



UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SECD2525 - DATABASE
SEMESTER I (2023/2024)

PROPOSAL PHASE 2

DATABASE CONCEPTUAL DESIGN

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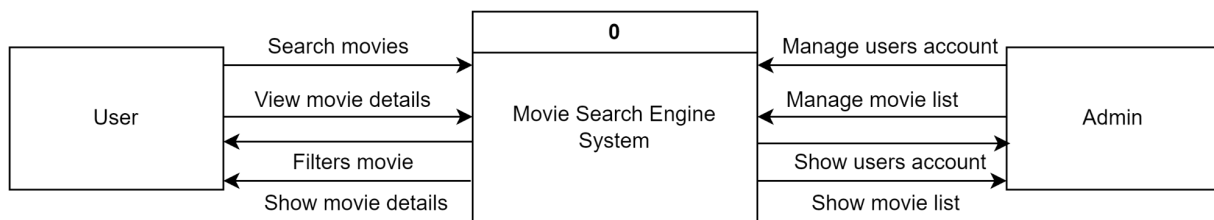
1.0 Introduction

In the dynamic and ever-evolving realm of entertainment, the need for efficient and comprehensive movie search engines has become paramount. As cinema continues to produce an abundance of content, organizing and accessing this vast repository of information is a challenging task. The Movie Search Engine Database Project aims to address this challenge by implementing a robust and sophisticated database system that facilitates seamless exploration and retrieval of movie-related data.

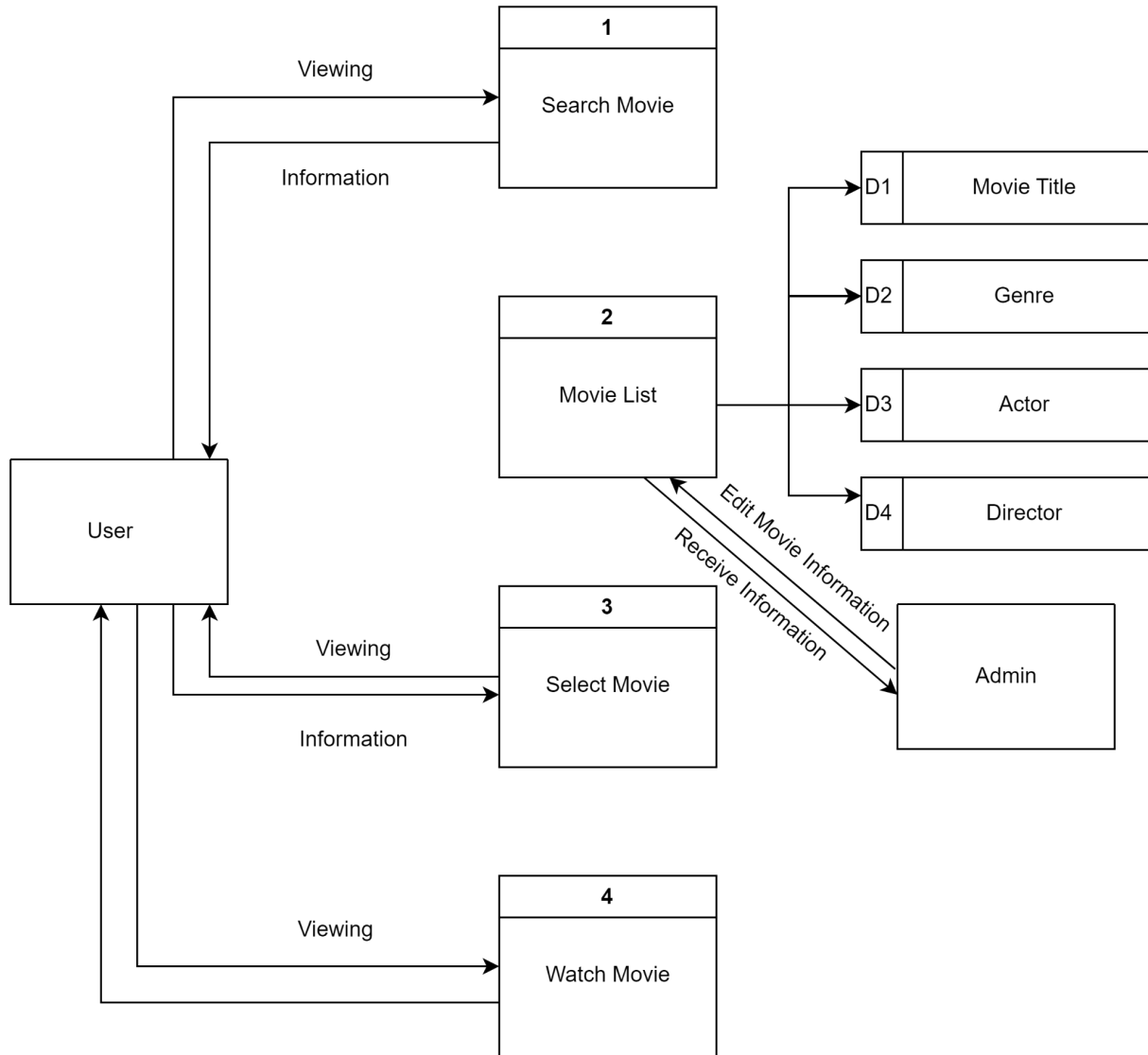
The Movie Search Engine Database Project is driven by the desire to offer users a centralized platform where they can effortlessly search, filter, and discover movies based on various criteria such as genre, release year, director, actor, and user ratings. The project is poised to revolutionize the way users interact with movie databases, providing a sophisticated and intuitive interface for movie enthusiasts.

