A VIZ OF ICE AND FIRE
Summarizing Entertainment Video Using Color and Dialogue

Fred Hohman, Sandeep Soni, Ian Stewart, John Stasko
2nd Workshop on Visualization for the Digital Humanities
Phoenix, Arizona, United States
Game of Thrones is famous for its colorful **cinematography** and memorable **dialogue**.
cinematography ≈ color

dialogue ≈ subtitles
Video
When you play the Game of Thrones, you win or you die.
When you play the Game of Thrones, you win or you die.

Subtitles

60 frames
When you play the Game of Thrones, you win or you die.

Subtitles
When you play the Game of Thrones, you win or you die.

Subtitle
When you play the Game of Thrones, you win or you die.

Subtitles

Video

Data

When you **play** the Game of Thrones, you **win** or you **die**.
When you play the Game of Thrones, you win or you die.
Season 1
First aired: April 17, 2011
Last aired: June 19, 2011
Average U.S. viewers: 2.52 million

S1E9: "Baelor"
Directed by: Alan Taylor
Written by: David Benioff & D. B. Weiss
Original Air Date: June 12, 2011
U.S. viewers: 2.66 million
Runtime: 56 minutes

Frames

Dialogue
I am Eddard Stark,
Lord of Winterfell
and Hand of the King.
I come before you to confess my treason
in the sight of Gods and men.
I betrayed the faith of my King
and the trust of my friend Robert.
I swore to protect and defend his children,
but before his blood was cold
I plotted to murder his son...
And seize the Throne for myself.
Traitor!
Let the high Septon
and Baelor the blessed bear witness to
what I say:

Top words in S1E9
sword 13
honor 9
drink 9
khaleesi 8
must 8
hand 7
half 7
fine 7
stop 7
years 6
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Top words in S1E9
- sword: 13
- honor: 9
- drink: 9
- khaleesi: 8
- must: 8
- hand: 7
- half: 7
- fine: 7
- stop: 7
- years: 6
Color Slice Plot

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Dialogues

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S1E1: "Winter Is Coming"

Directed by: Tim Van Patten
Written by: David Benioff & D. B. Weiss
Original Air Date: April 17, 2011
U.S. viewers: 2.22 million
Runtime: 61 minutes

Frames

Dialogue

Top words in S1E1

sword 13
honor 9
drink 9
khaleesi 8
must 8
hand 7
half 7
fine 7
stop 7
years 6
Automatic data creation → no manual annotation

First step for quick video analysis

Find interesting video segments to do further high resolution inspection
Jointly explore video with color + text analysis

**MovieBarCode**
*Digital Humanities 2016*

**Companion Apps for Long Arc TV Series**
*TVX 2014*

**sViSIT**
*TVCG 2013*

**ColourVis**
*Computers & Graphics 2010*

**The Video Explorer**
*MMSys 2010*
Future Work

Exploratory system evaluation
Wider range of entertainment media

- Harry Potter
- Star Wars
- Batman movies
- *Suggestions welcome!*
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Dialogue
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Top words in S1E9
sword: 13
honor: 9
drink: 9
killed: 8
must: 8
hand: 7
half: 7
fine: 7
stop: 7
years: 6

We thank the members of the GT Visualization Lab and the anonymous reviewers for their constructive feedback.