DAMSL: Dialog Act Markup in Several Layers

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SoSe 07
• Literature

• Preliminaries
  ○ two participants (speaker and listener)
  ○ task-oriented dialogs
  ○ a dialog is divided into turns
  ○ a turn may consist of several utterances
  ○ the tag(s) of an utterance is(are) based on the speaker’s intentions
• **Dimensions of utterance tags**

  ○ **Communicative Status** – records whether the utterance is intelligible and whether it was successfully completed

  ○ **Information Level** – a characterization of the semantic content of the utterance

  ○ **Forward Looking Function** – how the current utterance constraints the future beliefs and actions of the participant

  ○ **Backward Looking Function** – how the current utterance relates to the previous discourse
• **Communicative status**
  
  ▪ Uninterpretable
  
  ▪ Abandoned
  
  ▪ Self-talk

<table>
<thead>
<tr>
<th>Abandoned</th>
<th>utt1</th>
<th>u</th>
<th>so I pick up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>utt2</td>
<td>u</td>
<td>can I take oranges um on tankers from Corning</td>
</tr>
</tbody>
</table>
• Information level

  ○ Task ("Doing the task")

  ○ Task-management ("Talking about the task")
    e.g., “Forget about that problem for a while”, “Are we done?”

  ○ Communication-management ("Maintaining the communication")
    e.g., “hello”, “ok”, “let’s see”

  ○ Other-level
• **Forward Looking Function** characterizes what effect an utterance has on the subsequent dialogue

  - **Statement**
    - **Assert**
    - **Reassert**
    - **Other-statement**
Does speaker make a claim about the world?

Is the speaker trying to change the belief of the addressee?

Does the speaker think that the claim has already been made?

Tag as Assert

Tag as Reassert

Tag as Other

- Influencing-addressee-future-action
  - Open-option
  - Action-directive
Is the speaker suggesting potential actions to the addressee beyond answering a request for information?

- yes
  - Is the speaker creating an obligation that the hearer do the action unless the hearer indicates otherwise?
    - yes
      - Tag as Action-directive
    - no
      - Tag as Open-option
  - no
    - This aspect should not be coded

- Info-request
- Committing-speaker-future-action
  - Offer
  - Commit
Is the speaker potentially committing to intend to perform a future action?

- yes
  - Is the commitment contingent on addressee’s agreement
    - yes
      - Tag as Offer
    - no
      - Tag as Commit
  - no
    - This aspect should not be coded

- Conventional
  - Opening
  - Closing
- Explicit-performative
- Exclamation
- Other-forward-function
<table>
<thead>
<tr>
<th>Action-directive</th>
<th>utt1</th>
<th>A</th>
<th>Let’s buy the living room furniture first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commit</td>
<td>utt2</td>
<td>B</td>
<td>OK</td>
</tr>
<tr>
<td>OO, Assert, Offer</td>
<td>utt3</td>
<td></td>
<td>I have a red sofa for $150 or a blue one for $200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assert</th>
<th>utt1</th>
<th>A</th>
<th>I don’t know what to do Saturday night</th>
</tr>
</thead>
<tbody>
<tr>
<td>OO</td>
<td>utt2</td>
<td>B</td>
<td>You could go to Bob’s party with me</td>
</tr>
<tr>
<td>Commit</td>
<td>utt3</td>
<td>A</td>
<td>Great I’ll see you there</td>
</tr>
</tbody>
</table>
• **Backward Looking Function** indicates how current utterance relates to the previous discourse.
  
  - Agreement
    - Accept
    - Accept-part
    - Maybe
    - Reject-part
    - Reject
    - Hold
Is the speaker addressing a previous proposal, request, or claim?

- Yes
  - Is the speaker saying their attitude towards the proposal, request, or claim?
    - Yes
      - Is the speaker agreeing to part of the proposal, request, or claim?
        - Yes
          - Tag as Accept
        - No
          - Is the speaker disagreeing with the part of the proposal, request, or claim?
            - Yes
              - Tag as Reject
            - No
              - Tag as Maybe
    - No
      - Tag as Hold
  - No
    - Do not give an agreement tag

- No
  - Is the speaker saying their attitude towards the proposal, request, or claim?
    - No
      - Is the speaker disagreeing with all of the proposal, request, or claim?
        - Yes
          - Tag as Reject
        - No
          - Tag as Maybe
      - Tag as Maybe
  - Tag as Maybe
- Understanding
  - Signal-non-understanding
  - Signal-understanding
    - Acknowledge
    - Repeat-rephrase
    - Completion
  - Correct-misspeaking
- Answer
- Information-relation
<table>
<thead>
<tr>
<th>Assert</th>
<th>utt1</th>
<th>C</th>
<th>I need to travel in May.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info-request, Ack</td>
<td>utt2</td>
<td>A</td>
<td>And, what day in May did you want to travel?</td>
</tr>
<tr>
<td>Assert, Answer</td>
<td>utt3</td>
<td>C</td>
<td>Ok uh I need to be there for a meeting that’s from the 12th to the 15th.</td>
</tr>
<tr>
<td>Assert, Answer</td>
<td>utt4</td>
<td>C</td>
<td>Seattle.</td>
</tr>
<tr>
<td>Info-request, Ack</td>
<td>utt5</td>
<td>A</td>
<td>And you’re flying into what city?</td>
</tr>
<tr>
<td>Info-request, Ack</td>
<td>utt6</td>
<td>C</td>
<td>And what time would you like to leave Pittsburgh?</td>
</tr>
<tr>
<td>Hold</td>
<td>utt7</td>
<td>C</td>
<td>Uh hmm I don’t think there’s many options for non-stop.</td>
</tr>
<tr>
<td>Accept, Ack</td>
<td>utt8</td>
<td>A</td>
<td>Right.</td>
</tr>
<tr>
<td>Assert</td>
<td>utt9</td>
<td>A</td>
<td>There’s three non-stops today.</td>
</tr>
<tr>
<td>Info-request</td>
<td>utt10</td>
<td>C</td>
<td>What are they?</td>
</tr>
<tr>
<td>Assert, OO</td>
<td>utt11</td>
<td>A</td>
<td>The first one · · ·. The second flight departs PGH at 5:55pm, arrives Seattle at 8pm. · · ·</td>
</tr>
<tr>
<td>Accept, Ack</td>
<td>utt12</td>
<td>C</td>
<td>OK I’ll take the second flight on the 11th.</td>
</tr>
<tr>
<td>Ack</td>
<td>utt14</td>
<td>C</td>
<td>OK.</td>
</tr>
</tbody>
</table>
- Multi-dimensional problems

<table>
<thead>
<tr>
<th>Task</th>
<th>utt1</th>
<th>u</th>
<th>take the boxcar to Corning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task, Accept</td>
<td>utt2</td>
<td>s</td>
<td>okay</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task-Management</td>
<td>utt1</td>
<td>u</td>
<td>let’s work on the oranges plan first</td>
</tr>
<tr>
<td>Task-Management, Accept</td>
<td>utt2</td>
<td>s</td>
<td>okay</td>
</tr>
</tbody>
</table>