

Password Manager

Intro

Team Organization

Software Requirements

Software Design

Test Overview

Traceability Matrix

Software Demonstration

Reflection

Members : Andrew, Cameron, Jagger,
Montana, Tristen, Carson,
Miguel, Dakota, Chhavi, Sai

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Team Organization

Team Organization

Followed the **Agile methodology** to enable iterative development. We utilized sprints to meet at least once a week to keep us on track.

Tools Used:

- **Wt Framework:** Web application development.
- **SQLite:** Secure data storage.
- **OpenBSD:** Hosting for high security.

Training:

- Basics of the Wt framework.
- Writing secure SQL queries.
- Web application security practices.
- Version Control

Sub-Teams

- 1) Model Team - Jagger, Carson, Cameron, Chavi, Andrew
- 2) View Team - Jagger, Montana, Miguel, Sai, Cameron, Carson, Chavi, Tristen
- 3) Database Team - Andrew, Dakota, Tristen, Cameron, Sai
- 4) Test Team - Dakota, Miguel, Tristen, Montana, Carson
- 5) Merge Team - Andrew, Cameron, Jagger

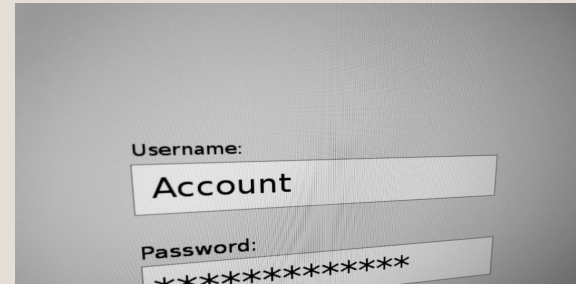
Software Requirements

Purpose

The **Shared Password Manager System** helps users simplify password management by securely storing and organizing their credentials in one convenient place, allowing easy access whenever needed.

Key Objectives:

- **Admin Control:** Admin users manage user accounts and roles.
- **Role-Based Features:** Users have distinct permissions based on their roles, ensuring secure and efficient access.
- **Focus on Security:** Implements encryption and secure access protocols to protect sensitive data.



Software Requirements

Store user credentials securely with role-based access.

Functional requirements:

1. Privilege Separation

- Admin can manage users.
- Regular users can view, add, and edit credentials.
- View-only users can only view credentials.

Non-Functional Requirements:

2. Security Measures

- Daily backups and minimal database access privileges for data protection.
- Implemented AES encryption for all data transfers and password storage.

3. Performance

- System uptime goal of 99.99%.
- Maximum 2-second response time.
- Manages multiple user actions simultaneously



Password Manager

Sign In

Username:

username1

Password:

Password123

LOGIN



Password Manager

Add Credential

[Edit Credential](#)

Search Credential

Manage Users

Logout

Credentials


[illegible]

Edit Credential

[←](#)
[→](#)
[↻](#)
<https://www.cs.csis.work/home/server/PWM/individual-user.html>

