Feedback

Speech Processing, first assignment, November 2016

Marking process

- 2 markers were trained by me for this specific assignment, and given examples from a previous year (marked by me)

- Electronic marking is much **slower** than marking hardcopy

  - it is taking >1 hour per assignment

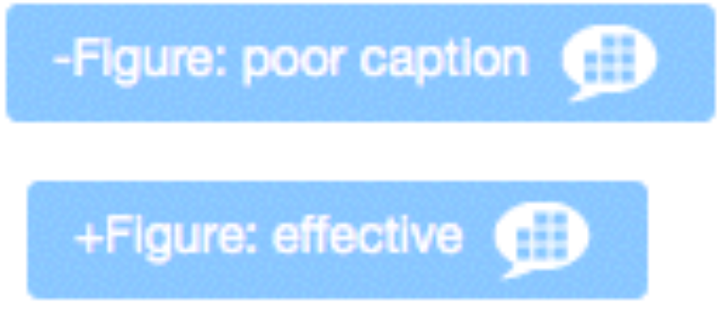
Moderation process

- All moderation done by the lecturer
- Moderation (done separately for UG and PG):
  - inspecting mark distributions for class as a whole
  - quickly inspecting **every** individual assignment
  - making a few minor changes to individual marks
  - global scaling of marks (separately for lab report, lit review)
- *Your final overall mark **may not** equal the sum of the marks in the marking scheme, due to this moderation*

Getting the most out of the feedback

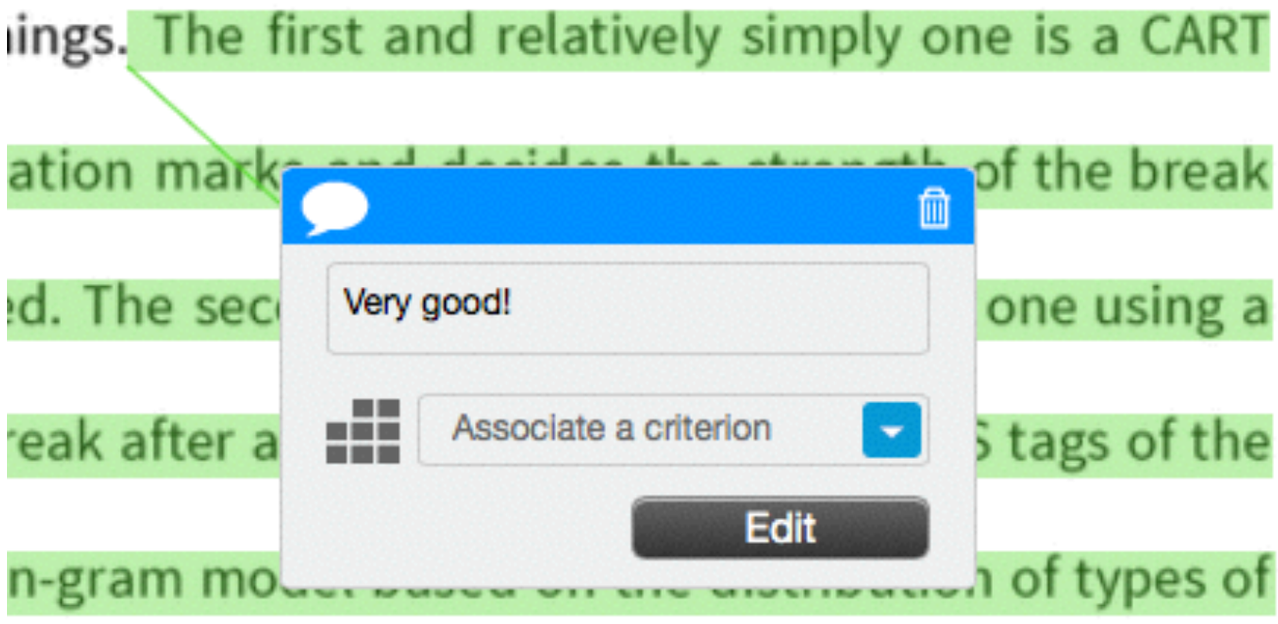
- Read **every** comment, quickmark and grade
    - remember that markers are working “against the clock” and so their comments may be **terse** (but do not interpret this as being rude)
- Ask the **lecturer** for clarification if there is anything you do not understand
    - e.g., via the Forum (Assignment 1 > Feedback)
    - note: you are not able to directly talk to the markers

