Tweet-to-Scene Generation: WordsEye with Twitter

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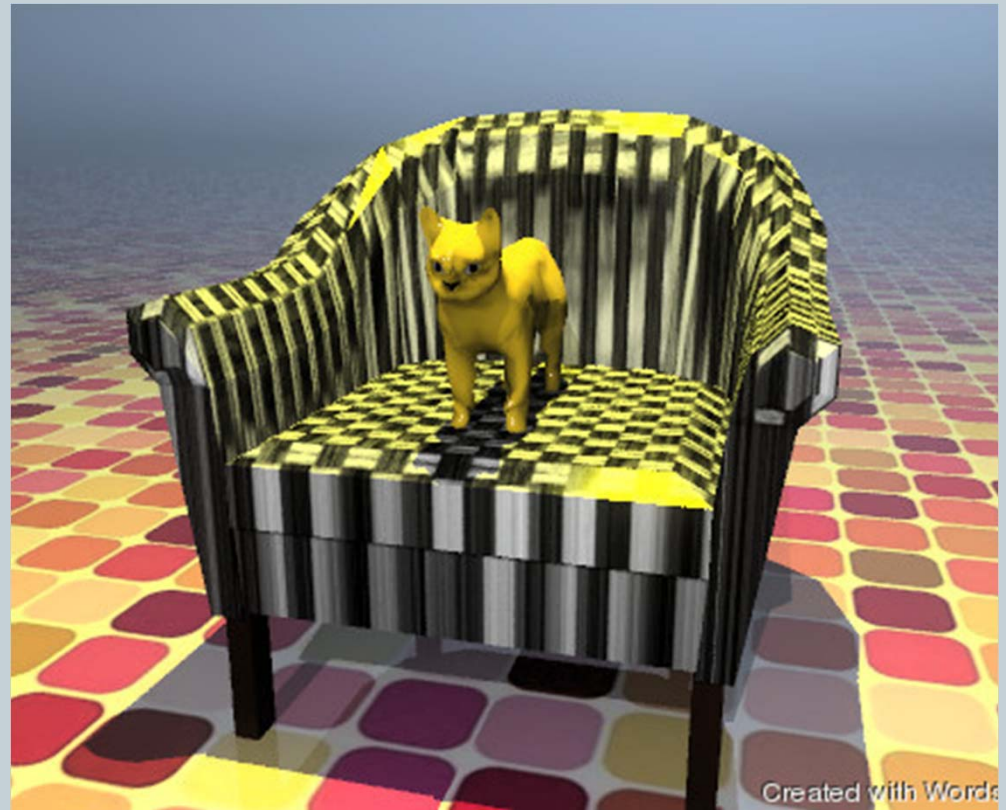DISTRIBUTED REU

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Outline

- Introduction
- Background
- Method
- Results
- Future work

WordsEye

- Text-to-Scene Generation

Text: the orange cat is on the chair. the chair is white. the ground has a design texture. the ground is shiny. the huge yellow illuminator is 7 feet above the cat.

Importance of Twitter

- Over 100 million users
- Instantaneous communication
- Increasing popularity of social media
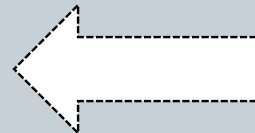- Openly expressed opinions

Twitter's Language

- 140 characters limit
- Twitter lingo
  - Hashtags (i.e. #justinbieber)
  - Usernames (i.e. @msmith)
- Internet lingo
  - Acronyms (i.e. lol, omg)
  - Emoticons (i.e. :D)
- Misspellings
- Slang and swearing

My Project

Tweet: "Yay!"

Output: "The person is happy."