Password Manager

Save Credential



Delete Credential

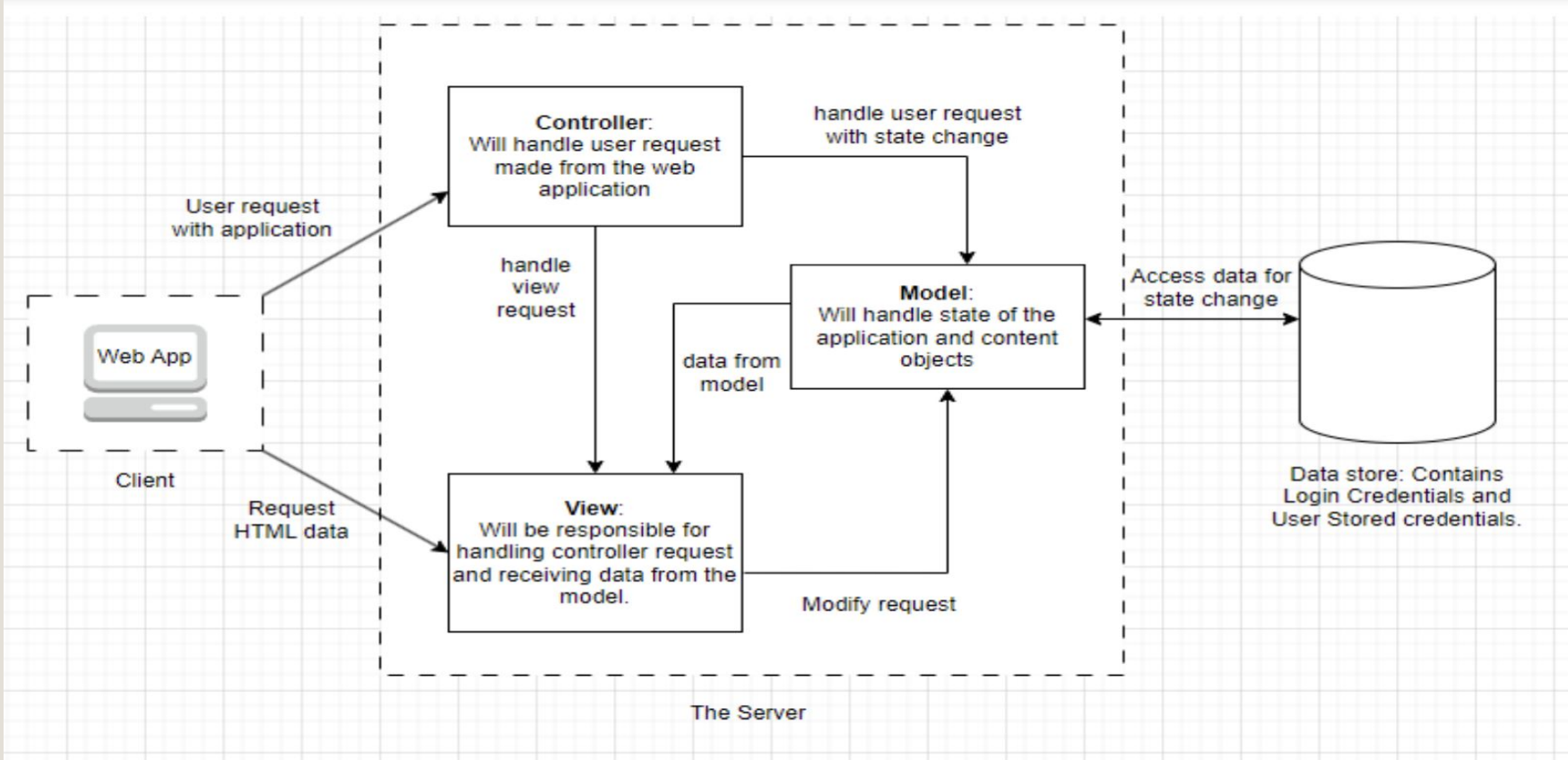
Credentials	
Credential ID	Una Portal
Email Used	dundee@aol.com
Username	ahhhh
Password	Password1
Description	Student L number: L0094868

