ePETaLS

Online Annotation Tool for Emotional Text Labeling

Ekaterina Volkova   TaCoS22 Trier   3.6.2012

MAX-PLANCK-GESELLSCHAFT

Human Perception, Cognition and Action
Max Planck Institute for Biological Cybernetics

Part I:
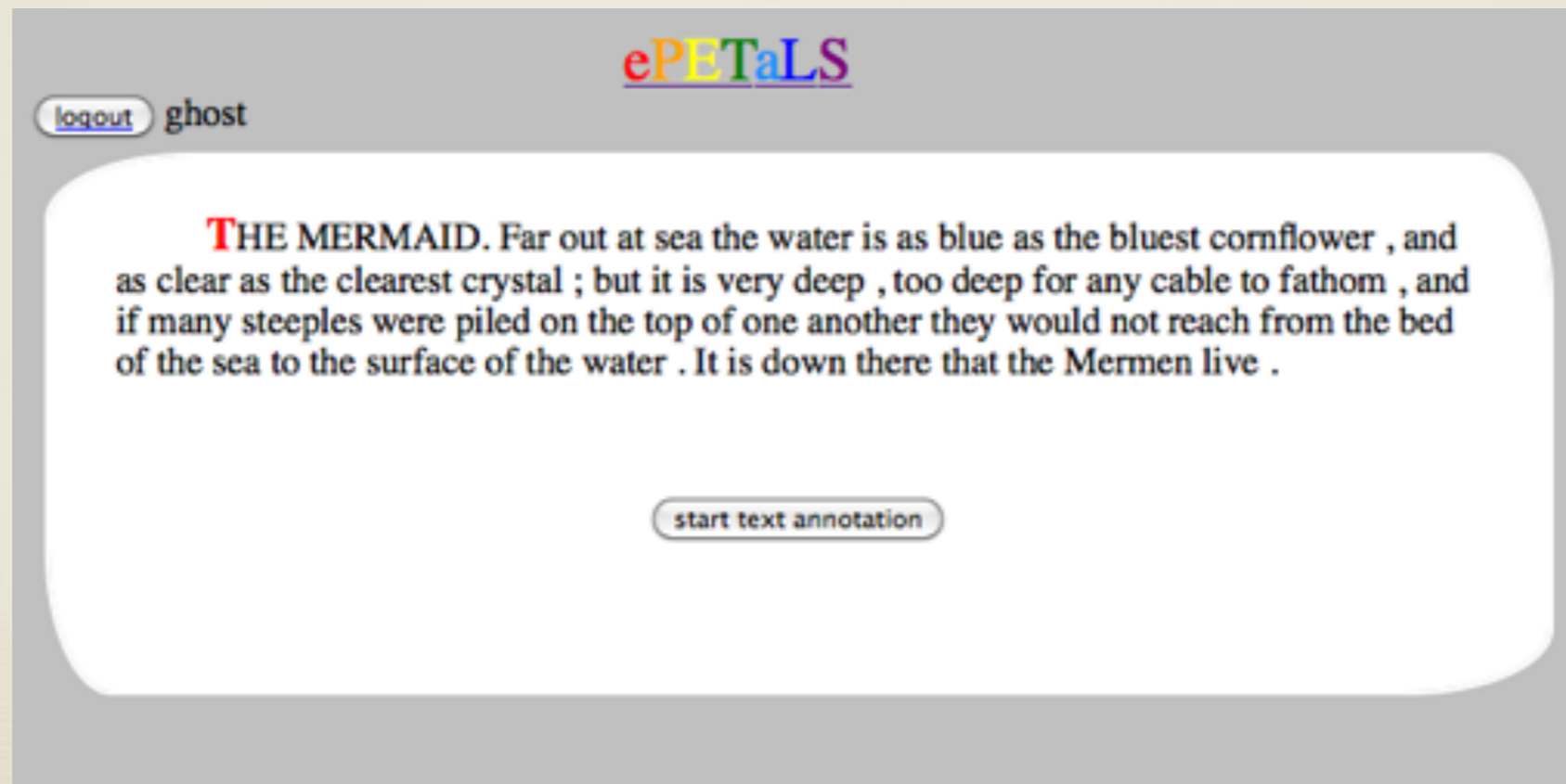# Automatic sentiment analysis

old annotation for PETaLS

ePETaLS: overview

* Developed together with Arseniy Mstislavskiy

* On-line annotation now possible

* Better view of the work for the annotator

* Emotion strength

* Emotional emphasis

ePETaLS: demo

ePETaLS: annotation, cont.

ePETaLS: annotation, cont.

ePETaLS: annotation, cont.

ePETaLS: annotation, cont.

Structure of the initial .xml file:

* meta data

* full text

* word tokens

* phrases (word tokens IDs)

