USTH MM2.1
Soft. Eng. for Interactive Media

Reading Assignment #1 – Dynamic/Smart Timeline

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What is it about ?

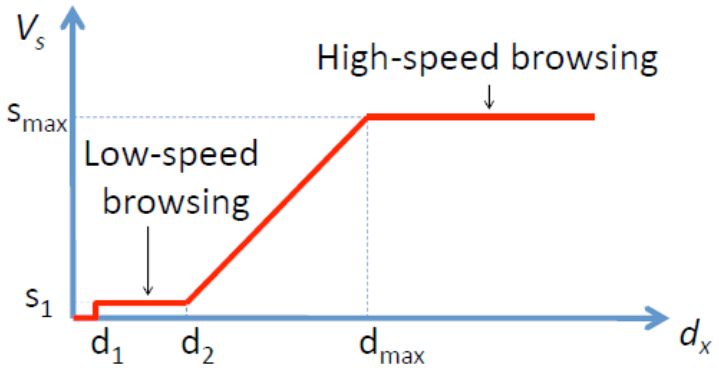
Efficiency of the timeline in a video

Current timeline :

- Lack accuracy
- Visual problem at high speed
- No information

Elastic timeline :

- More accurate
- Same visual problem
- Still no information



Example

- No information on the content
- Fast skimming is unclear
- Hard to select one frame

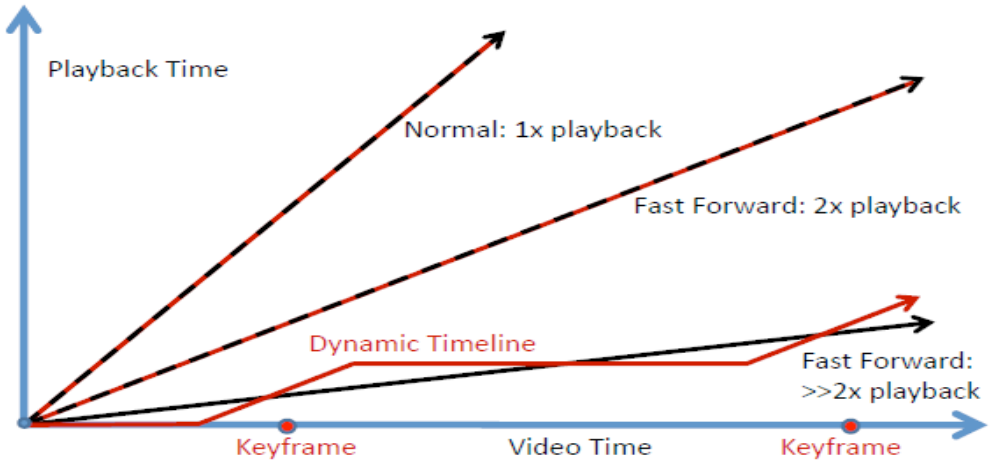
How does the solution work ?

- 2 method that can be combined:
  - Dynamic timeline
  - Likelines

Dynamic Timeline

- At slow speed skimming :
  - Better accuracy to select a frame

- At high speed skimming
  - A scene instead of random frames (by decoupling video and playback speed)



Likeline

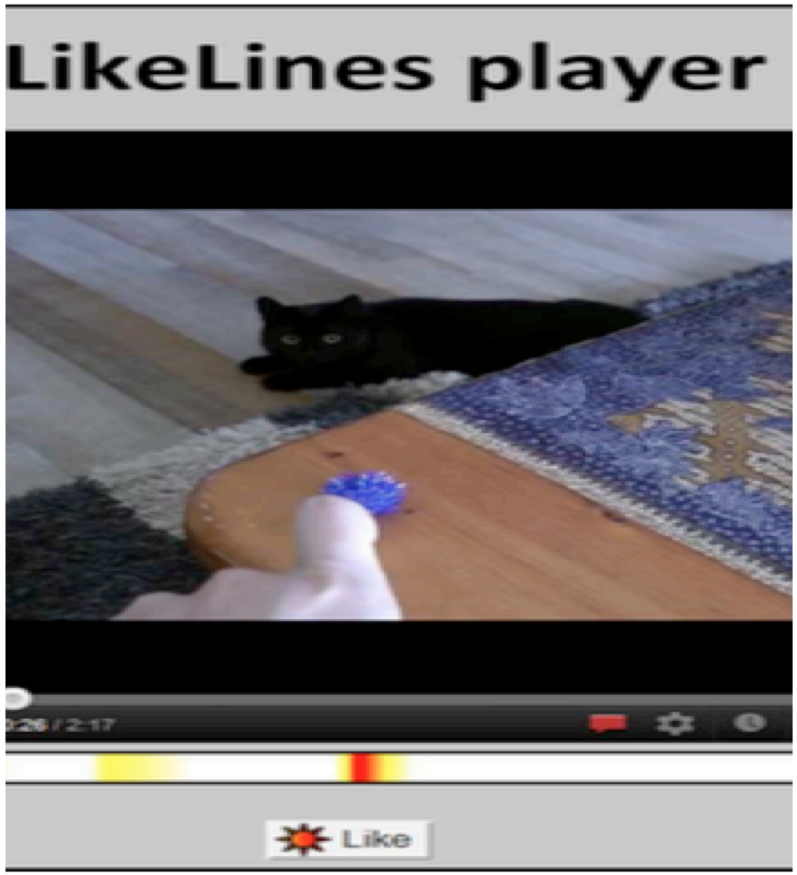
Overview

- Heat map of interesting regions for the videos.
- Its combination of content analysis and both explicit and implicit user interactions.
- Collect large amounts of interaction data for feedback

Likeline

User Interface

- Similar of any other Web video player with a heat map and a time sensitive “like” button.
- The heat map is an aggregation of all interactions performed and shows points possibly interesting.
- The “like” button offers users the option to explicitly like particular points in the video they are watching



Likeline

Technical

- Web video player and a server component
- The player component communicates with the server can make requests:

  a) Create a new interaction session;

  b) Add new interactions to an existing session

  c) Aggregate content analysis and all sessions for a particular video to compute a heat map.

- The messages are encoded in the JSON or JSONP
- The heat map is computed by representing an interaction session for an n seconds video as n bins

How does it relate to MM2.1 ?

- Improve the user experience by :
  - Helping skim through video at high speed
  - Show point of interest
  - Select a particular frame