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ONLINE VIDEO STREAMING

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Abstract—
The Online Video Streaming is a web-based platform designed to facilitate the seamless streaming, uploading, and management of video content over the internet. Developed using HTML, CSS, JavaScript, PHP, and MySQL, this application allows users to register, log in, browse videos, perform keyword-based searches, and stream content in real time. The system also includes an admin panel for managing users and uploaded videos, ensuring smooth and secure operation .The core objective of this project is to provide an interactive and user-friendly interface for video consumption without the need for downloads. Users can upload their videos, which are stored in a backend database and served dynamically upon request. The application also incorporates basic security features such as user authentication and input validation. This project showcases the integration of front-end and back-end technologies to build a scalable and responsive video platform, offering a foundation that can be extended with advanced features like recommendation systems, live streaming, or subscription models in the future.

Keywords:
HTML, CSS, Javascript, PHP, MySQL

1. INTRODUCTION

The digital age has transformed how people consume video content. Online video streaming platforms have become the go-to medium for entertainment, education, and communication. With the rapid advancement of internet infrastructure and mobile technology, users now expect on-demand access to high-quality video content from anywhere at any time. An online video streaming application serves as a centralized platform where users can watch, upload, share, and interact with videos, making it an essential tool in modern digital ecosystems. This project aims to design and develop a robust, scalable, and user-friendly video streaming application that allows users to register, upload content, stream videos seamlessly, engage with content through likes, comments, and subscriptions, and manage personalized watch histories and playlists.

2. LITERATURE REVIEW

A literature review is an essential part of any software development project as it provides an understanding of existing technologies, platforms, and research studies related to the subject. In the case of online video streaming, multiple tools, systems, and frameworks have been explored and developed to meet user demands. This section reviews various studies, technologies, and systems relevant to the development of this project.
Existing Streaming Platforms YouTube ,the most widely used platform, YouTube allows users to upload, stream, and monetize videos. However, it enforces strict content policies and does not offer full control to individual users or organizations. Vimeo focuses on high-quality video content and creative professionals but comes with subscription costs and limited free features. Dailymotion This platform provides similar features to YouTube but lacks popularity and community engagement tools. While these platforms offer robust streaming services, they do not allow customization or local deployment—key needs for educational institutions, businesses, or small content creators.
Evolution of Video Streaming Initially, video distribution was based on downloading the entire file before playback. With the advancement of network technologies, streaming emerged, allowing users to play videos in real-time as data is transmitted. Platforms such as YouTube (2005) and Netflix (2007)

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transformed this approach using progressive download and adaptive streaming technologies. Researchers have studied methods like progressive streaming, buffering control, and compression algorithms to enhance playback quality under variable network conditions. These studies lay the foundation for building user-centered, performance-efficient streaming platforms.

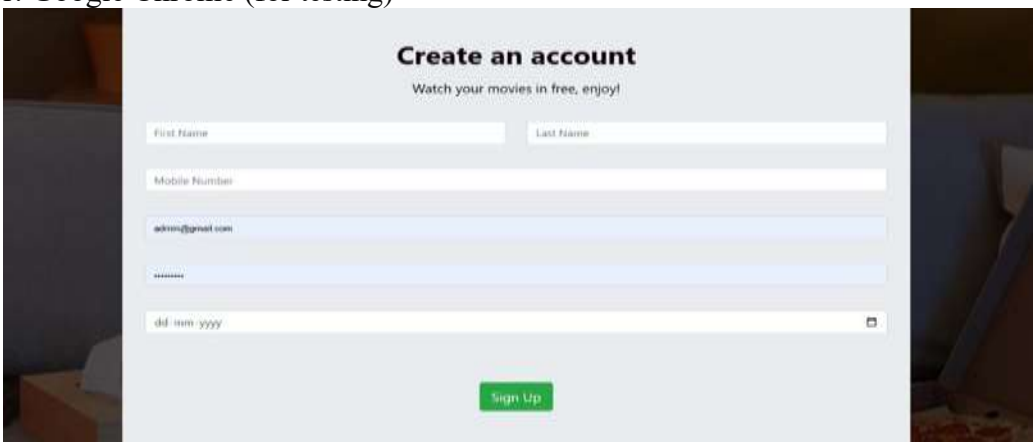
3. SYSTEM DESIGN

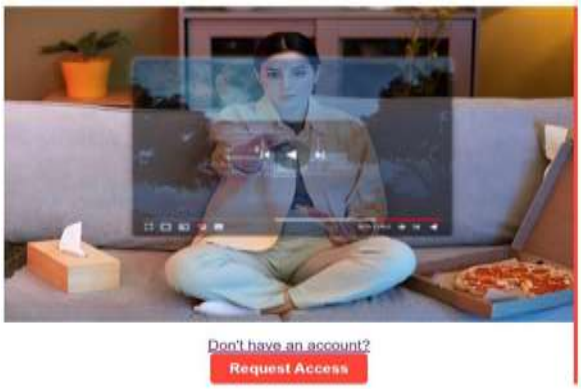
The Online Video Streaming Application is designed using a client-server architecture. The front end is built with HTML, CSS, and JavaScript for a responsive user interface. The back end uses PHP to handle server-side logic, and MySQL for storing user data, video metadata, and access logs. Users can register, log in, upload videos, and stream content via the browser. The system includes an admin panel for managing content and users. Video files are stored on the server and accessed via secure streaming links. Input validation and session management ensure security, while search functionality enhances content accessibility.

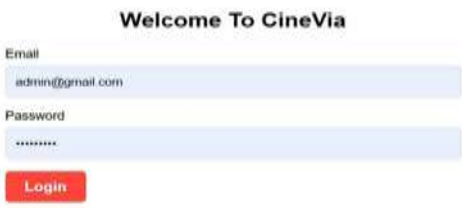
4. IMPLEMENTATION

The implementation phase is where the system design is transformed into a working solution. It involves writing the actual code, integrating components, and deploying the system for testing and real-world use. The project was implemented using a full stack of web development technologies: HTML, CSS, JavaScript (frontend), PHP (server-side), and MySQL (database).

- Development Tools:
  - o Code Editor: Visual Studio Code
  - o Web Server: XAMPP (Apache, MySQL, PHP stack)
  - o Browser: Google Chrome (for testing)







5. RESULTS

The Online Video Streaming Application was successfully developed and tested with all core functionalities working as intended. Users were able to register, log in, upload videos, and stream content without downloading. The application efficiently handled video uploads and playback using the HTML5 <video>tag. Search functionality allowed users to quickly locate specific videos based on

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keywords. The admin panel enabled administrators to manage users and video content effectively. Testing confirmed the system's responsiveness across different devices and browsers. Overall, the project achieved its goal of creating a functional and user-friendly platform for online video streaming.

6. CONCLUSION

The Online Video Streaming Application is a significant step toward understanding and implementing a full-stack web-based platform for multimedia content sharing. This system is designed to meet the growing demand for online video content, allowing users to upload, search, and stream videos efficiently. The development process focused on building a secure, user-friendly, and role-based environment that caters to both general users and administrators. The application was built using open-source and widely adopted technologies including HTML, CSS, JavaScript, PHP, and MySQL. The frontend ensures responsive design and ease of navigation, while the backend handles data processing, file management, and access control. The MySQL database supports efficient storage and retrieval of structured data such as user profiles, video metadata, and session information.

7. ACKNOWLEDGEMENT

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