* sentences (phrase IDs)

* paragraphs (sentence IDs)

ePETaLS: annotation, cont.

Structure of the resulting .xml file:

* meta data

* for each phrase:

```
<phrase ID="ph4">

    <emo ID="e4" category="Amusement"/>

    <focusWordRef tokID="tok17"/>

    <force ID="f4" value="1"/>

</phrase>
```

Part II:
Automatic intonational phrase break prediction

Intonational phrases: corpus collection

✳ Previous text segmentation system was suboptimal

✳ Prosodic pauses from recordings (80 ms.)

✳ Small corpus of manually segmented texts

✳ High correlation between:

  ✳ audio recordings ("read the story out loud")

  ✳ cognitive task ("imagine reading the story out loud")

Phrase length distribution
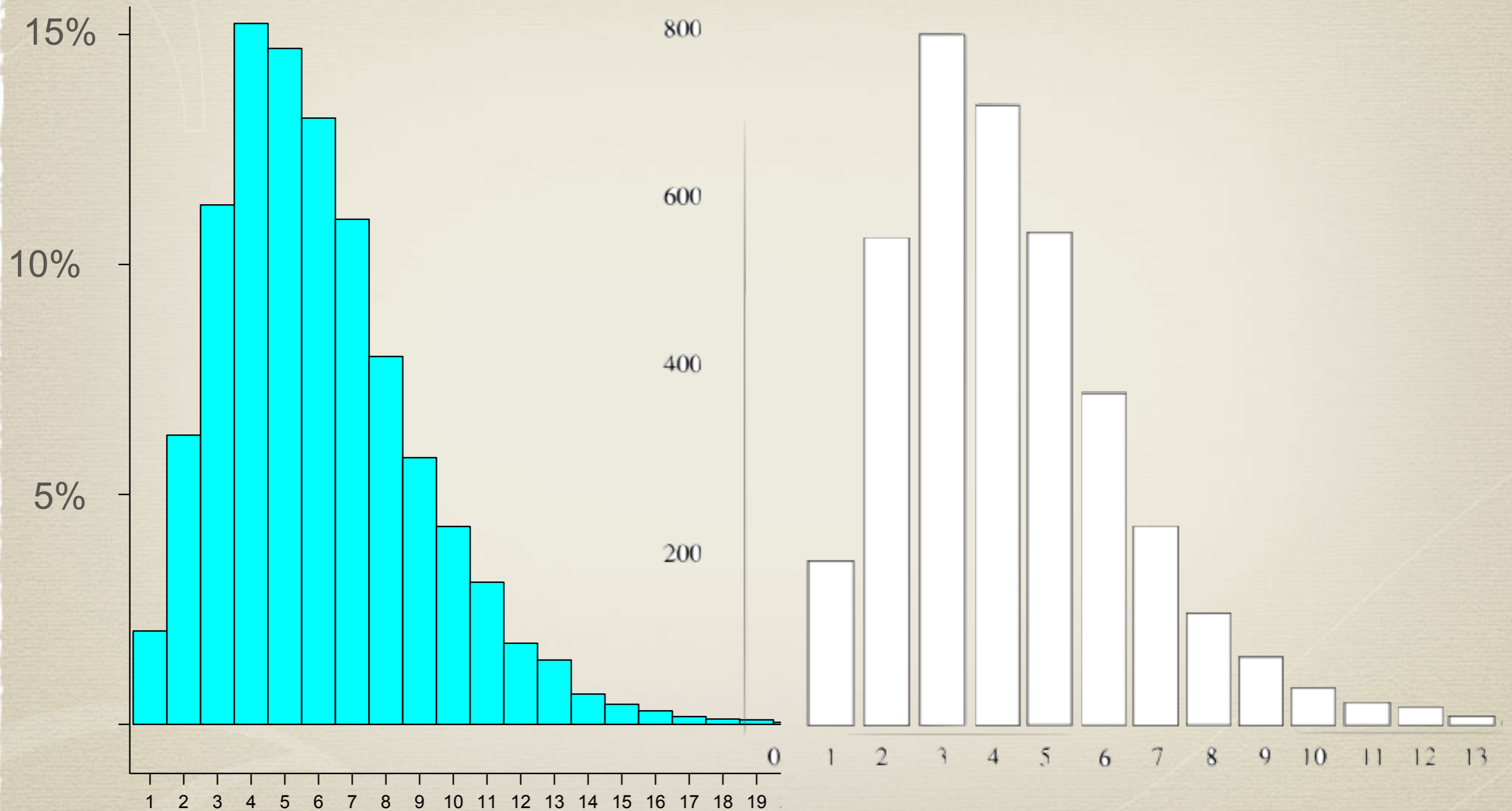
Phrase length