Last Modified: 3/15/1959 12:00pm

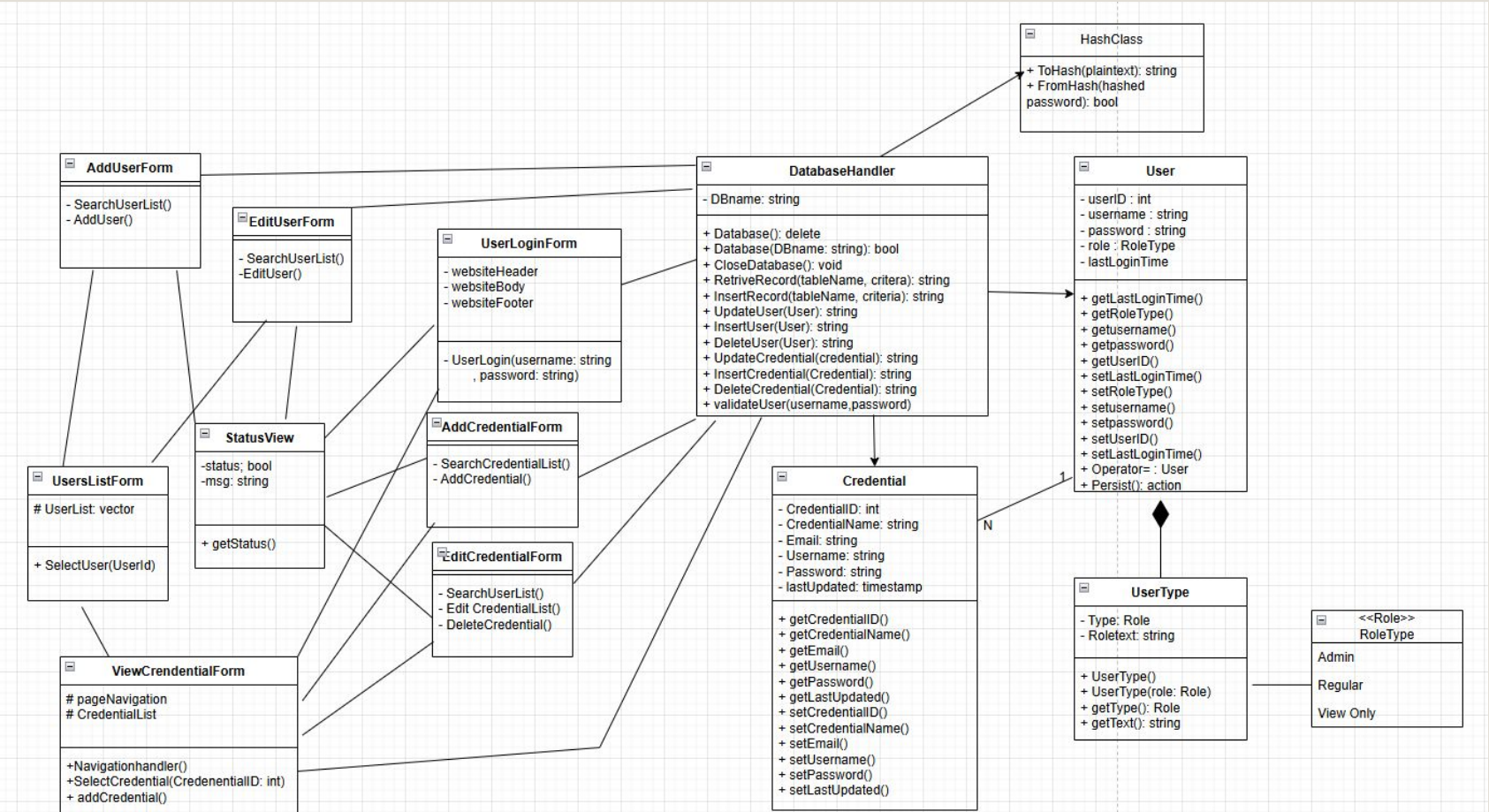
Activate Windows
 Go to Settings to activate Windows.

