CLOUD APPLICATION AND DEVELOPMENT(CAD)

PROJECT: Media Streaming
with IBM Cloud Video Streaming

Phase 1: Problem Definition and Design Thinking

Problem Definition:

The project involves creating a virtual cinema platform using IBM Cloud Video Streaming. The objective is to build a platform where users can upload and stream movies and videos on-demand. This project encompasses defining the virtual cinema platform, designing the user interface, integrating IBM Cloud Video Streaming services, enabling on-demand video playback, and ensuring a seamless and immersive cinematic experience.

Understanding Problem:

By understanding the above problem statement, we could propose which way of approach to be done for building a virtual cinema platform using IBM Cloud Video Streaming. Below are the possible approaches which we think for achieving serverless video streaming platform

Proposed Approach:

Virtual cinema Platform

For virtual cinema platform first and foremost we have to define the architecture of the virtual cinema platform. Choose appropriate technologies, frameworks, and databases for both the frontend and backend components. Scalability, performance, and security should be central considerations.

User Interface (UI/UX) Design

For better User Interface(UI/UX)Design in video streaming platform we can Leverage expertise and interest in UI/UX design by create comprehensive wireframes and prototypes. These should reflect an attractive and user-friendly design. Focus on responsiveness to cater to a diverse range of devices and screen sizes.

IBM Cloud Video Streaming Integration

For uninterrupted Cloud streaming integration Configure and integrate IBM Cloud Video Streaming services into the respective platform. This involves setting up accounts, configuring video storage and streaming settings, and ensuring secure access to video content. API integration should enable key functionalities.

On-Demand Video Playback

For on-demand video playback we have to design and implement a user-friendly video playback system that allows users to enjoy content on-demand. Utilize the capabilities of IBM Cloud Video Streaming to ensure smooth and high-quality video streaming.

