# UTTERANCE GENERATION FOR TRANSACTION DIALOGUES

Joris Hulstijn and Arjan van Hessen
University of Twente
The Netherlands
{ joris | hessen }@cs.utwente.nl

## 1. Transaction Dialogues

**Obligations**
Transactions (ticket reservation, distant selling) involve obligations of both parties: the system should provide all relevant information; the user should feel committed to the transaction.

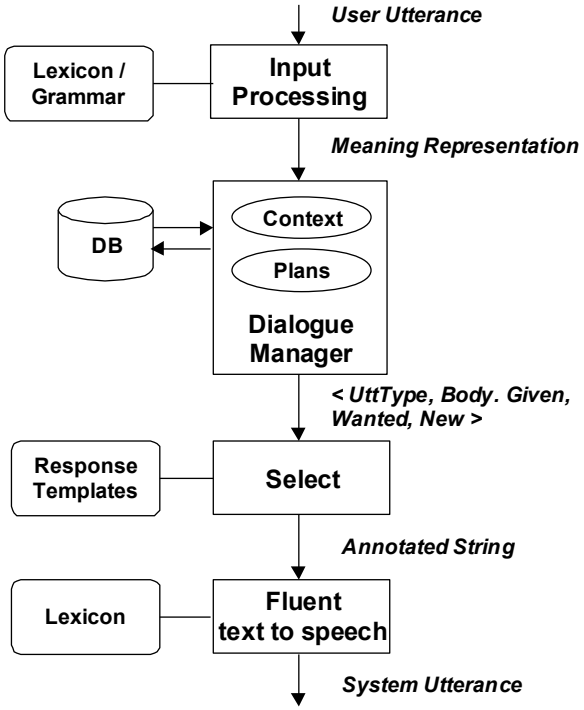
**Theatre Information and Reservation**
Our prototype, SCHISMA, is a mixed-initiative dialogue system for theatre information and ticket reservation. Based on user utterance, context and plan, the dialogue manger selects a response action. A response action is a combination of database manipulation and dialogue acts.

**Information status**
Utterance generation has a great impact on the usability of dialogue systems. Wording and intonation should reflect the status of information in the dialogue. As a rule, given information items are de-accented, expressed as a pronoun or left implicit. Salient or contrastive elements are accented. Verification prompts are distinguished by a rising intonation, to indicate insecurity.

**Personality**
We want a system with a personality, reflected in the nature of the prompts. We like to compare a curt, efficient system with a polite, elaborate one. A cheerful goodbye hopefully shows that the system *cares* about the transaction

**Interaction in a Virtual World**
Our system will be embedded as an agent called `Karin' in a *virtual theatre* environment. Users can walk around and preview the stage from different angles. Users can ask Karin about performances and about the theatre building. Virtual worlds invite browsing behaviour. The balance between text, speech, graphics and other interaction modalities in such `leisure' environments is a topic of further research.

## 2. Components and Resources




## 3. References

Van Deemter, K. et al (1994) *Generation of Spoken Monologues by means of templates*, in TWLT8, University of Twente

Dirksen, A. (1992) *Accenting and Deaccenting, a declarative approach*, in COLING'92, Nantes

Dirksen A. and Menert, L. (1997). *Fluent Dutch Text-to-Speech*, Fluency Speech Technology,

## 4. Utterance Generation

**Parameters**

| | |
|---|---|
| UttType | word order, intonation contour |
| Body: | fixed part of template |
| Given | given information items |
| Wanted | information asked for |
| New | contrasted, or salient information |

**Utterance Types**

| | | |
|---|---|---|
| whq | fin verb on 2nd, wh-word on 1st | hat |
| decl | fin verb on 2nd, no wh-word | hat |
| ynq | fin verb on 1st, subject on 2nd | rising |
| imp | fin verb on 1st, no subject | hat |
| verif | verification, as decl | rising |
| text | longer text to be read | punct |
| short | short answer (PP, NP, ADV) | hat |
| meta | thanks, greetings, yes, no | hat |
| graph | graphical display (tables ...) | -- |

## 5. Examples

(1) Veel plez**ie**r met `Macbeth'!
*Have a good **ti**me with `Macbeth'**!.***

| UttType | Body | Given | Wanted | New |
|---|---|---|---|---|
| meta | good_time | performance: [title:Macbeth | _ | _ |

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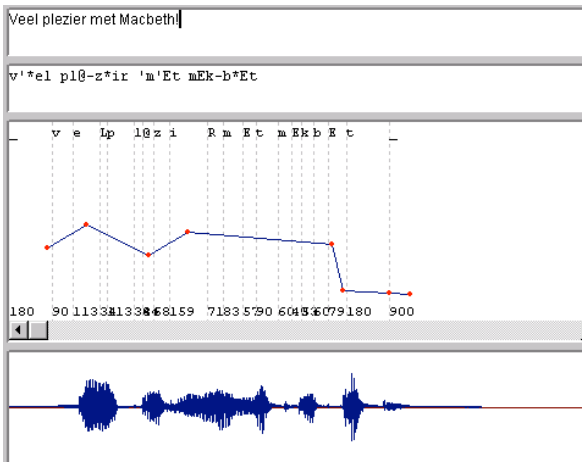


(2) Macbeth' is **ui**tverkocht. `
*Macbeth' is sold **out***

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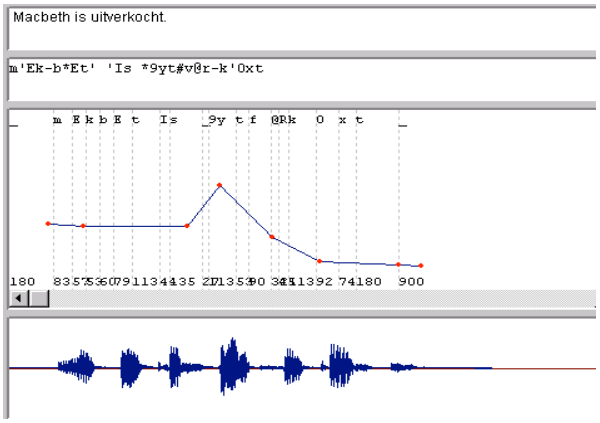
| UttType | Body | Given | Wanted | New |
|---|---|---|---|---|
| decl | sold out | performance: [title:Macbeth] | _ | _ |




(3) `Macb**e**th' is uitverkocht.
*`Macb**e**th' is sold out.*

| UttType | Body | Given | Wanted | New |
|---|---|---|---|---|
| decl | sold out | _ | _ | performance: [title:Macbeth] |