Annotations and marks



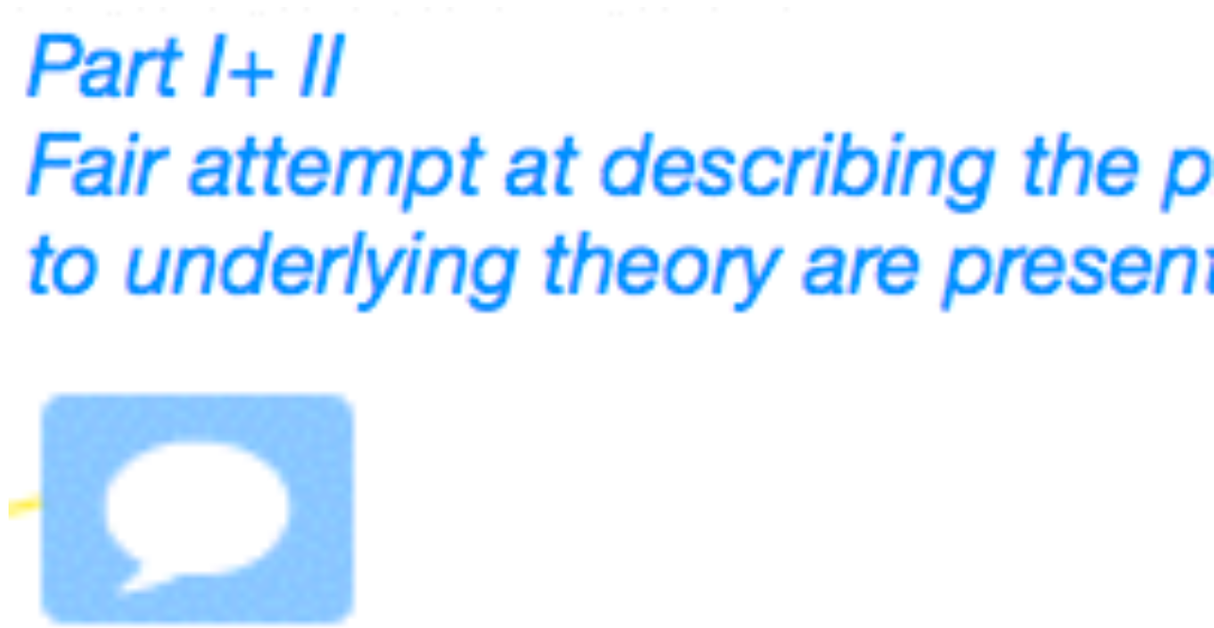
- Quickmarks

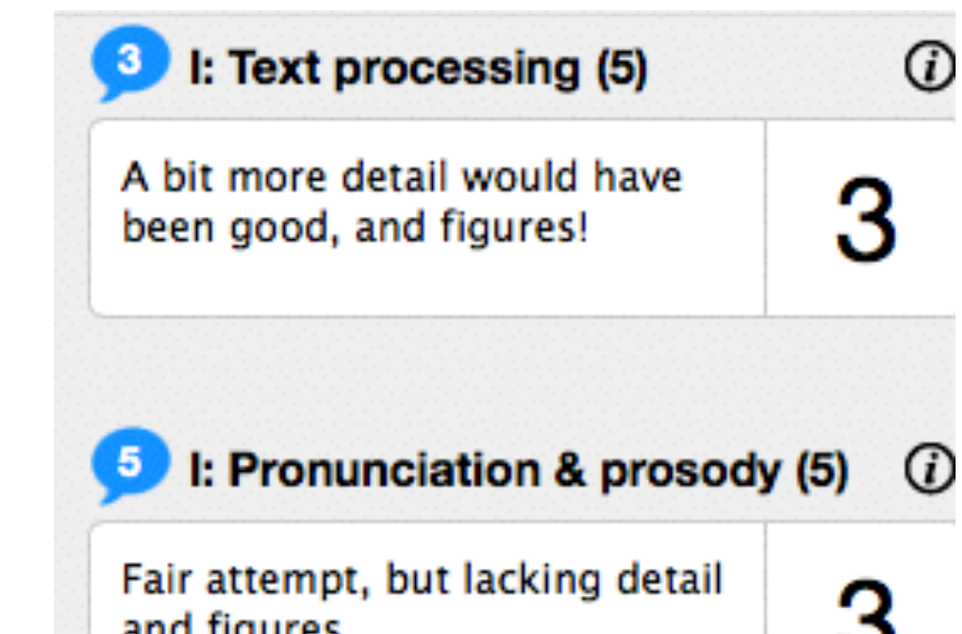
- Highlighting



Annotations and marks

- Text comments
  - either visible text
  - or bubbles to click
- Marking scheme





The most annoying feedback

- Everything I write professionally has a **length limit**
- Peer reviews almost always ask

  “Please add more detail. Tell us more. Explain things more carefully (but stay within the limit).”