Adapted from: Sanders, E, and P A Taylor. "Using Statistical Models to Predict Phrase Boundaries for Speech Synthesis."(1995).

Features for the automatic prediction system

* Lemma

* POS

* Dependency parsing

* Named entity

* Direct speech

* Binary Class label: before phrase boundary or not

Results

* Human:

  There was once

  a little farmer

  and his wife

  living near Coolgarrow.

  They had three children,

  and my story happened

  while the youngest was a baby.

* Machine:

  There was once a little farmer

  and his wife

  living near Coolgarrow.

  They had three children,

  and my story happened

  while the youngest

  was a baby.

ePETaLS: Future Work

✳ Integrate automatic text segmentation into ePETaLS

✳ Time logging for annotation processes

✳ User friendliness

✳ English corpus collection

✳ Your suggestions :)

Part III:
"To infinity... and beyond!"
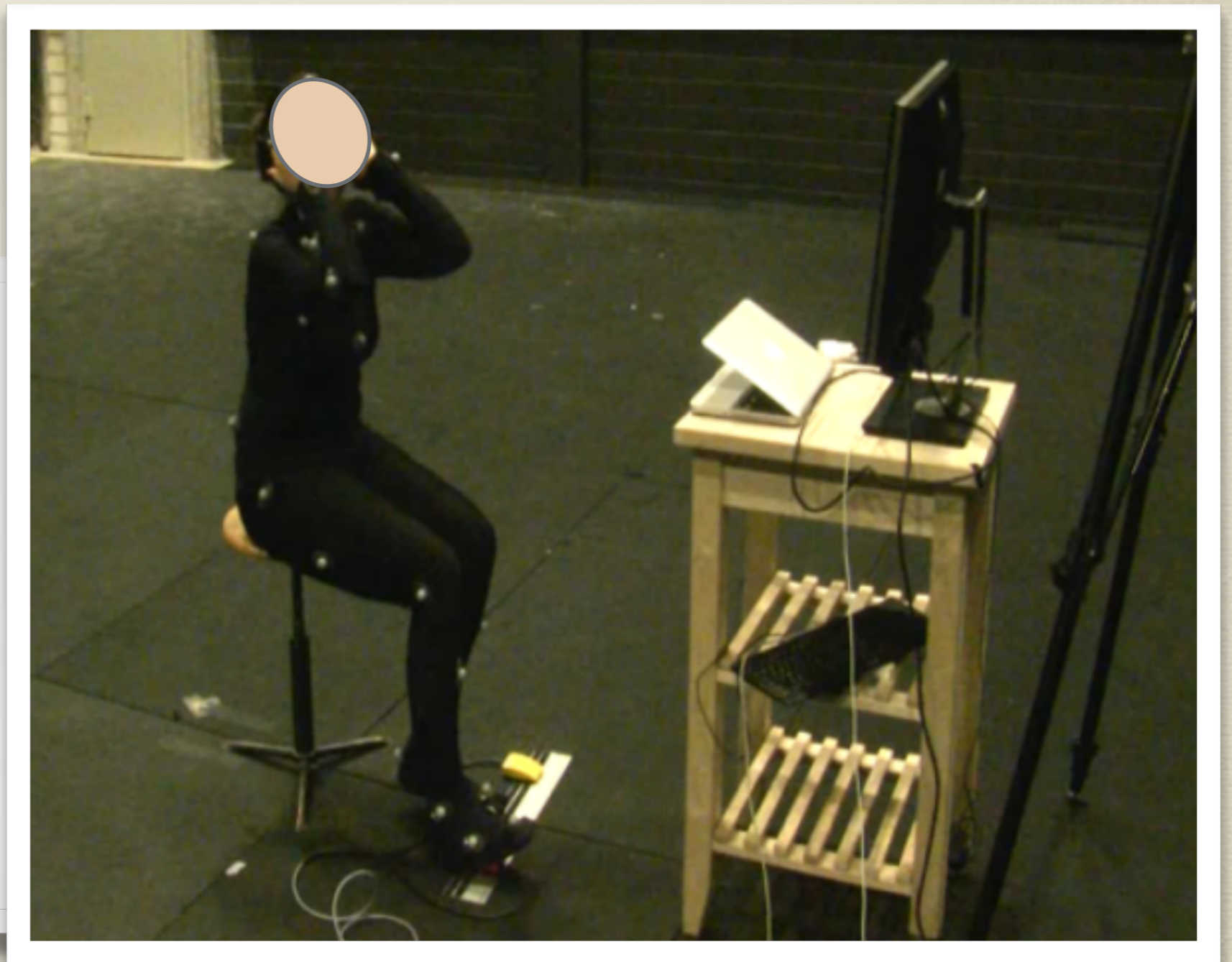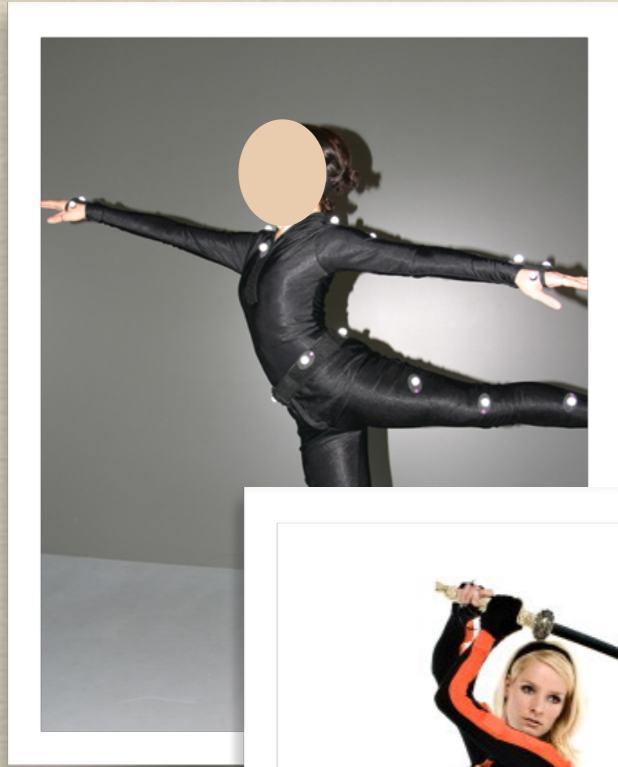
My Motivation

