MEDIA STREAMING WITH IBM CLOUD VIDEO STREAMING

PHASE-4: DEVELOPMENT PART-2

INTRODUCTION:

In an age of digital entertainment, the concept of the cinema experience is evolving, and IBM Cloud Video Streaming is at the forefront of this transformation. Building a virtual cinema platform powered by IBM Cloud Video Streaming and enabling on-demand playback opens up a world of possibilities. With this technology, we can create a dynamic platform that allows users to enjoy their favorite movies, documentaries, and exclusive content on their terms, anytime and anywhere.

This introduction will explore the seamless integration of IBM's robust streaming services and the power of on-demand playback to redefine how audiences engage with cinematic content, offering a personalized, flexible, and engaging entertainment experience like never before.

Program for Implementing the functionality for users to upload their movies and videos to the platform.

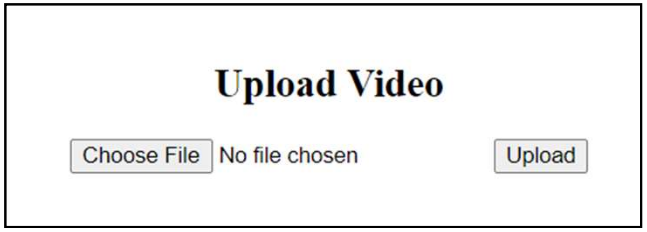
```
pip install Flask
from flask import Flask, request, render_template
import os
app = Flask(__name)
UPLOAD_FOLDER = 'uploads'  # Directory where uploaded files will be stored
ALLOWED_EXTENSIONS = {'mp4', 'avi', 'mkv'}  # Set allowed file extensions
app.config['UPLOAD_FOLDER'] = UPLOAD_FOLDER
def allowed_file(filename):
    return '.' in filename and filename.rsplit('.', 1)[1].lower() in ALLOWED_EXTENSIONS
@app.route('/', methods=['GET', 'POST'])
def upload_file():
    if request.method == 'POST':
        # Check if the post request has the file part
        if 'file' not in request.files:
            return "No file part"
        file = request.files['file']
        # If user does not select a file, the browser also submits an empty file without a filename.
        if file.filename == '':
            return "No selected file"
```

```
 if file and allowed_file(file.filename):
        filename = file.filename
        file.save(os.path.join(app.config['UPLOAD_FOLDER'], filename))
        return "File uploaded successfully.“
  return render_template('upload.html’)
if __name__ == '__main__':
  app.run(debug=True)
```

upload.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Video Upload</title>
</head>
<body><center>
  <h2>Upload Video</h2>
  <form method="POST" enctype="multipart/form-data">
    <input type="file" name="file" accept=".mp4, .avi, .mkv">
    <input type="submit" value="Upload">
  </form></center>
</body>
</html>
```

Output:



Upload Video

Integrating IBM Cloud Video Streaming services to enable smooth and high-quality video playback and enabling on-demand playback.

- **Set Up IBM Cloud Video Streaming:** Provision IBM Cloud Video Streaming services (e.g., IBM Watson Media) via IBM Cloud and obtain API credentials.
- **Ingest Video Content:** Use IBM Cloud Video Streaming to ingest and securely store video content in the cloud.
- **Content Categorization:** Organize and categorize videos within the platform for easy access.

- **Transcoding:** Configure video transcoding settings to ensure compatibility with various devices and network conditions.
- **On-Demand Playback:** Implement on-demand playback feature in your cloud-based platform.
- **Content Delivery:** Utilize IBM Cloud Video Streaming's Content Delivery Network (CDN) for efficient, low-latency video delivery.
- **Adaptive Bitrate Streaming:** Enable adaptive bitrate streaming to adapt video quality based on users' network conditions.
- **User Interface Integration:** Create a user-friendly interface that integrates with IBM Cloud Video Streaming services for a seamless user experience.
- **User Authentication and Security:** Implement user authentication to control access to content and ensure security.
- **Monitoring and Optimization:** Monitor platform performance with IBM Cloud Video Streaming analytics, and optimize resources and configurations as needed for scalability and quality.

Conclusion:

In conclusion, the development of a virtual cinema platform using IBM Cloud Video Streaming, complete with on-demand playback capabilities, holds immense promise for the future of cinematic entertainment. By harnessing IBM's powerful video streaming services, content creators can securely upload and manage their films, while audiences gain the freedom to choose when and where to enjoy their favorite content. The seamless integration of on-demand playback not only redefines the cinema-going experience but also empowers users with personalized control over their viewing preferences.

This virtual cinema platform not only showcases the potential of cloud-based technology but also reflects the dynamic shift in the way we consume and distribute content. With high-quality video playback, efficient content delivery, and user-friendly interfaces, this platform opens new avenues for cinematic storytelling and marks a significant leap in modern entertainment. The future of cinema is now, and it's defined by the marriage of technology, convenience, and the captivating magic of motion pictures.