- How!?

  …it’s only possible by saying more in fewer words.

How to say more, with fewer words

- Why are **fewer words** better?
  - not just because there is a word limit!
  - quicker to read
  - less waffle
  - requires more direct and clear scientific writing
- Plus, frees up space to **say more** (+ get more marks)

Using fewer words is often better

- Before

  First, the system needed to be examined at each step in the pipeline. Secondly, the step at which the error occurs needs to be found and needs to be investigated at that step.

- After

  We examined the system at each step in the pipeline, to find where the error occurred. We then investigated that step.

- Before

  First, the system **needed** to be examined at each step in the pipeline. Secondly, the step at which the error occurs needs to be found and needs to be investigated.

Does a system really "need" anything?

- After

  We examined the system at each step in the pipeline, to find where the error occurred. We then investigated that step.

Let's be clear about **who** did the examining.

past tense

- Before

  First, the system **needed** to be examined at each step in the pipeline. Secondly, the step at which the error **occurs needs** to be found and **needs** to be investigated at that step.

Consistent tense

present tense

- After

  We examined the system at each step in the pipeline, to find where the error occurred. We then investigated that step.

- Before

  First, the system needed to be examined at each step in the pipeline. Secondly, **the step at which the error occurs** needs to be found and needs to be investigated at that step.

A complex noun phrase (the subject of this sentence)

- After

  We examined **the system** at each **step in the pipeline**, to find where the error occurred. We then investigated that **step**.

Simple subjects and objects

repetitive use of “needs”

- <u>Before</u>

  First, the system **needed** to be examined at each step in the pipeline. Secondly, the step at which the error occurs **needs** to be found and **needs** to be investigated at that step.

- <u>After</u>

  We examined the system at each step in the pipeline, to find where the error occurred. We then investigated that step.

- Before - 33 words

  First, the system needed to be examined at each step in the pipeline. Secondly, the step at which the error occurs needs to be found and needs to be investigated at that step.

- After - 21 words

  We examined the system at each step in the pipeline, to find where the error occurs. We then investigated that step.

Step-by-step worked example

- Before

  Explanations will be given about why Festival makes certain changes to the data at certain stages.

- After

  Explanations will be given about why Festival makes certain changes to the data at certain stages.

- Before

  Explanations will be given about why Festival makes certain changes to the data at certain stages.

- After

  Section X.Y will explain why Festival makes certain changes to the data at certain stages.

- Before

  Explanations will be given about why Festival makes certain changes to the **data** at certain stages.

- After

  Section X.Y will explain why Festival makes certain changes to the **utterance structure** at certain stages.

- Before

  Explanations will be given about why Festival makes **certain changes** to the data at certain stages.

- After

  Section X.Y will explain **what changes** Festival makes to the utterance structure at certain stages.

- Before

  Explanations will be given about why Festival makes certain changes to the data at **certain stages**.

- After

  Section X.Y will explain what changes Festival makes to the utterance structure at **each stage**.

