CST-350 Activity 2 Login and Registration System

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Course Number: CST-350

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1/15/2025

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Part 1: Login and Registration System Overview

Screenshots

Home Page with Login and Register Links
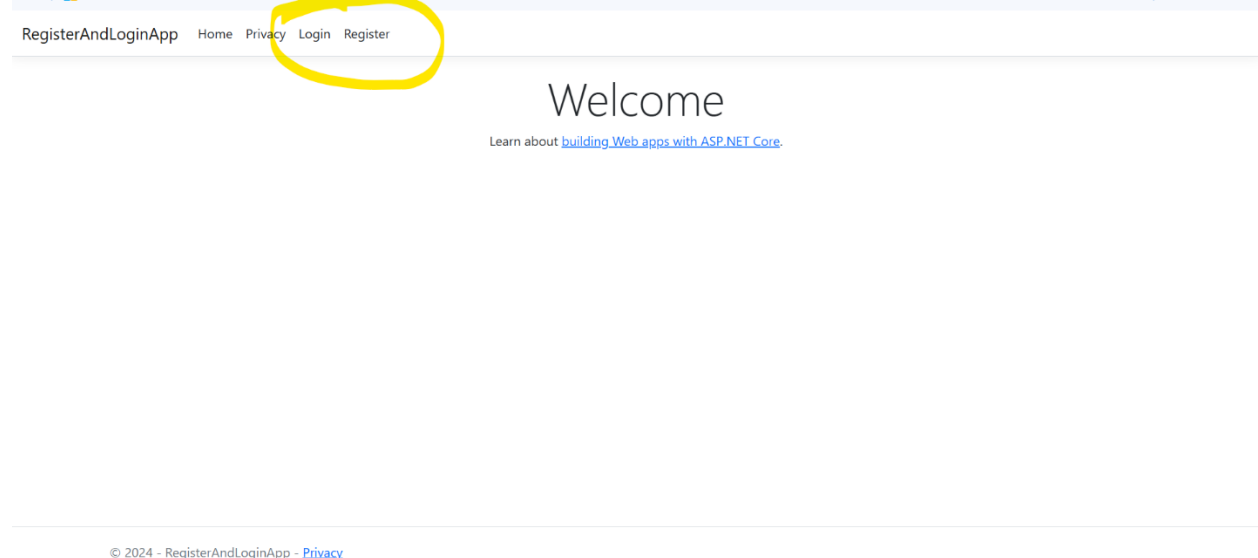

Figure 1: This screenshot captures the application's homepage, showcasing a clean and user-friendly interface. The navigation bar prominently features Login and Register links, allowing users seamless access to authentication functions. The layout is designed for intuitive navigation, ensuring that users can easily find and utilize these essential features right from their first visit.

Login Page

RegisterAndLoginApp   Home   Privacy

Login

Username

Password

Login

Figure 2: *This screenshot presents the login page of the application, where users are prompted to enter their Username and Password. The design emphasizes security and ease of use, guiding users through the authentication process to gain access to the system.*

Successful Login

RegisterAndLoginApp   Home Privacy Login Register

Login Success
Account Details

Id	1
Username	Harry
PasswordHash	4tX82GCUl2OIN5Dnq9oTbP2BeWZ61v2RPYTJMowxSe4=
Salt	defaultSalt
Groups	Admin

Back to Home

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Figure 3*: This screenshot illustrates a successful login attempt, showcasing the user's account details. Key information displayed includes the Username, PasswordHash, Salt, and associated Groups. The layout is organized to provide a clear overview of the user's account information while maintaining a focus on security and data integrity.*

Login Failure

RegisterAndLoginApp   Home   Privacy   Login   Register

Login Failed

Unfortunately, your login attempt was not successful. Please check your username and password and try again.

Back to Login

Figure 4: This screenshot depicts the login failure page, which is displayed when the user enters incorrect credentials. A clear error message informs the user that the login attempt was unsuccessful, encouraging them to try again. The design aims to provide constructive feedback while maintaining a user-friendly experience.

Summary of Key Concepts (Part 1)

In Part 1 of this activity, I created a login and registration system using ASP.NET Core within

the MVC architecture. I explored several key concepts, including:

- **Project Structure**: Setting up the foundational layout for the application.

- **User Models**: Designing models to represent user data effectively.

- **Views**: Crafting user-friendly views for both login and registration processes.

- **Controllers**: Implementing controllers to manage user interactions and application logic.

- **User Management Logic**: Integrating functionality for handling user accounts.

Additionally, I gained insights into the significance of password security by hashing and salting

passwords. I utilized ASP.NET helper tags to streamline form creation, enhancing the overall

development process. Finally, I conducted thorough testing to verify the application's user

authentication capabilities, ensuring a secure and efficient experience for users.