2.0 DFD (to-be)

Level 0 :



Level 1 :



3.0 Data & Transaction requirement

3.1 Proposed business rule

- A user can access many movie title.
- A movie title can be accessed by a user.
- An admin can access many movie title.
- A movie title can be accessed by one admin.
- A director can shows many movie title.
- A movie title may or may not shows many director.
- A genre can shows many movie title.
- A movie title may or may not shows many genre.
- An actor can shows many movie title.
- A movie title may or may not shows many actor.

3.2 Proposed data & transactional

Proposed Data Requirements

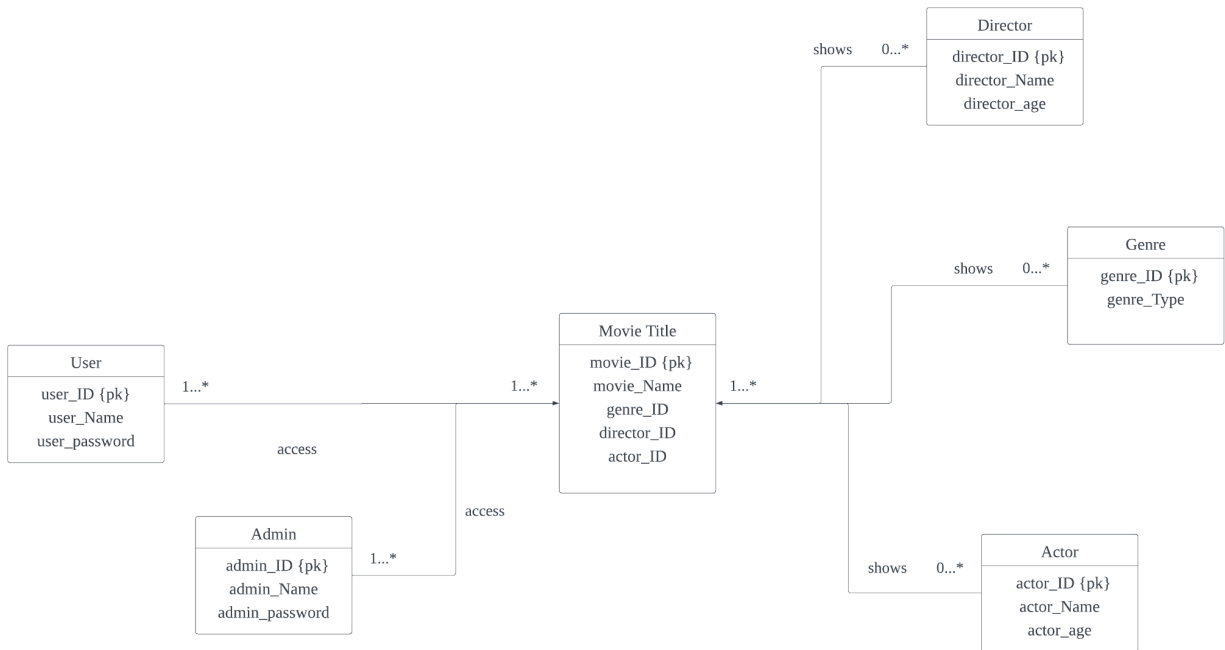
Entity	Data to be Stored	Requirement of Data
Movie Title	<ul style="list-style-type: none">• Movie ID• Name• Genre ID• Director ID• Actor ID	<ol style="list-style-type: none">a. User's name used to identify them.b. Movie ID, Genre ID, Director ID and Actor ID are used to display the information of the movie.
User	<ul style="list-style-type: none">• User ID• Name• Password	<ol style="list-style-type: none">a. Name and Password are used to make sure that the user is log in into the website.b. User ID is used to check whether the user already have an account or not.
Admin	<ul style="list-style-type: none">• Admin ID• Name• Password	<ol style="list-style-type: none">a. Name and Password are used to make sure that the admin is log in into the website.b. Admin ID is used to verify the admin to make changes in the system.
Director	<ul style="list-style-type: none">• Director ID• Director Name• Director Age	<ol style="list-style-type: none">a. Director Name and Age are used to display their information when users click about the movie information.b. Director ID is used to classify all the directors.
Genre	<ul style="list-style-type: none">• Genre ID• Genre Type	<ol style="list-style-type: none">a. Genre ID is used to check whether the genre exists or not.b. Genre Type is used to display which genre is the movie.
Actor	<ul style="list-style-type: none">• Actor ID• Actor Name• Actor Age	<ol style="list-style-type: none">a. Actor ID used to classify the actors.b. Actor Name used to identify actors in the system.c. Actor Age used to identify actors in the system.