Software Design

MVC ARCHITECTURE DIAGRAM

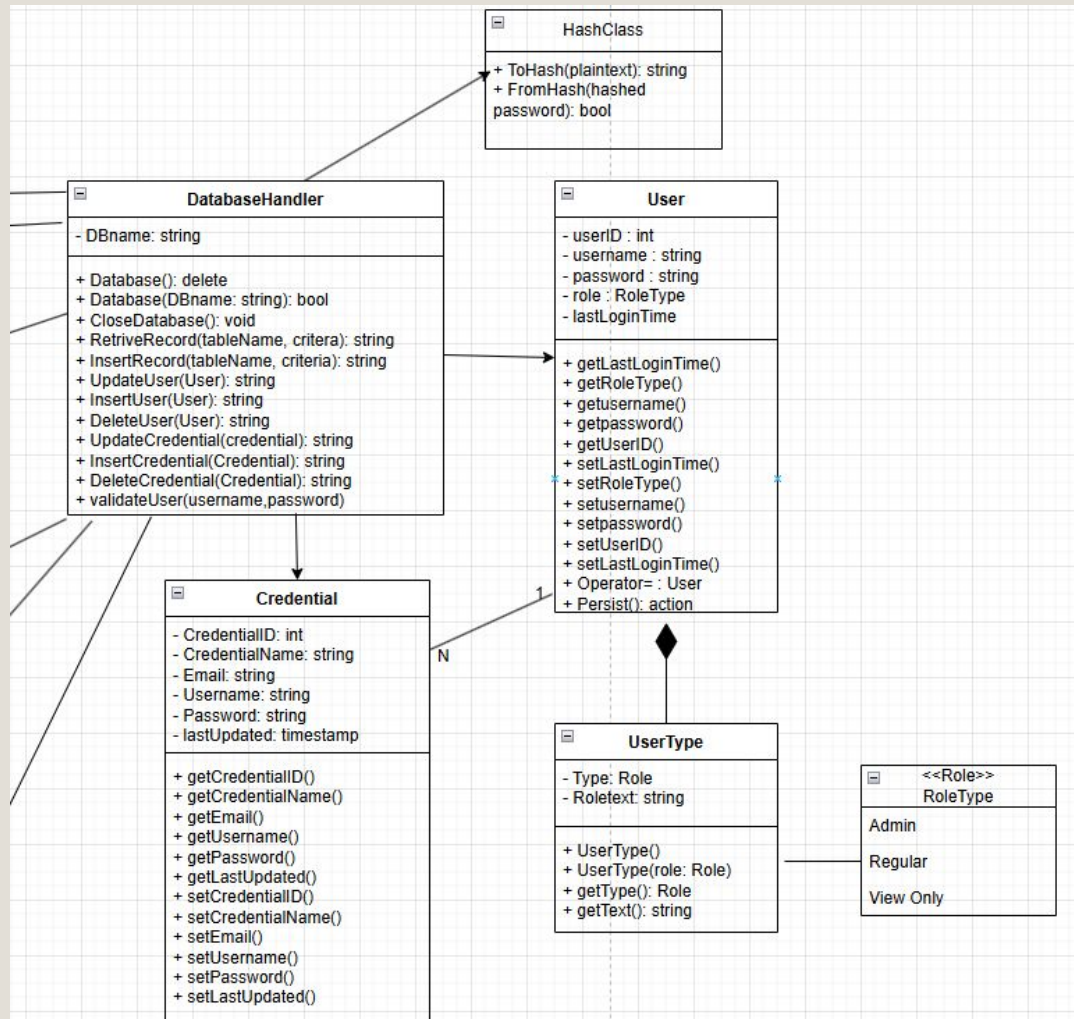


Design Overview:



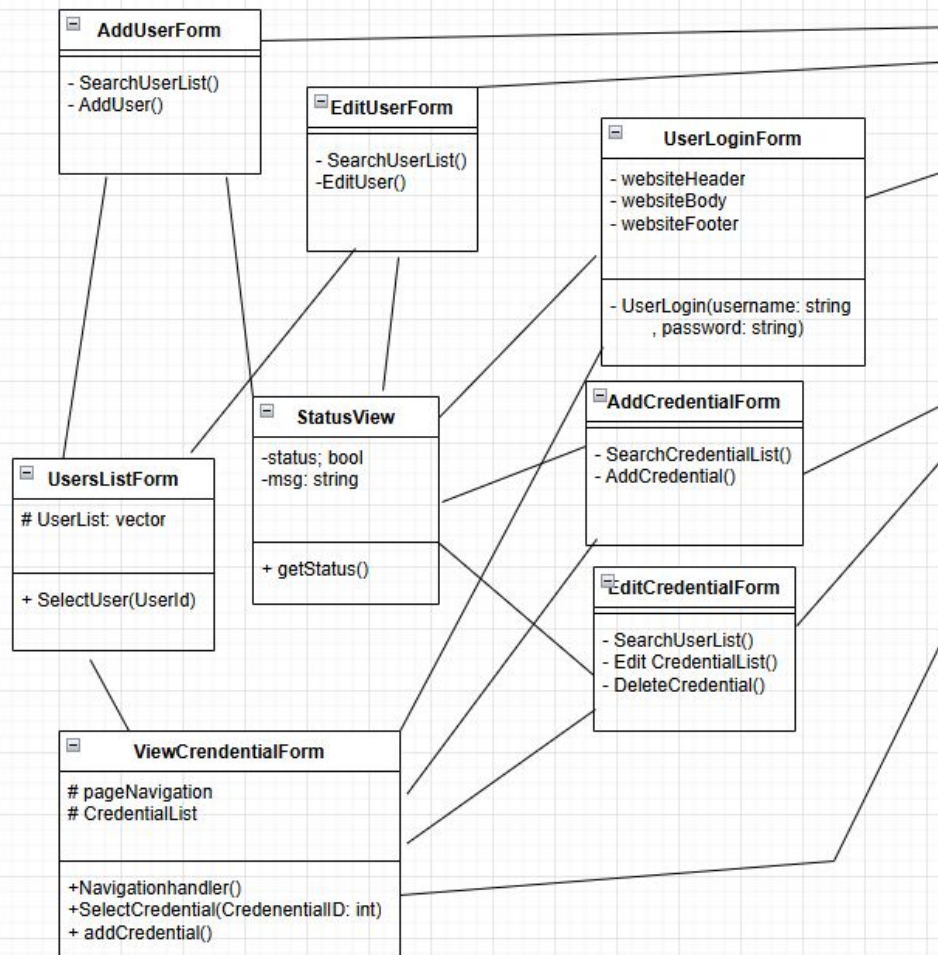
Model Breakdown:

- How it works?
- ModelControl
- Design decisions

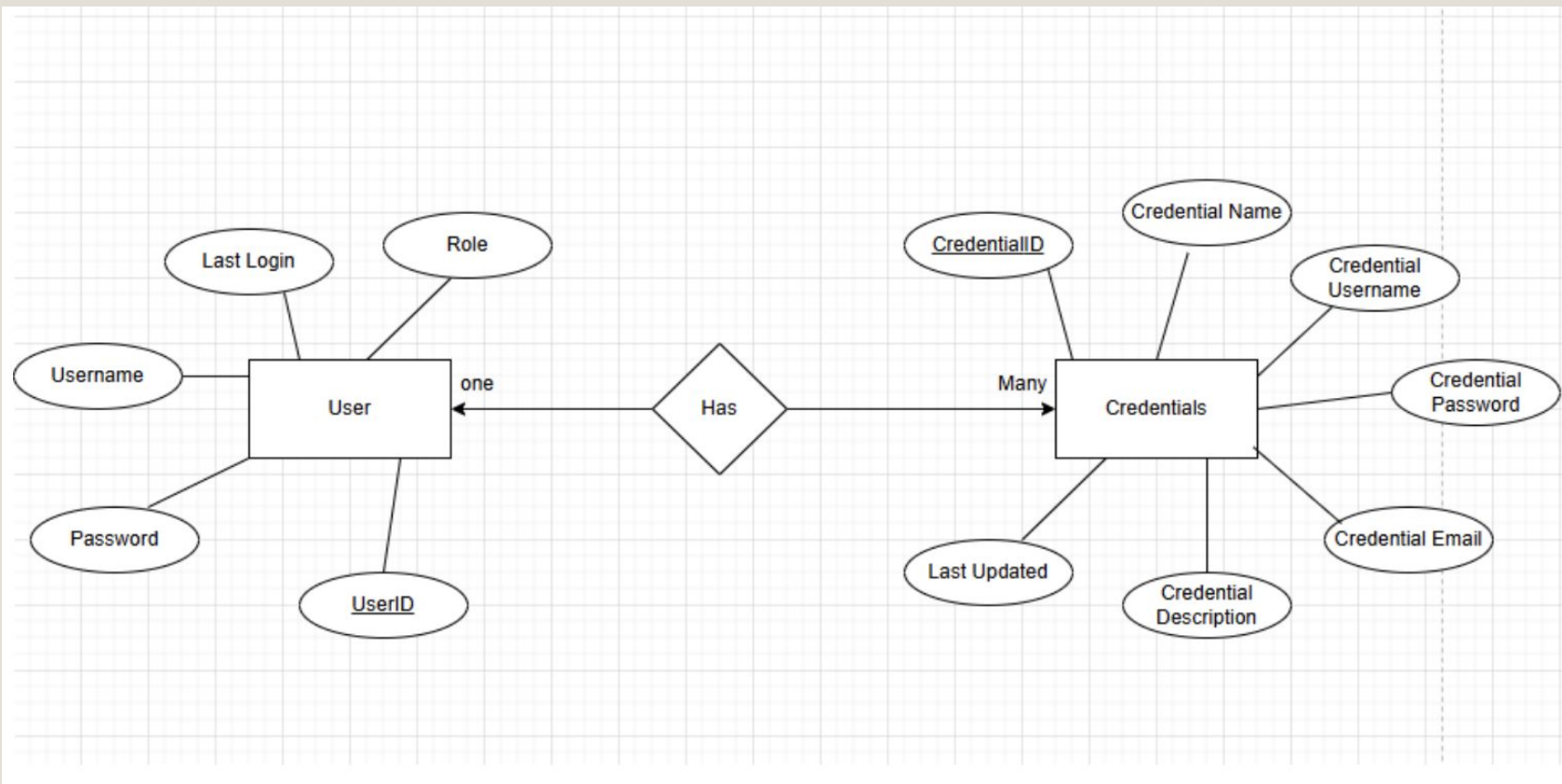


View Breakdown:

- How it works?
- App driver
- Css



E/R Diagram



Test Overview

Reflection	Software Demonstration	Traceability Matrix	Test Overview	Software Design	Requirements	Team Organization	INTRO
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Reflection	Software Demonstration	Traceability Matrix	Test Overview	Software Design	Requirements	Team Organization	INTRO
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Reflection	Software Demonstration	Traceability Matrix	Test Overview	Software Design	Requirements	Team Organization	INTRO
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Model Unit Test Results

Credential Class Tests	Constructor And Getters	M5	This test shall test the Constructor and Getter functions of the Credential Class	Pass
	Update Last Updated	M6	This test shall test the UpdateLastUpdated function of the Credential Class	Pass
	Setters	M7	This test shall test the Setter functions of the Credential Class	Pass
Database Tests	Constructor	M8	This test shall test the Constructor for the Database	Pass
	Insert Record	M9	This test shall test the InsertRecord function for the Database	Pass
	Retrieve Record	M10	This test shall test the RetrieveRecord function for the Database	Pass
	Update Record	M11	This test shall test the UpdateRecord function for the Database	Pass
	Delete Record	M12	This test shall test the DeleteRecord function for the Database	Pass

Model Unit Test Results

Hash Class Tests	To Hash Returns Correct Hash	M13	This test shall test the ToHash function of the HashClass	Pass
	From Hash Validates Correctly	M14	This test shall test the FromHash function of the HashClass, for a correct password entry	Pass
	From Hash Fails On Incorrect Password	M15	This test shall test the FromHash function of the HashClass, for an incorrect password entry	Pass
	To Hash Different Passwords Produce Different Hashes	M16	This test shall test the ToHash function of the HashClass, ensuring each password receives a unique hash.	Pass

View Unit Test Results

passMangApp Features	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
V1. Login button	Dakota	Carson	The login button is clickable and highlights when it is hovered over with the mouse cursor	Exactly what the code was intended to do	Exactly what the code was intended to do	P
V2. The username and passwor fields	Dakota	Carson	Click and type in the fields and displays specific field (username or password)	You can click and type in the field	You can click and type in the field	P
V3. Login button	Dakota	Sai, Carson	Logout button is clickable and highlights when it is hovered over with the mouse cursor	Exactly what the code was intended to do	Exactly what the code was intended to do	P
addUserView Feature	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
V4. Cancel button	Carson	Sai, Dakota	The cancel button is clickable	clickable button	clickable button	P
V5. Add button	Carson	Sai, Dakota	The add button is clickable	clickable button	clickable button	P
V6. Drop down fields (user type)	Carson	Sai, Dakota	clicking the dropdown arrow displays the following clickable fields: Admin,regular, view-only	clickable dropdown that displays user type options	clickable dropdown that displays user type options	P
V7. addUser fields: ID,Username,Password	Carson	Sai, Dakota	Click and type in the fields and displays specific field (ID,username ,and password)	You can click and type in the field	You can click and type in the field	P

View Unit Test Results

V8.

V8.

V9.

addCredView Features	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
addCred Fields(ID,username,password,email, Credential Name,description)	Dakota	Sai,Carson	Click and type in the fields and displays specific field (ID,username ,and password)	You can click and type in the field	You can click and type in the field	P
Add button	Dakota	Sai, Carson	The add button is clickable	clickable button	clickable button	P
Cancel button	Dakota	Sai, Carson	The cancel button is clickable	clickable button	clickable button	P

V10.

V11.

V12.

SearchCredential Features	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
SearchCredential Fields(ID,username,password,email, Credential Name)	Sai	Carson,Da kota	Click on SearchCredential and displays all fields involved for searching a credential	Display all of the fields and let you type in them	Fields are displayed and let you type in them	P
Search button	Sai	Carson, Dakota	The search button is clickable	clickable button	clickable button	P
Cancel button	Sai	Carson, Dakota	The cancel button is clickable	clickable button	clickable button	P