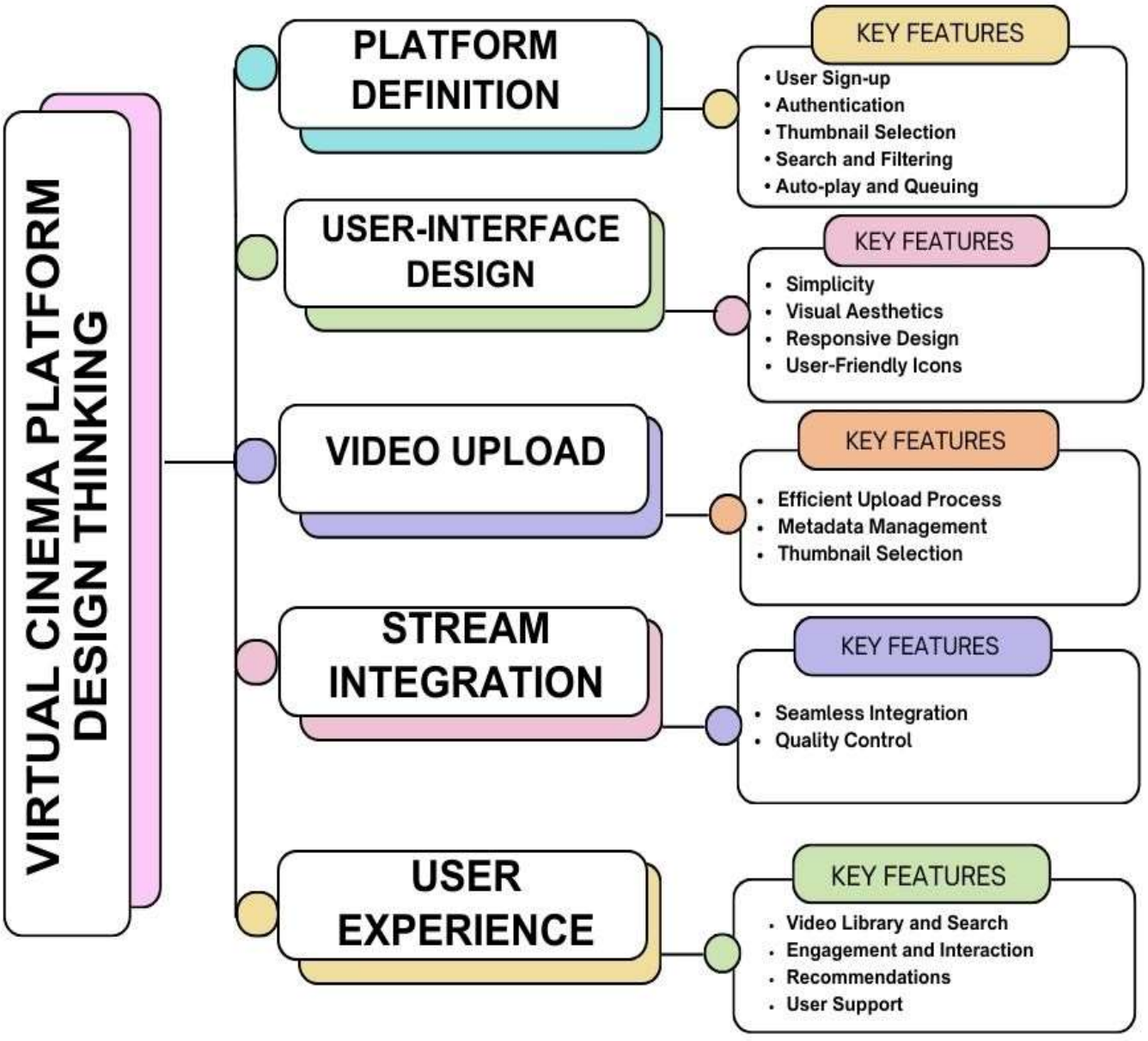
User Support and Feedback

By Establish channels for user support, including FAQs, chat support, and email contact. Encourage user feedback to gather insights and suggestions for continuous improvement.

Design Thinking:

For design of a virtual cinema platform we want to include some features as follows, Before that we ensure the better thinking for design by giving flowchart which shows the outline content.

FlowChart:



1. Platform Definition

Objective: Define the features and functionalities of the virtual cinema platform, ensuring it encompasses user registration, video upload, and on-demand streaming.

Features and Functionalities:

User Registration

- **User Sign-up/login in:** To Allow users to register through their email or google accounts.
- **Profile Management:** By Enable users to edit their profiles, including personal information and profile pictures.
- **Authentication:** To Implement secure authentication mechanisms, including email verification and password reset.

Video Upload

- **Video Upload:** By Enable users to upload video files from local storage and also Collect video metadata like... including title, description, genre, and duration during the upload process.
- **Thumbnails:** Allow users to choose or generate thumbnails for their videos.

On-Demand Streaming

- **Search and Filtering:** Implement a powerful search feature with auto-suggestions and advanced filters.
- **Video Playback and controls:** Ensure high-quality video playback with options for resolution adjustment and Include standard playback controls (play, pause, seek, volume) for user-friendly experience.

2. User Interface Design

Design Thinking: To create an intuitive and user-friendly interface, we must prioritize user-centered design principles.

Key Considerations:
Simplicity

- Ensure to keep the interface clean and uncluttered, prioritizing essential features. Minimize distractions and provide a clear path to content.

Responsive Design

- Ensure the interface adapts seamlessly to various devices, including desktops, tablets, and smartphones. Optimize for both landscape and portrait orientations.
- Giving User friendly icons by intuitive icons and symbols for actions like play, pause, search, and settings.

3. Video Upload

Design Thinking: Streamlining the video upload process while maintaining content quality and metadata accuracy is essential.

Efficient Upload Process:

- Allow users to select and upload video files from their local storage.

Metadata Management:

- Collect video metadata, including title, description, genre, and duration, during the upload process.
- Enable edit option for users to enhance the content if needed.
- Also include list of videos box to overview or crosscheck the content while uploading.

4. Streaming Integration

Design Thinking: Integrating IBM Cloud Video Streaming services for smooth video playback and streaming is critical.

Seamless Integration:

- Configure IBM Cloud Video Streaming services for reliable video storage, encoding, and streaming.
- Implement a video player that seamlessly integrates with IBM Cloud services for high-quality playback.

Quality Control:

- Provide users with options to adjust video quality settings to accommodate different network speeds and preferences.
- Ensure adaptive streaming to deliver the best quality based on users' internet connections.

5. User Experience

Design Thinking: Creating a seamless and immersive movie-watching experience is the ultimate goal.

Engagement and Interaction:

- Enable social features such as likes, comments, and sharing to foster community engagement.
- Implement user ratings and reviews to help users make informed choices.

Recommendations:

- Suggest related videos based on user history and preferences, encouraging further engagement.
- Display related videos alongside the video player. Categories the videos.
- Consider implementing a "Continue Watching" feature.
- Include social features like (share,comment) make users informed choices if possible.
- Give system assistance by feedback ,Q & A and other supports.

By adhering to these design principles and considerations, we can create a virtual cinema platform that not only meets functional requirements but also provides a delightful and immersive movie-watching experience for users.