Part 2: User Registration and Members-Only Access
Screenshots

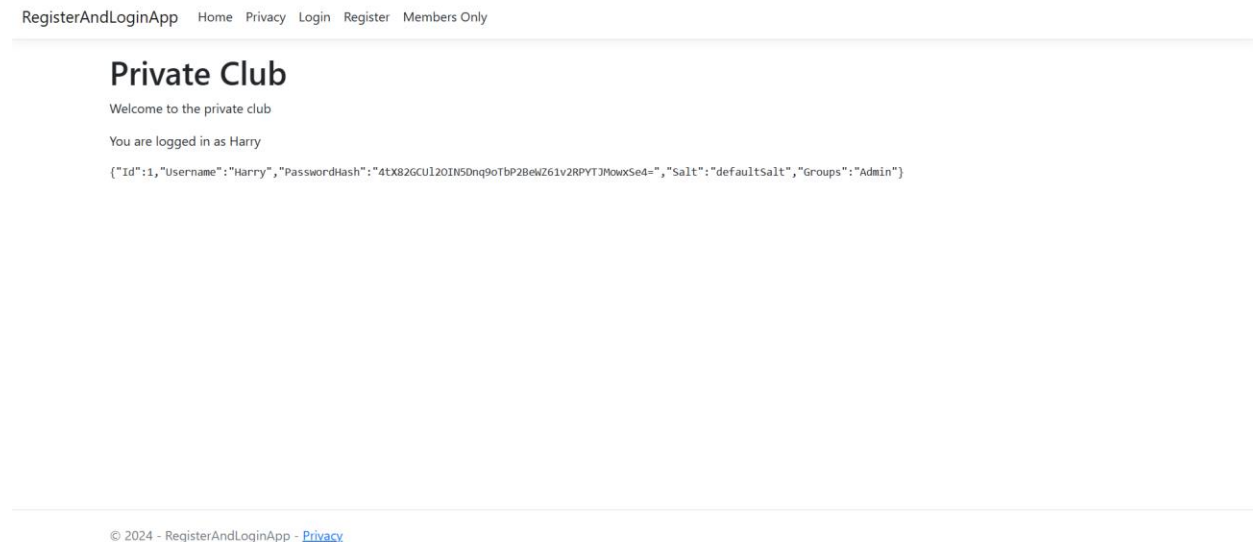### Members Only Page Access by Existing User (Harry)

Figure 5*: This screenshot illustrates that the existing user, Harry, has successfully accessed the Members-Only page. The session data is displayed prominently for verification, confirming that the user is authenticated and granted the appropriate permissions. The layout emphasizes secure access while providing a clear view of the user's session information.*

Register Page

RegisterAndLoginApp   Home   Privacy   Login   Register   Members Only   Logout

Register

Username

Password

Groups

☐ Admin
☐ Users
☐ Students

Create

Back to List

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Figure 6: This screenshot displays the registration page, designed for new users to create an account. Users can provide their Username and Password, as well as select one or more Groups to join. The layout is user-friendly, guiding users through the process of account creation while ensuring all necessary information is captured efficiently.

New Registered User - Login Success

RegisterAndLoginApp   Home Privacy Login Register Members Only Logout

Login Success
Account Details

Id	3
Username	amfrear
PasswordHash	P6UdEm0pD8AbDSSzea1Ffp0sdXqWh0RDggCVfwwXjWI=
Salt	defaultSalt
Groups	Admin

Back to Home

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Figure 7*: This screenshot captures the successful login of a newly registered user. It displays the account details, including the Username, PasswordHash, Salt, and associated Groups. The organized layout highlights the user's account information, confirming that the registration and login processes have been completed successfully.*

Members Only Page Access by New User

RegisterAndLoginApp   Home   Privacy   Login   Register   Members Only   Logout

Private Club

Welcome to the private club

You are logged in as amfrear

{"Id":3,"Username":"amfrear","PasswordHash":"P6UdEm0pD8AbDSSzea1Ffp0sdXqWh0RDggCVfwwXjWI=","Salt":"defaultSalt","Groups":"Admin"}

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Figure 8*: This screenshot demonstrates that the newly registered user has successfully accessed the Members-Only page. It displays the session data prominently for verification, confirming that the user is authenticated and has the necessary permissions. The layout reinforces secure access while providing clear visibility of the user's session information.*

Summary of Key Concepts (Part 2)

In Part 2 of this activity, I expanded the login and registration system to incorporate a user registration feature and restrict access to a Members-Only page. Key concepts I explored included:

- **Registration Form Creation**: Designing a user-friendly form for new users to register.

- **RegisterViewModel**: Building a ViewModel to effectively handle user input for registration.

- **Controller Methods**: Adding new methods in the controller to process registration requests and manage user data.

Additionally, I implemented **Session Management** to maintain user state, ensuring that only authenticated users could access restricted pages. The Members-Only page checks session information before granting access, showcasing the effective use of action filters and session variables in ASP.NET Core.

By completing Part 2, I learned how to add new users to the system, manage their authentication states, and restrict page access based on login status, enhancing the overall security and functionality of the application.