Proposed Transactional Requirement

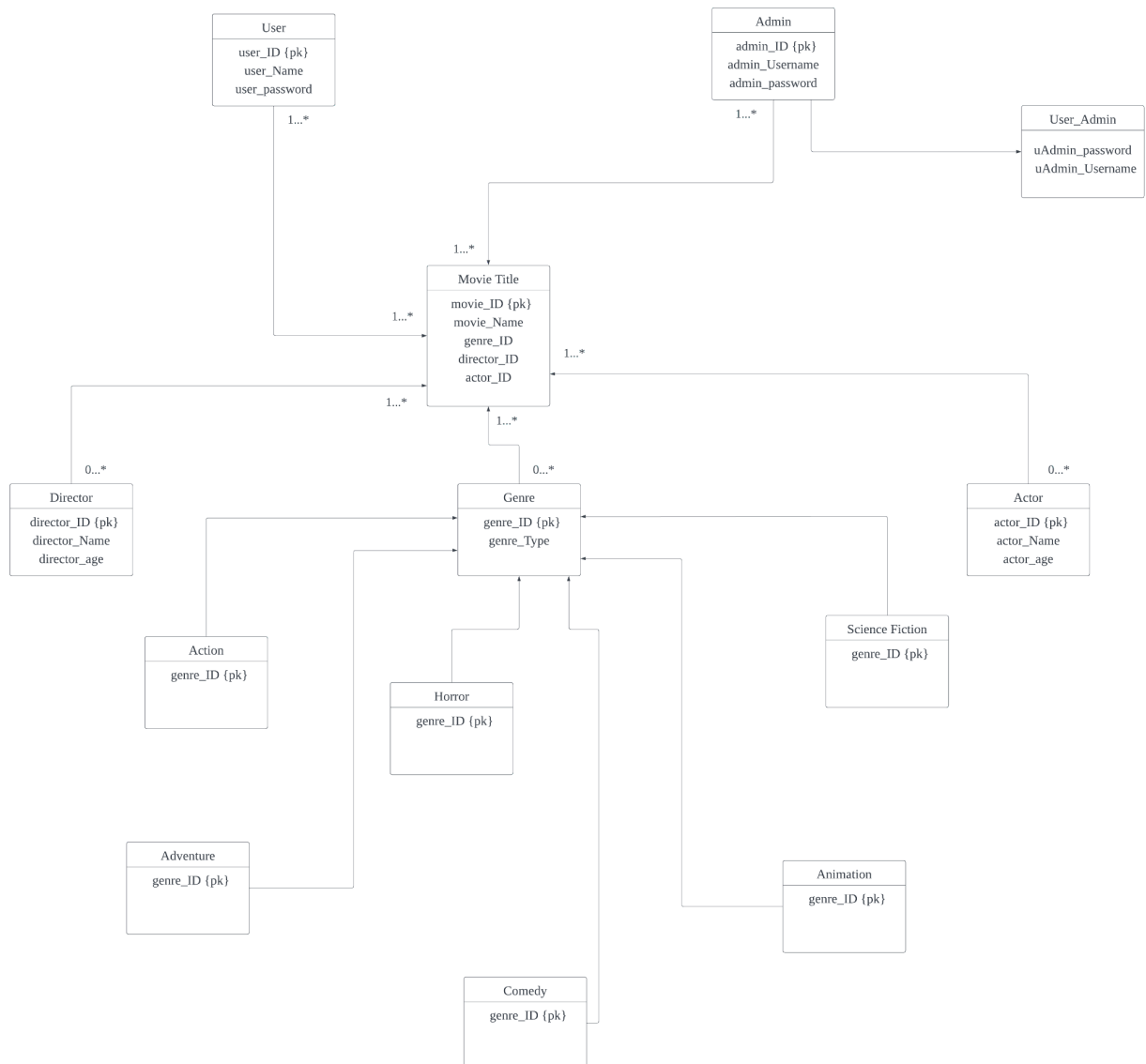
Entity	Data	Data entry	Data update	Data deletion	Data queries
Movie Title	<ul style="list-style-type: none">• Movie ID• Name• Genre ID• Director ID• Actor ID	Is put by the admin	Admin update data	Data can be deleted by admin	Search movie title by using search engine
User	<ul style="list-style-type: none">• User ID• Name• Password	Register by user itself	User update data	Data can be deleted by admin	User can view their profile page
Admin	<ul style="list-style-type: none">• Admin ID• Name• Password	Register by admin	Data can be update by admin	Data can be deleted by admin	Admin can delete, update, view and insert in the system
Director	<ul style="list-style-type: none">• Director ID• Director Name• Director Age	Register by admin itself	Data can be updated by admin	Data can be deleted by admin	Search can be made by searching movie title or the director name itself
Genre	<ul style="list-style-type: none">• Genre ID• Genre Type	Register by admin itself	Data can be updated by admin	Data can be deleted by admin	Search can be made by searching movie title or the genre type itself
Actor	<ul style="list-style-type: none">• Actor ID• Actor Name• Actor Age	Register by admin itself	Data can be updated by admin	Data can be deleted by admin	Search can be made by searching movie title or the actor name itself