Vague

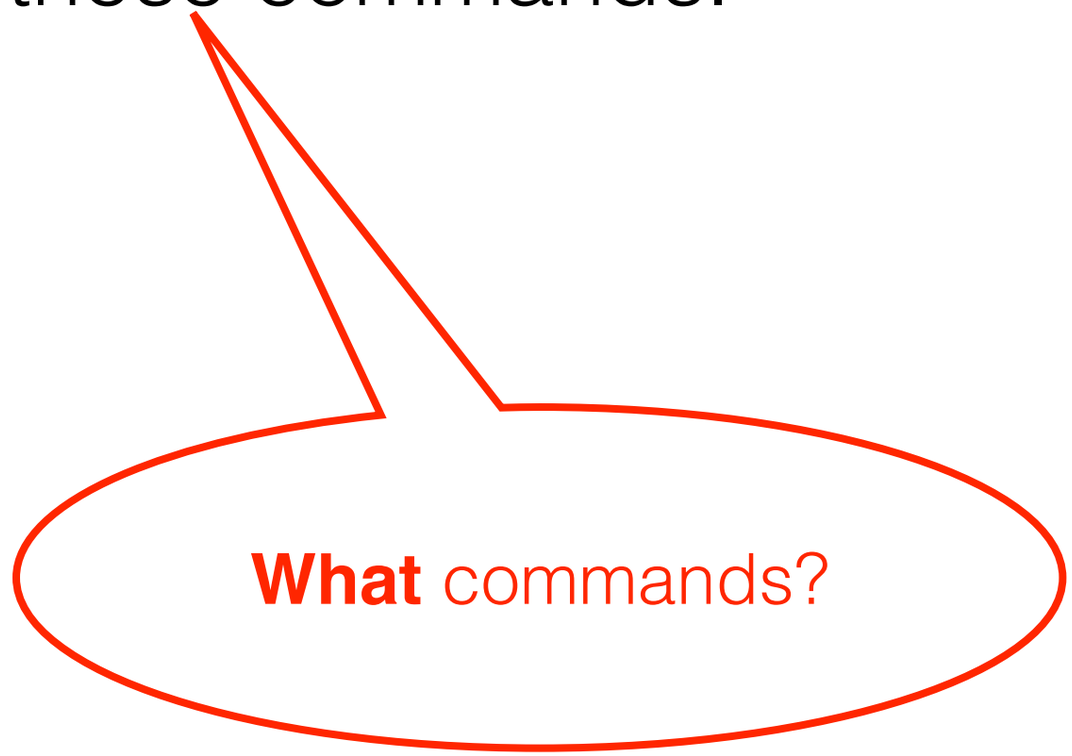
- Before

  Text normalisation is the practice of preparing the text for the later stages in the pipeline.

- After

What is the referent?

When inspecting this toolkit I will be documenting how to run each step in the TTS pipeline and how Festival handles these commands.



“based on”

- Before

  It uses a Viterbi decoder based on a model that has been specified by the system.

- After

Saying very little

- Before

  This subsection records and analyses the examination between steps of the pipeline.

- After

Saying very little

- Before

  A POS tagging error arises when the system assigns the wrong POS tag to a token.

- After

Number agreement

- Before

  This allowed me to determine when it was making an error so that each of them could be examined.

- After

Cliche

- Before

  Technologies nowadays are rapidly developing providing an opportunity for systems such as Festival to improve.

- After

Efficiency vs effectiveness

- Before

  The waveform generation efficiency was evaluated.

- After

Imprecision

- Before

  Festival synthesised a pronunciation error for the utterance “It cost $50m”.

- After

Imprecision

- Before

  Festival does generate mistakes.

- After

Imprecision

- Before

  Phrase breaks can be predicted by classifiers such as ToBI or Tilt. These models refer to a hand-labelled corpus of training data.

- After

Repetition

- Before

  Another model is the Linear Predictive model.
  This model uses a linear predictive filter.

- After

Be more specific

- Before

  As the final stage of synthesis, TTS systems need to modify frequency and duration.

- After

Backwards

- Before

  If the word is known, it is looked up in the lexicon.

- After

Contradictory

- Before

  A phrase break error is when Festival creates a break, or doesn't, where there would be one in natural speech.

- After

Try improving this

Speech synthesis is a continually improving field. This version of Festival suffers from errors with POS tagging, phrase breaks, pronunciation, and waveform generation. The implementation of well-designed CARTs and an improved acoustic model could resolve these errors by making various speech features more predictable and intelligible.

Try improving this

One of the last tasks in text processing is determining where to put phrase breaks. One of the easiest rules used to place phrase breaks is assigning a phrase break after a period or comma. Assigning phrase breaks is harder when there is no punctuation.

How to do better next time

- **Compare** your first assignment with these feedback slides
    - the markers cannot annotate every individual error or potential improvement: so now you could add your own feedback (or swap with a classmate)

- **Think** about how to go above and beyond the instructions for the assignment
    - interesting experiments of your own invention (always driven by a clear hypothesis or research question)
    - novel analyses of the data / models / results, etc

How to do better next time

- **Draft** your second assignment well before the deadline, then <u>mark it yourself</u>
    - what *mark* would you give it?
    - what *comments* would you write on it?
    - have you made it **easy for the markers** to find where to award marks? (check the marking scheme)
- **Read** your assignment to yourself (out loud?). Does **every single sentence** make sense?