

## CS 312 - Project Proposal Template

Follow the instructions provided on right side and replace the grey text with your details.

### Group Details:

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### Project Details:

Title	Online Streaming Platform
Problem Statement	With the rise of streaming services, users are often overwhelmed with content choices and find it difficult to discover high-quality films and TV shows based on their interests. A personalized streaming platform that offers a seamless browsing experience, detailed content information, and user reviews would enhance accessibility and user interaction with visual entertainment.
Project Idea	Develop a streaming service application using the PERN stack (PostgreSQL, Express.js, React, Node.js) where users can browse, search, and stream a variety of movies, TV shows, and documentaries. The platform will focus on user feedback through ratings and reviews, and efficient content discovery based on user preferences.

Project Components	<ul style="list-style-type: none"> <li>● <b>Book Listing and Details:</b> <ul style="list-style-type: none"> <li>○ Display a comprehensive list of movies, TV shows, and documentaries with essential information like titles and genres of media.</li> <li>○ Clicking on a title reveals detailed information, including reviews, ratings, director profiles, and release dates to aid user decision-making.</li> </ul> </li> <li>● <b>Search Functionality:</b> <ul style="list-style-type: none"> <li>○ Implement a robust search feature allowing users to quickly find content by title, genre, or actor.</li> <li>○ Enhance user experience with auto-suggestions and filters, offering advanced options like searching by release year or content type (movie, series, documentary).</li> </ul> </li> <li>● <b>User Reviews and Ratings:</b> <ul style="list-style-type: none"> <li>○ Enable users to submit reviews and rate the content they've watched.</li> <li>○ Display aggregated ratings and popular reviews to foster community engagement and enhance content discovery.</li> </ul> </li> <li>● <b>Sorting and Filtering:</b> <ul style="list-style-type: none"> <li>○ Provide sorting options such as genre, release year, ratings, or content type (e.g., documentaries, TV shows).</li> <li>○ Implement advanced filtering to cater to user preferences (e.g., sort by popularity, trending content, or recommended content).</li> </ul> </li> </ul>
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## Task Planning:

### 1. Phase-1:

Avoid incorporating generic information, as it may result in penalties. List and divide all the tasks related to Phase-1 Deliverables.

Phase-1 Deliverables		List all the components that will be developed by end of Phase-1
Student 1 Tasks	Student 2 Tasks	Student 3 Tasks
Design a database schema for the streaming service application using PostgreSQL.	Create API endpoints using Express.js to retrieve content data from the database.	Implement user authentication using Passport.js
Set up the database on a remote server	Implement API endpoints for searching content by title, genre, or actor.	Set up authorization middleware to restrict access to certain API endpoints.
Populate the database with sample content data (e.g., movies, TV shows, documentaries).	Create API endpoints for user registration, login, and logout.	Implement error handling mechanisms for API endpoints
Plan API endpoints for content retrieval, search, and user authentication.	Implement API middleware for authentication, authorization, and error handling.	Implement API rate limiting to prevent abuse
Implement database security measures (e.g., encryption, access control).	Write unit tests and integration tests for API endpoints using Jest.	Implement API caching to improve performance
Set up database backup and restore procedures	Create API documentation using tools like Swagger	Set up API logging to monitor usage and errors

## 2. Phase-2:

Avoid incorporating generic information, as it may result in penalties. List and divide all the tasks related to Phase-2 Deliverables.

Phase-2 Deliverables	List all the components that will be developed by end of Phase-2	
Student 1 Tasks	Student 2 Tasks	Student 3 Tasks
Create a new React app using create-react-app	Create a review and rating system that allows users to submit reviews and ratings	Create reusable UI components (e.g., cards, buttons, forms).
Set up routing using React Router for navigating between pages	Create a user profile page that displays the user's watchlist and review history	Implement state management using React Context
Create a content listing page that displays a list of movies, TV shows, and documentaries	Implement a watchlist feature that allows users to add and remove content	Integrate the frontend with the backend API
Implement a details page that shows detailed information for a specific title.	Implement accessibility features (e.g., screen reader support, keyboard navigation)	Write unit tests and integration tests for the frontend using Jest
Implement a search bar that allows users to search for content	Ensure the application has a responsive design that works on various devices	Set up deployment scripts for the frontend
Add filtering options for genre, release year, and content type	Implement error handling mechanisms for the frontend	Optimize the frontend for performance (e.g., code splitting, lazy loading)

**Project Mock-Up Screens:**

- Sketch your mock-up screens using pen or pencil on paper. Alternatively, if you prefer digital tools like Figma or draw.io, you may use them.
- Incorporate mock-up screens corresponding to the project components or task list.
- Capture screenshots or pictures of your mock-ups and attach them in this section.

Genre/Media Genre/Media Genre/Media Genre/Media Genre/Media Search Box

Media Options:  
List  
Play  
Review  
Favorite

Title Box:  
Detailed information, including reviews, ratings, director profiles, and release dates.

Genre/Audience

Selected Title Title Title Title Title

Genre/Audience

Title Title Title Title Title

Searched Genre/Media Genre/Media Genre/Media Genre/Media Return Home

Title Title Title Title Title






Title Title Title Title Title

Title Title Title Title Title

Title Title Title Title Title

Genre/Media	Genre/Media	Genre/Media	Genre/Media	Genre/Media	Search Box
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Media Title



Optional review text, up to but not exceeding 100 words.

Submit/Return Home