



MultiView Web Video Player

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Motivation

- **Goal: Enable to watch movies in multiple modes (cartoon, sketch or 3D), user can switch to any mode at run time**
 - Cool features to engage HULU users
 - Good opportunity to explore HULU software stack

Technique Solutions

- Hack web browser decoder to implement multiple view modes
 - Huge code base for open source web browsers
 - Frontend real time video processing seems slow
 - Most commercial browsers are not open source
 - Open source implementation is not easy to adopt by commercial browsers
- **Preprocessing videos in different views and switching online**
 - Relatively easy to ship to production

What We Did?

- Write a tool to convert videos to multiple modes using OpenCV
- Created a backend service to convert and publish videos
- Created a website to demo the service

Prototype Demo

Demo videos with different modes

<http://localhost.hulu.com:5000/>

Demo publish a new video

http://localhost.hulu.com:5000/publish_video?videoname=dizzy.mp4

<http://localhost.hulu.com:5000/>

Demo convert a new video

http://localhost.hulu.com:5000/convert_video?videoname=popcorn.mp4&frames=1000

http://localhost.hulu.com:5000/publish_video?videoname=popcorn.mp4

<http://localhost.hulu.com:5000/>