4.0 Database conceptual design

4.1 Conceptual ERD



4.2 Enhanced ERD (EERD)



5.0 Data dictionary

Entity Name	Attributes	Description	Data Type & Length	Nulls	Multi-valued
User	user_ID user_Name user_password	<ul style="list-style-type: none"> Uniquely identifies a user Name of the user account Password of the user account 	<ul style="list-style-type: none"> 10 Variable characters 10 Variable characters 10 Variable characters 	<ul style="list-style-type: none"> No No No 	<ul style="list-style-type: none"> No No No
Admin	admin_ID admin_Username admin_password	<ul style="list-style-type: none"> Uniquely identifies a admin Name of the admin account Password of the admin account 	<ul style="list-style-type: none"> 10 Variable characters 10 Variable characters 10 Variable characters 	<ul style="list-style-type: none"> No No No 	<ul style="list-style-type: none"> No No No
User_Admin	uAdmin_password uAdmin_Username	<ul style="list-style-type: none"> Password of the admin account Username of the admin account 	<ul style="list-style-type: none"> 10 Variable characters 10 Variable characters 	<ul style="list-style-type: none"> No No 	<ul style="list-style-type: none"> No No
Movie	movie_ID movie_Name genre_ID director_ID actor_ID	<ul style="list-style-type: none"> Uniquely identifies a movie Name of the movie Uniquely identifies a genre Uniquely identifies a director Uniquely identifies a actor 	<ul style="list-style-type: none"> 10 Variable characters 10 Variable characters 10 Variable characters 10 Variable characters 10 Variable characters 	<ul style="list-style-type: none"> No No No No No 	<ul style="list-style-type: none"> No No No No No
Director	director_ID director_Name director_age	<ul style="list-style-type: none"> Uniquely identifies a director Name of the director Age of the director 	<ul style="list-style-type: none"> 10 Variable characters 10 Variable characters 10 Variable characters 	<ul style="list-style-type: none"> No No No 	<ul style="list-style-type: none"> No No No

Genre	genre_ID genre_Type	<ul style="list-style-type: none"> • Uniquely identifies a genre • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters • 10 Variable characters 	<ul style="list-style-type: none"> • No • No 	<ul style="list-style-type: none"> • No • No
Actor	actor_ID actor_Name actor_age	<ul style="list-style-type: none"> • Uniquely identifies a actor • Name of the actor • Age of the actor 	<ul style="list-style-type: none"> • 10 Variable characters • 10 Variable characters • 10 Variable characters 	<ul style="list-style-type: none"> • No • No • No 	<ul style="list-style-type: none"> • No • No • No
Action	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No
Horror	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No
Science Fiction	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No
Adventure	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No
Comedy	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No
Animation	genre_Type	<ul style="list-style-type: none"> • Type of genre 	<ul style="list-style-type: none"> • 10 Variable characters 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • No

6.0 Summary

In conclusion, to ensure a successful database conceptual design, we conducted thorough analyses of data and transaction requirements, considering both current business rules and existing data. This deep understanding of the current system enabled the development of a new, technologically advanced system that simplifies workflows. Furthermore, we updated business rules and the conceptual ERD to guarantee seamless operation of the new system. Finally, we enhanced the ERD, transforming it into a specialized tool for effective database modeling.