WordsEye®

Getting Tweets

- Random
- Filtered for a keyword
- Photo

RT @obeyc0dy: Nap time! /
Monday, July 30, 2012 3:17 PM

Normalizing Tweets

- Replace emoticons with emotions
- Replace acronyms with words
- Extract hashtags and @usernames
- Replace words with repeated letters (i.e. woooooooooow)

Filtering Tweets

- Verbs
- Emotions

Like/Love   Hate

Extracting Topics

Tweet: "I love my white dog."
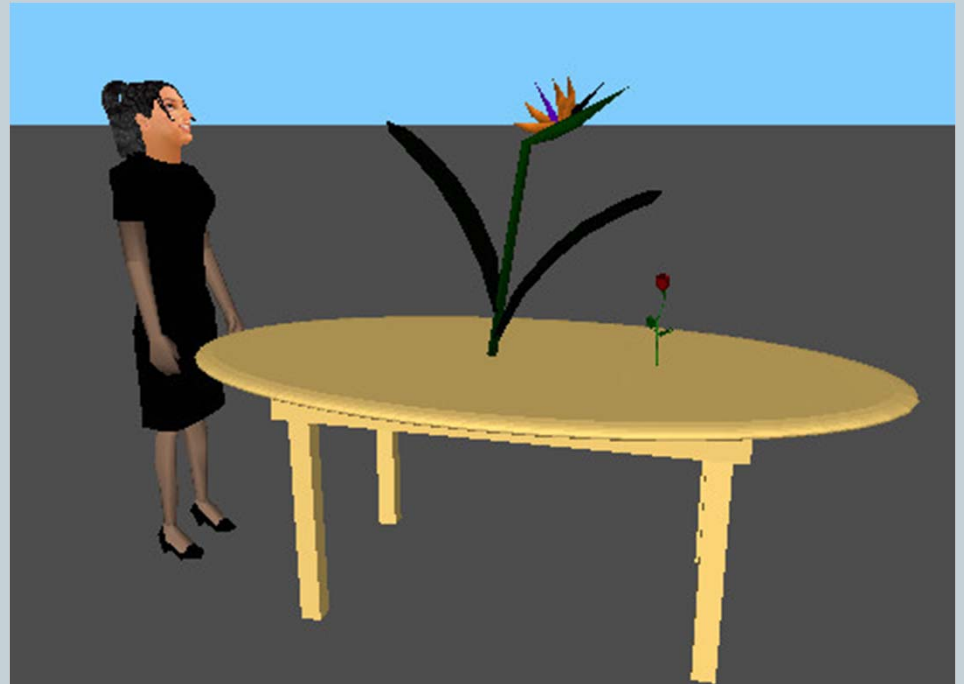
Subject   Verb   Object   Object
                   attribute

FaceGen

Active vs. Passive Verbs

- **Active**
  - "The woman **likes** the flowers."
  - Subject -> Verb -> Object
- **Passive**
  - "The flowers **are liked** by the woman."
  - Object -> Verb -> Subject

Direct vs. Implied Emotions

- **Direct Emotion**
  - "I am so **happy**."
  - "He is **bored**."
- **Implied Emotion**
  - "This movie is **dull**."
  - "The view is **beautiful**!"

