**DT228/3 Software Engineering III CA 1 Assignment**

**Design Document**



By

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Design

The idea I came up with for this project was to implement a web application where users could write or view reviews on many tv shows or movies. I chose this idea as I have an avid interest in both movies and tv shows and thought a web application to do with this would interest me the most. The basic design I came up with was for a user to be able to login or register. From there they could access many movies or tv shows and read or write reviews from there.

Use Case Diagram

A close up of a map

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Shown above is the use case diagram I created for my web application. I tried to make the use case as simple as possible in order to make it easy to understand and implement. There are only two actors; a user and an admin. The user can login or register and access the rest of the use cases from there. The admin monitors the login and registration details. The use cases that I created for this application were as follows:

* **Login:**

The system will prompt the user for a valid username and password. The user can enter these details, which will then be verified by the admin. If correct, the user will be given access to the rest of the system.

* **Register:**

The system asks the user to create a username and password so they can have their own account with the system. The admin will check if these are valid inputs and if they are an account will be created allowing the user to login.

* **Create Review:**

Once logged in a user can create a review. This will allow the user to write a full review on a movie or a tv show. This will then be visible to other users and on the movie or tv show’s page.

* **Edit:**

The system allows a user to edit any reviews that they have previously created. Once a review is edited it will update the review that is visible to other users.

* **Read Review:**

The system allows a user to read a review that has been written by any other user. They can do this by searching for a specific movie or tv show, or by searching for other users.

* **Search Genre:**

The search genre use case allows a user to search the system for a specific genre. This will then show all the movies or tv shows that are related to those genres.

* **Search Movie or Tv Show:**

The search movie or tv show use case allows a user to search the system for a specific movie or tv show. This will show all the movies or shows related to their search. From here a user can click on a movie or show and see all the details about it and the reviews that have been written on it.

Class Diagram

A screenshot of a cell phone

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For my Class Diagram, which can be seen above, I tried to implement two design patterns: The DAO design pattern and the Factory design pattern.

The Dao design pattern has an interface (Movie/TvDao) which allows a user to search for a specific movie or tv show. It also enables a user to create or delete movies. This was a better method for allowing a user to just search for movie using a function as it provides an interface which the user can interact with in a simpler and more sophisticated manner.

The Factory pattern I tried to implement was the Factory Review class. This allows users to access either Read Review or Write Review where each of these implements the execute function. I chose this design as it allowed me to have a more structured approach for users to read or write reviews.

Also, I implemented how a user can login or register in order to get access to the system. Above you can see how an admin must validate the details provided by a user from either of these classes when trying gain access to their account. In order to show this, I used an aggregate association. The account class also connects to a profile class with a 1 to 1 relationship which shows how each account can only have one profile.

Sequence Diagrams

**Login:**

**A screenshot of a social media post

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**Search movies or tv shows:**

**A screenshot of a cell phone

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**Read or Write Review:**

**A screenshot of a social media post

Description automatically generated**

Recorded Presentation

<https://youtu.be/OvMHRvm32Bc>