Test Software Requirement

	Traceability Matrix
Reflection	Software Demonstration

	EditCredView Features	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
V17.	EditCredFields(ID,username,password,email,Credential Name,description)	Dakota	Carson	Click and type in the fields and displays specific field (ID,username,password,email,Credential Name,description)	You can click and type in the field	You can click and type in the field	P
V18.	Edit button	Dakota	Carson	The edit button is clickable	clickable button	clickable button	P
V19.	Cancel button	Dakota	Carson	The cancel button is clickable	clickable button	clickable button	P
V20.	Delete button	Dakota	Carson	The delete button is clickable	clickable button	clickable button	P

View Unit Test Results

	addUserView Feature	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
V21.	Cancel button	Carson	Sai, Dakota	The cancel button is clickable	clickable button	clickable button	P
V22.	Add button	Carson	Sai, Dakota	The add button is clickable	clickable button	clickable button	P
V23.	Drop down fields (user type)	Carson	Sai, Dakota	clicking the dropdown arrow displays the following clickable fields: Admin,regular, view-only	clickable dropdown that displays user type options	clickable dropdown that displays user type options	P
V24.	addUser fields: ID,Username,Password	Carson	Sai, Dakota	Click and type in the fields and displays specific field (ID,username ,and password)	You can click and type in the field	You can click and type in the field	P

Integration Test Results

IT 1.

Integration: Login Screen	Tester	Viewer	What the code does	Expected output	Actual Output	Pass/Fail
Login screen with username and password that are correct	Dakota	Sai, Carson	Enter the username and password for your account and get signed in. Be sent to the home screen	Sign in successful	Sign in was successful	P
Login screen with username and password that are incorrect	Dakota	Sai, Carson	Enter the username and password for your account and get signed in. Be sent to the home screen	Error message saying you can't be signed in	Invalid Login	P

IT 3.

Integration: Log Out	Tester	Viewer	What the code does	Expected output	Actual Output	Pass/Fail
Log out button	Dakota	Sai, Carson	Clicking the logout button logs you out and takes you back to the login page	You can click the button and get taken back to the login screen	Button clicks and you get taken back to the login screen	P

Integration Test Results

Integration: addUser	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
User Type Dropdown(Options: Admin, Regular, Viewer)	Carson	Sai, Dakota	Clicking on the dropdown menu for the userType displays all three fields	Dropdown menu displays and lets you choose one of the following: Admin, Regular, View-Only	Drop down menu displays all three roles, and lets you choose one	P
Add Button (checks that triggers addNewUser method)	Carson	Sai, Dakota	Add button will add the user and info from the fields (id, username, etc.) to the database	Clicking add button will place the user and their info into the database	Add button does not work	P
Add Button (checks that triggers addNewUser method)	Carson	Sai, Dakota	Add button will add the user and info from the fields (id, username, etc.) to the database	Clicking add button will place the user and their info into the database	Add button does not work	P
Add Button (checks that triggers addNewUser method)	Carson	Sai, Dakota	Add button will add the user and info from the fields (id, username, etc.) to the database	Clicking add button will place the user and their info into the database	Add button does not work	P

Integration: addCredential	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
Add button	Dakota	Sai,Carson	Clicking on the add button should add the info for the new credential to the database	New credential is added to the database	The add button does not work	P
Cancel Button	Dakota	Sai,Carson	Clicking on the cancel button should not save the current credential being added and should send the user back to the home screen	Does not save the current credential and send the user back to the home screen	Does not save the current credential and sends the user back to the home screen	P
Add button	Dakota	Sai,Carson	Clicking on the add button should add the info for the new credential to the database	New credential is added to the database	The add button does not work	P

Integration Test Results

IT 8.

Integration: SearchUser	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
Search button	Carson	Dakota, Sai	Clicking on the search button should check the credential that is already added in the database and if not it returns no matches	Returns no matches if that user isn't in the database	Lets you enter info into the fields and returns "No matches:(" if there are no users matching the info you put in	P
Cancel Button	Carson	Dakota, Sai	Clicking on the cancel button does not search the credential in the database and should send the user back to the home screen	Does not search the current credential in the database and send the user back to the home screen	It doesnt search the credential entered and take you back to the home screen	P
Search button	Carson	Dakota, Sai	Clicking on the search button should check the credential that is already added in the database and if not it returns no matches	Returns ID, username, password, user type, and last login	Returns ID, username, password, user type, and last login	P

IT 9.

IT 10.

IT 11.

IT 12.