Emotional Verbs
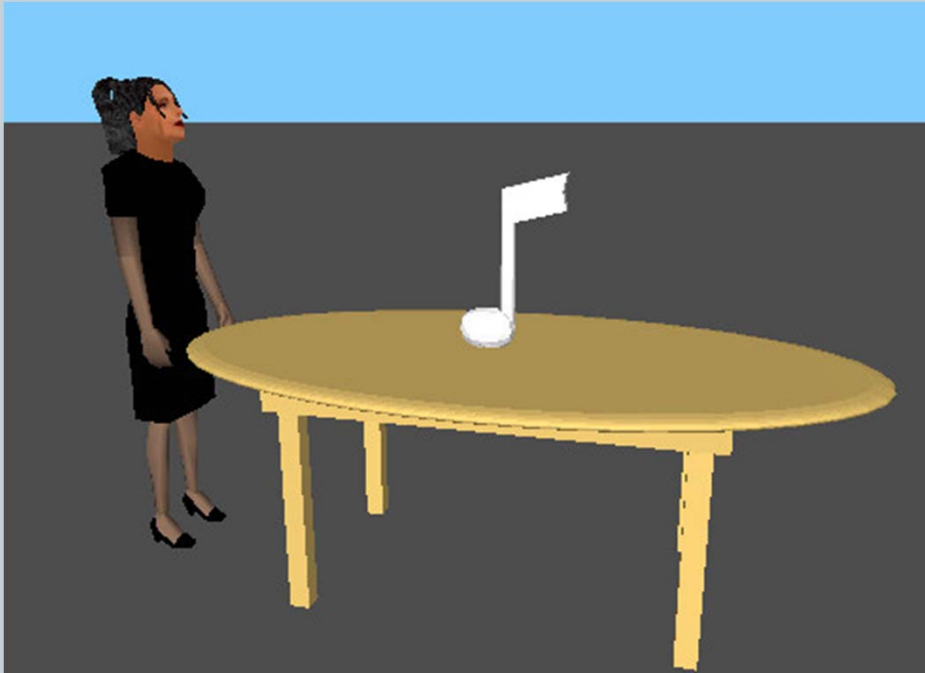
- ## Active
  - "She **loves** music."
  - Subject -> Verb -> Object
- ## Passive
  - "That sound **annoys** me."
  - Object -> Verb -> Subject

Text Generation

- Verbs: "The [subject attribute] [subject] [verb] the [object attribute] [object]."

- Emotions: "The [subject attribute] [subject] is [emotion] [preposition] the [object attribute] [object]."

- Photos: "There is a small [photo filename] billboard."

Example Tweet

Dorian Rijsselberghe @dorsports
It's a nice chill afternoon. #Happy with the races today.
#olympics2012 #olympics #londe @ Sandsfoot Castle
instagr.am/p/NwPsV6Khxv/
📍 🖼 View photo   ← Reply   ⇄ Retweet   ★ Favorite

- Normalized: "It's a nice chill afternoon. Happy with the races today."

- Emotion words: "nice", "happy"

- Output: "The person is happy about the chill afternoon."

Results

"The woman hates the platypus."

Results

"The girl is excited about Justin Bieber."
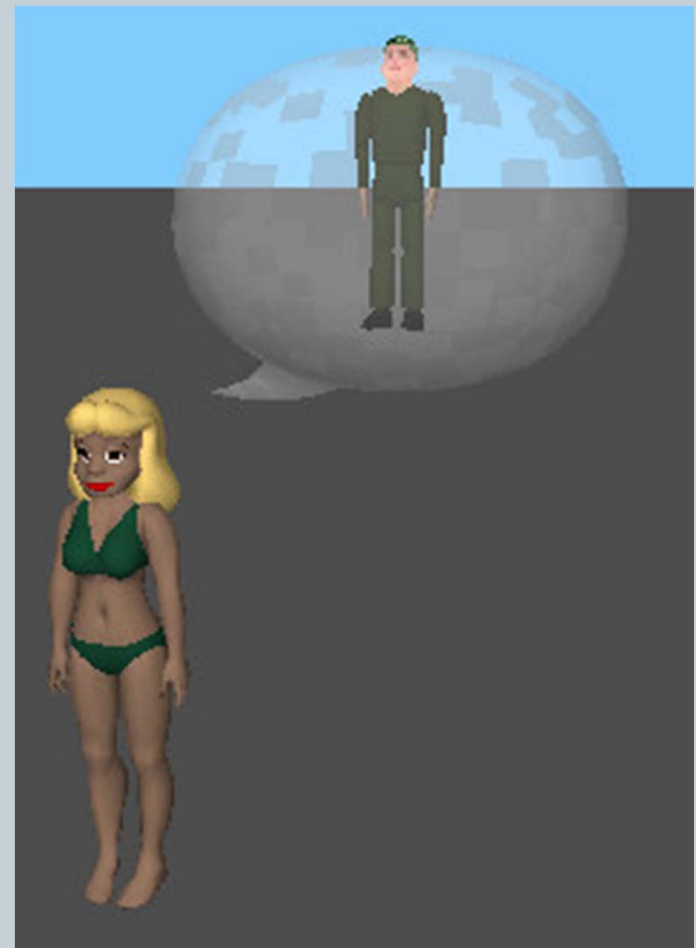
Results

