role.*

As an *administrator*, I want *to reset user accounts* so that *I can fix issues with their accounts.*

As an *administrator*, I want *to delete user accounts* so that *the database can function efficiently*.

As an *administrator*, I want to *be able to see all of the user accounts* so that *I can see who is using the application*.

As an *administrator*, I want to *change the roles of people using the help system* so that *I can keep users organized*.

Distilling down these user stories into Phase One Requirements gives us the best opportunity to focus on the needs of all stakeholders. Creating multiple user roles (Admin, Student, and Instructor) with corresponding home pages will be required to facilitate help system use and management. Data will have to be stored and utilized to organize the system. The system requires an administrator who can invite users, manage accounts, manage the system, and ensure all information is handled securely. Lastly, each user will require some functionality on their homepage to begin navigating the help system. By including all these requirements in Phase One, we will create a solid base to build out our ASU Student Help System.

**Use Case:**

|  |  |
| --- | --- |
| CSE 360 Help System |  |
| Actors | Administrators, Instructors, Students, Help System, Help System Database |
| Description | An administrator will carry out all the functions of the database (inviting new users, resetting accounts, deleting accounts, changing user roles). Instructors and Students can sign up for an account, enter their information and password, and logout. |
| Data | Each actor’s userID, password, first, middle, last, preferred name, and their role. |
| Stimulus | Invitation issued by an administrator, or a user logging into their account. |
| Response | System asks for a one-time login password, then accepts a new password. Conformation of logout |
| Comments | Users must be specifically invited by an administrator. Their invitation comes with a one-time password that will expire. Current functionality is creating login and logout. |

**UML:**



**A screenshot of a computer program

Description automatically generated**

**Class Responsibility Collaborator:**

|  |  |
| --- | --- |
| Home  This function….Starts off the application | Collaboration |
| First admin login | DatabaseHelper |
| CreateUser | Roles |
| Userlogin | StartCSE360 |
| Userdetail |  |
| Rolehelper, to establish roles in the database |  |
| loginUserRoles |  |

|  |  |
| --- | --- |
| DatabaseHelper  This function….Is the main connection to the Database | Collaboration |
| Role (String) | StartCSE360 |
| Register(String, String, String) |  |
| Update(String(S), S, S, S, S) |  |
| DisplayUsers |  |
| Deleteuser(String) |  |
| SetUsers |  |

**Roles**

|  |  |
| --- | --- |
| This function….Connects to the roles(Admin, Student, Instructor) | Collaboration |
| Setrole(String) | Admin |
| Administructor(Stage) | Student |
| Adminstudent(Stage) | Instructor |
| Admin(Stage) |  |
| Logout(Stage) |  |
| Instructor(Stage) |  |

Student(Stage)

main(String[])

|  |  |
| --- | --- |
| Admin  This function…. Contains the functions for Admins | Collaboration |
| Showusers | Roles |
| Removeroles(User, enum) |  |
| Invite |  |
| Reset(User) |  |
| Delete(User) |  |
| AddRole(User, enum) |  |

Editroles(String, BorderPane)

SetUsers

|  |  |
| --- | --- |
| StartCSE360  This function…. Contains setups and connects to the database | Collaboration |
| SetupAdministartor(String, String, String): int | DatabaseHelper |
| UserSetUp(String, String, String): int |  |
| Prefname[preferred name](String): String |  |
| Delete(String): void |  |
| Findrole(String): String |  |
| Login(String, String): Boolean |  |

Setrole(String, String): void

**Screencasts:**

Zoom link here

**GitHub Link:**

https://github.com/mnevi/CSE360Project.git