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.

Design Thinking:

1.Platform Definition:

- Defining the features and functionalities of the virtual cinema platform, including user registration, video upload, and on-demand streaming.
- Virtual cinema platform makes a way for the users engage with movies and videos in the digital era.
- Providing user registration, search options, recommendations, upload contents, licensing contents, live streaming events, offline viewing videos, high video and audio quality, user support, security, updates and maintenance, video playback, subtitles and caption support, experiencing virtual reality for selective contents and showing latest releases and trending contents.
- These features provide virtual cinema platform with immersive movie watching experience.
- User Registration:

  User registration allowing users building profiles to get benefits enhanced cinematic experience, recommendations based on the content preferences.

  On registering unlocking features like personalized recommendations, to save favourite list of movies, seamless playback and allowing uploads.
- Video Upload:

  Providing a useful platform for the filmmakers and content creators to upload the videos to share their cinematic videos to the world.

  Providing a user friendly which allows uploading videos in various formats accepting various contents. Checks the copyright contents and ensures safe and enjoyable platform.

- On demand Steaming

  On demand streaming provide an immersive and flexible movie watching experience.

  Based on their preferences and recommendations users can explore various contents with high video quality and playback.

2.User Interface Design:

- Designing an intuitive and user-friendly interface that allows users to navigate, search, and watch videos effortlessly.
- By providing options for navigation of contents for the ease of users.
- The navigation bar at the top of the screen having icons home, explore, library, profile and search options.
- Seach bar will contain the auto suggestion as user type making it easier to find the content.
- Also, the trending videos, recommended videos and personalized contents will be available on the home screen.
- Separate video playing page for videos with a brief description about the video and also user reviews and ratings about the video.
- Watchlists and library are displayed as personalized content for users.
- User profiles provide options to create favourite contents and playlists.
- Playback controls including play/pause, skip forward/backward, volume adjustment, full screen mode etc. for user's ease.
- Feedbacks are collected from the users to improve the user's experience.

3.Video Upload:

- Enable users to upload movies and videos to the platform.
- Registered users can upload the videos and track the status of videos in the profile section.
- For uploading, the description about the video like video title, thumbnail image, tags should be given. The video uploaded must be given with specific size limits and formats with privacy settings
- Approval of uploaded videos should be given by the admin by checking for copyrights and inappropriate contents.
- Reliable and scalable cloud storage services are used to store the video contents ensuring data backups to prevent from data loss.
- Notifications must be sent to users informing the status of uploaded videos and also if any issues.

4.Streaming Integration:

- Integrate IBM Cloud Video Streaming services to enable smooth video playback and streaming
- Create an account in IBM Cloud Video Streaming and set up account settings
- Obtain API keys for authentication for safe and secure content streaming, use it to create channels, uploading videos and managing live streams.
- Choose a compatible video player for IBM Cloud Video Streaming
- Provides adaptive streaming by automatically adjusting the quality of video based on the viewer's internet connection, ensuring smooth viewing experience.
- Implementing real time analytics for tracking video performance, viewership to gain insights and improve user experience.

5.User Experience:

- Focussing on providing a seamless and immersive movie-watching experience with high-quality video playback.
- Providing the videos with high audio and video quality and adaptive streaming to prevent buffering.
- Providing user friendly video player with play/pause, skip forward/backward, volume adjustment, full screen mode options with smooth and uninterrupted playback providing immersive experience.
- Providing a platform accessible to wide range of devices and supports with subtitles and captions for better user experience.
- Providing navigation and search tools for user's ease, offline viewing and feedback mechanism to improve the platform.
- Regular updates and maintenance are done to provide seamless and immersive experience for the user.