Animation Movie Trailer Computation

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browsing through the significant video
⇒ efficient content abstract

1. Segmentation

2. Inter-shot analysis

⇒Action shot computation
⇒Shot activity analysis

3. Intra-shot analysis

⇒Shot activity analysis

4. Trailer computation

5. Experimental results

Evaluation involving 27 animation artists and ordinary people.
User study conducted on 10 short animation movies.

Video transition detection: cuts, fades, dissolves, short color changes (SCC).

1. Thresholding: T window frames = action segments if $\xi>T$.  
2. Merging: neighbor action segments (distance < T) are merged together.
3. Clearing: insignificant action segments (length < T) are being erased.
4. Removing: all the action segments containing only one movie shot are being removed (false action segments).

1. Segmentation

Video shot

2. Inter-shot analysis

⇒Action shot computation

3. Intra-shot analysis

⇒Shot activity analysis

4. Trailer computation

Cumulative inter-frame distance histogram patterns:

Type 1: very few color changes.
Type 2: predominant color similarity and several color changes.
Type 3: several similar color groups of frames.
Type 4: high amounts of color changes.

Choice of p parameter:
- histogram types 1 & 2: p=15\% (similar color content)
- histogram types 3 & 4: p=35\% (high action content)

Question A: "Do you think that the proposed trailer contains the movie most important parts?"

Score: X-don't know, 1,2-not at all, 3,4-very few, 5,6-some, 7,8-almost all, 9,10-all of them.

Question B: "How do you find the length of the proposed trailer?"

Score: 0-very short, 1-short, 2-appropriate, 3-long, 4-very long.

global mean score 2.6 (appropriate/long) with a standard deviation of 0.6