

FlexStream - Video Streaming Website

1. Project Overview

Project Name: FlexStream

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FlexStream is a Netflix-like video streaming platform with enhanced restrictions.

Key Features:

- Secure Login System
- Stream Video Content
- Restriction: Only first IP and User-Agent can be used during streaming
- Daily Watch Limit: Max 3 hours per user

2. System Architecture

Architecture Overview:

- Frontend: HTML/CSS/JavaScript (React optional)
- Backend: Django (Python)
- Database: PostgreSQL or MongoDB
- Video Storage: Local or AWS S3

Flow:

User -> Frontend -> Backend API (Auth, Video, Session) -> DB + Video Storage

3. Security & Restrictions

1. IP & User-Agent Lock:

- On first login, user's IP and User-Agent are saved

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- On every stream request, current IP/UA is compared to saved
- If mismatch: block access

2. 3-Hour Watch Limit:

- Track start and end of each video watch session
- Sum total daily duration per user
- If exceeds 3 hours: block further streams for the day

4. Database Design

Tables:

- User: id, username, password, ip_address, user_agent
- Video: id, title, file_path
- StreamingSession: id, user_id, video_id, start_time, end_time

5. Application Flow

1. User logs in -> IP/UA stored
2. Requests video -> Check IP/UA validity
3. Start streaming -> Record start_time
4. Stop streaming -> Record end_time
5. Backend calculates total watch time
6. If > 3 hrs -> block further streams

6. Project Roadmap

Phase 1:

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- User Registration/Login
- Video Upload/Stream

Phase 2:

- Implement IP/User-Agent Lock
- Track Watch Duration

Phase 3:

- Admin Panel
- UI/UX Enhancements
- Hosting & Deployment

7. Future Scope

- Payment Integration
- Multi-resolution support (360p, 720p, 1080p)
- Recommendation system
- Profile system (Kids/Adults)
- Subtitles support