"There is a small [pic/1.jpg] billboard."
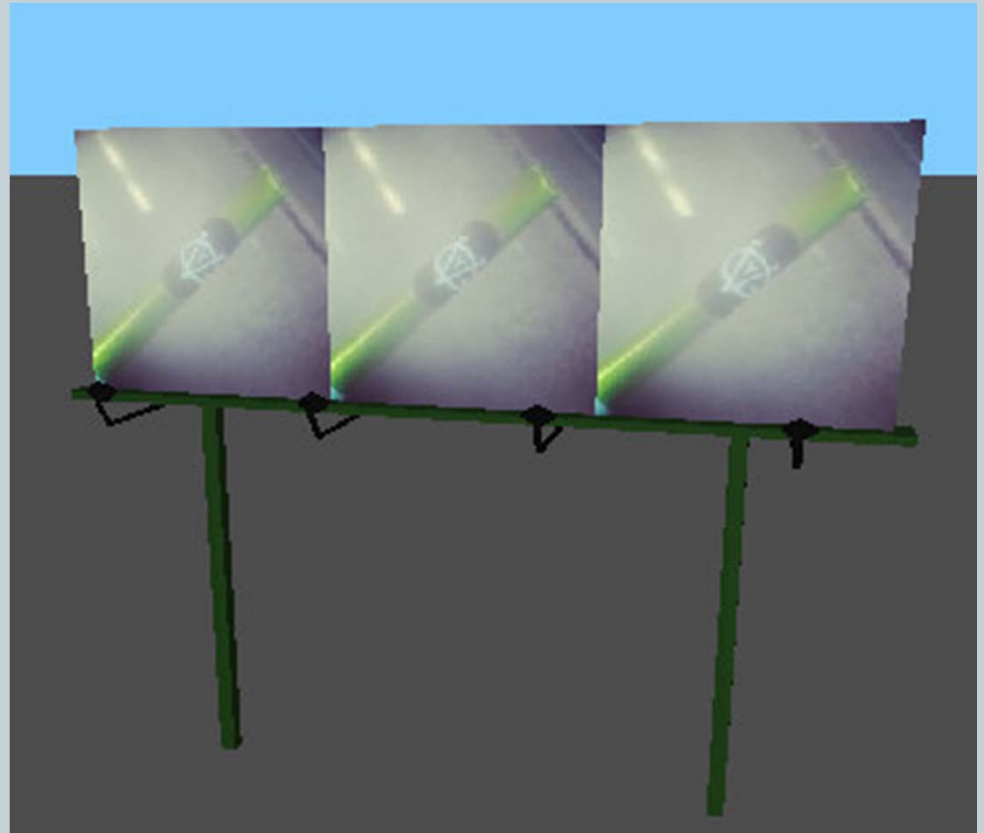
Results

"Barack Obama is angry at the Republican elephant."

Twitpic

We took this tweet:
"Avoiding distractions at my home office this am."

👁 0   1 day ago

We turned it into this:
"The woman is anxious about the distractions."

Then we created a 3D scene, shown in this picture.

Try Wordseye out for yourself! **http://bit.ly/wordseye** — with (**Add/edit faces**)

- **Uploading WordsEye images**
- **Traffic analysis**

Twitpic

Tweeting Back
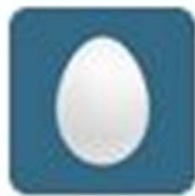
WordsEye @WordsEye2
twitpic.com/adhzck #WordsEye @jsmith
View photo

Future Work

- Include locations
- Add other WordsEye verbs
- Improve the topic extraction

Questions?

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