Manual human work:

Automatic system:

Text segmentation

Annotation for emotions

Acting the story out

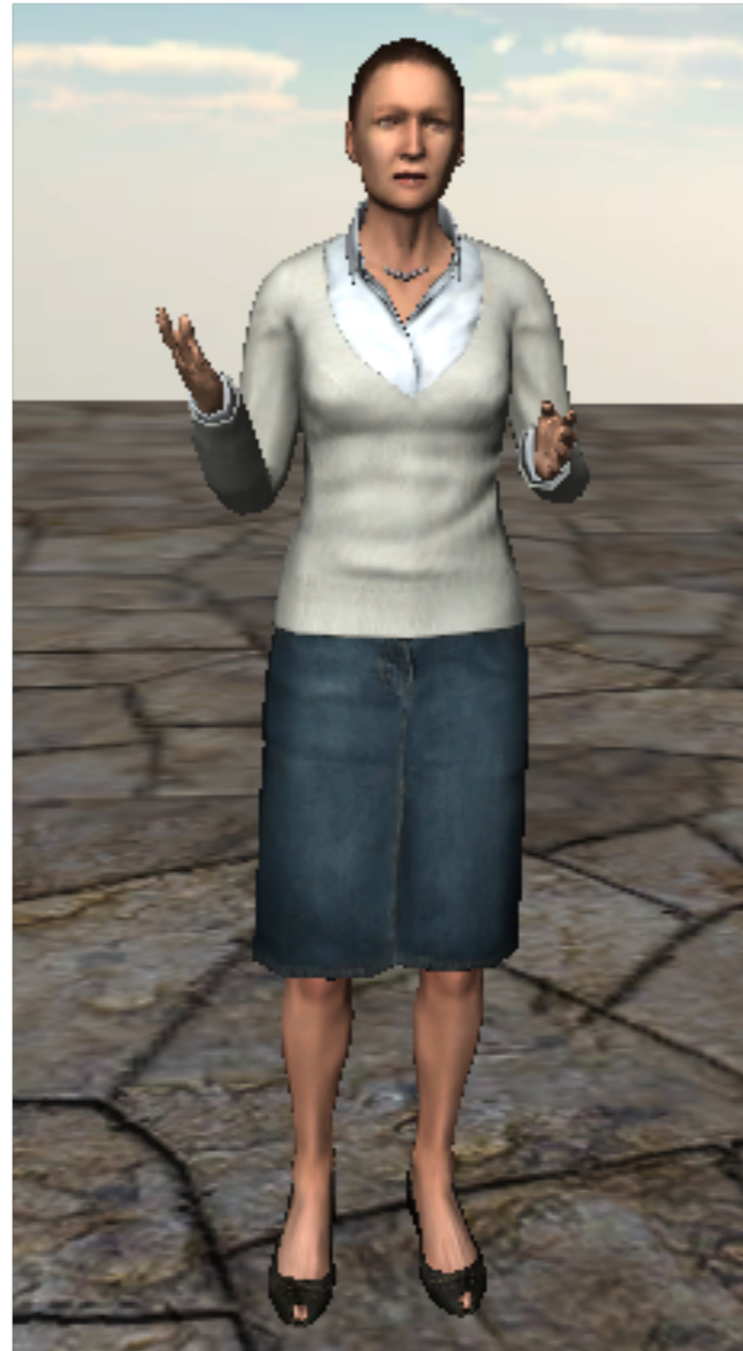# Motion Capture

Virtual Actors

Conclusions

My final goal is to have plain text as input and a realistic virtual actor as output:

1. Input text goes through a pipeline of NLP tools

2. Is segmented into intonational phrases

3. Annotated for emotions

4. "Actor script" triggers animation generator and TTS.

"and they lived happily ever after"

Thank you for your attention!