Integration: SearchCred	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
Search button	Sai	Carson, Dakota	Clicking on the search button should check the credential that is already added in the database and if not it returns no matches	It returns the credential of the specific user if it is found in the database	The Search button does work and returns no matches	P
Cancel Button	Sai	Carson, Dakota	Clicking on the cancel button does not search the credential in the database and should send the user back to the home screen	Does not search the current credential in the database and send the user back to the home screen	It doesnt search the credential entered and take you back to the home screen	P

Integration Test Results

	Integration: EditUser	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
IT 13.	Edit button	Carson	Dakota	When edit button is clicked it saves changes that you enter into the fields to the database	Displays "successfully edited" and saves your changes	Displays "successfully edited" and saves your changes	P
IT 14.	Cancel button	Carson	Dakota	When the cancel button is clicked it should take you back to the home screen	Taken back to the home screen	Taken back to the home screen	P
IT 15.	Delete button	Carson	Dakota	When you click the delete button with the ID it should delete the credential from the database	Displays "successfully deleted" and deletes the credential	Displays "successfully deleted" and deletes the credential	P

	Integration: EditCred	Tester	Viewer	What the code does	Expected output	Actual Ouput	Pass/Fail
IT 16.	Edit button	Dakota	Carson	When edit button is clicked it saves changes that you enter into the fields to the database	Displays "successfully edited" and saves your changes	Displays "successfully edited" and saves your changes	P
IT 17.	Cancel button	Dakota	Carson	When the cancel button is clicked it should take you back to the home screen	Taken back to the home screen	Taken back to the home screen	P
IT 18.	Delete button	Dakota	Carson	When you click the delete button with the ID it should delete the credential from the database	Displays "successfully deleted" and deletes the credential	Displays "successfully deleted" and deletes the credential	P

Traceability Matrix

Traceability Matrix

	Design Component	Requirement Description	Test Case #
Performance Requirements	System Architecture	The software shall support 10 users while maintaining a maximum response time of 2 seconds.	n/a
	User Interface	The software shall exhibit response times of between 0 and 2 seconds after user input.	n/a
	Server Infrastructure	Unplanned extended downtime shall not exceed 1 minute each week.	n/a
	Authentication Module	The software shall support a minimum of two users altering credentials at the same time.	n/a

Traceability Matrix			Chhavi, Andrew
	Design Component	Requirement Description	Test Case #
Security Requirements	Encryption Module	Admin passwords shall not be obtainable by any user but that specific admin.	n/a
	Access Control	Data log access shall only be available to Admin users.	n/a (but, true)
	Encryption Module	All data transfers containing user data shall be encrypted.	n/a (but, true)
	Session Manager	Sessions shall expire after an inactivity of 30 minutes.	n/a
	Compliance Module	The software shall enforce password authentication requirements following the NIST Digital Identity Guidelines (SP 800-63B).	M13, M14, M15, M16
	Authentication Module	Accounts shall lock after three repeated failed login attempts.	n/a
	Database Security	For any database login, a minimum of AES encryption shall be used before authentication.	M13, M14, M15, M16
	Backup System	The software shall prevent data loss of user credentials by completing daily backups of all files to a secondary location.	n/a
	Database Access Control	All interactions with the database shall access the database with the least privilege possible for the least amount of time.	M9, M10, M11, M12

Traceability Matrix

Chhavi

	Design Component	Requirements Description	Test Case #
Software Quality Attributes	Modular Design	The software shall be divided into a minimum of 2 components that can be modified individually.	IT 1-18
	Modular Design	Components shall allow the ability to update without affecting other parts of the system.	M 1-16 V 1-21
	Documentation	Software shall be accompanied by documentation.	n/a (but, true)
	Security Framework	The software shall protect against unauthorized access and data breaches.	n/a (not, true...)

Software Demonstration

Montana

32

← ↻ Not secure | cs.csis.work:8095/?_=/login

Google Drive Google Docs Remove Image Back... Home - Liferay Mail Student Profile University of North... Canvas Login Math Book zybook My Shelf | RedShelf DragonFly MAX Linear Algebra ITE 249 Schedule Packback > Other favorites

Password Manager

Username:
 Password:

Developed by Better Team of CS455 UNA

Reflection

1. Model unit testing allowed us to fix and isolate problems.
2. SDD and SRS are important to spend less time on deciding how the app should behave (we forgot some design screens)
3. Would have benefitted from being trained on whitty, sql interfacing.