

Dialogue structure and Dialogue distillation

Dialogue engineering

M2 NLP 2025-2026

1 Dialogue structure

1.1 Rhetorical relations

1. Draw the graph of relation of the two following dialogues:

- (a)
- A1: i need a place to dine in the centre that's expensive
B2: I have several options for you; do you prefer African, Asian, or British food?
A3: Any sort of food would be fine, as long as it is a bit expensive. Could I get the phone number for your recommendation?
B4: There is an African place named Bedouin in the centre. How does that sound?
A5: Sounds good, could I get that phone number?
B6: Bedouin's phone is 01223367660.
- (b)
- A1: i doubt my apt thing is bad though , i just installed ubuntu today
B2₁: wait ! i found a much easier way
B2₂: well, i want you to read all of that
B2₃: before you start mucking around in system files
A3₁: there was only a couple lines in it
A3₂: most of it was rem 'd out
B4: you are going to learn what all of them are from the url i just pasted
A5₁: i can always use more than one terminal
A5₂: okay , so i have to add or change a 'repository'

1.2 Coherence

2. Consider the following dialogue:

- A1: <pause> Want some coffee?
B2₁: Erm <pause> please?
B2₂: Can I have it white though mum?
A3: Sorry?
B4₁: Can I have it white though?
B4₂: White.
A5: White coffee?
B6: Yeah.
A7: I always do white coffee!
B8: No you don't you do something like that <pause> brownny colour.
A9₁: What?
A9₂: More milk in you mean?
B10₁: Yeah.
B10₂: more milk, about half.

- (a) Draw its graph of relations.
 - (b) Suggest a follow-up utterance which would be incoherent in the given context.
 - (c) In pairs, suggest a second follow-up utterance which would make your partner's utterance fit in the overall context.
 - Dialogue + (b): incoherent
 - Dialogue + (b) + (c): coherent
3. Repeat the exercise with the following dialogue:
- A1₁: volunteered for Christmas Eve off .
 A1₂: so they said it was either Christmas Eve
 B2: Christmas day
 A3₁: yeah
 A3₂: so they said it was the Christmas Eve
 A3₃: or the day after Thanksgiving
 B4: now what happens when Christmas falls on a Sunday ?
 A5: I think it doesn't matter
 B6: do you get the Friday before
 A7₁: probably
 A7₂: possibly
 A7₃: I don't know
 A7₄: Doris says
 A7₅: well, I suppose I'd rather have it that way
 A7₆: she says
 A7₇: I'd rather have both off

1.3 Right Frontier Constraint

The Right Frontier Constraint states that new discourse units can attach only to the rightmost accessible units in the current discourse structure. This constraint reflects the dynamic nature of discourse processing, limiting how new information relates to the established structure. Let's check how it works for dialogue.

4. Consider the following dialogue:
- A1: B did you take logic1 this year?
 B2₁: anyone got more clay?
 B2₂: I fancy another
 B2₃: can offer a range of items
 A3: i have clay
 B4₁: no i didn't A,
 B4₂: I'm not a student :)
 C5: sry
 A6: would like wood
 B7: 1 for 1?
 A8₁: ahhh ok, never mind
 A8₂: sure
 B9: ty ty :)
- (a) Draw its graph of relations.
 - (b) What can we say about the RFC in this dialogue?
5. Check the RFC in the rest of the dialogues of this exercise sheet.

2 Dialogue distillation

Consider the following dialogue:

- A1: Uh (.) I must, uh, visit this old aunt I, um, dont really like but, uh, my mum will be really pissed if I dont go sooo, we have to go to the centre of the city.
- B2: Uh yeah (0.3) were, um, looking for, uh, cheap places to eat because, uh, we want to, um, I mean, to avoid having dinner at your aunts place, right?
- A3: Uh yeah (.) definitely (.) definitely.
- C4: Okayyy (.) right, so (.) there are, um, fifteen restaurants in that area in the cheap price range. Do you (.) do you have a preference for the cuisine thats, uh, served?
- B5: Uh (.) whats your fav– your favourite?
- A6: Dont really have a preference.
- C7: Well (.) Chinese would be a good choice, I think. Would you like me to, uh (.) book one for you?
- A8: Is it al– is it alright with you?
- B9: Sure (.) yeah, sure. I had (.) pizza (.) not long ago so it’s uh a nice change.
- A10: Okay (.) Chinese it is, then.
- B11: Well be com– coming on (.)
- A12: Wednesday.
- B13: Right uh (.) make it for six people (.) for 12:15 (.) and, um, give us the reference number, please.
- C14: Alright (.) Ill book you at, uh, Charlie Chan. In my opinion its the best really. Your booking was, uhmmm (0.5) successful. The table will be reserved for fifteen minutes. Reference number is (.) W3TZFF5S.
- A15: Uh (.) were gonna– were going to stay over right?
- B16: Yeah (.) I dont like driving at night during winter, uh, especially when it snows, so, um, so we need a place to stay.
- A17: Wed like you to, uh, find us a cheap (.) 0 star hotel in the centre, please.
- C18: Uhmmm (.) El Shaddai is a 0-star guesthouse in the cheap price range. Does this, uh, does this work for you?

Note: (.) indicate short pauses and ‘–’ cut-offs.

6. Identify the following information:

- (a) Task-based information;
- (b) Disfluencies;
- (c) Repairs.

7. Imagine this conversation is part of a corpus you gathered to train a dialogue system for booking restaurant and hotel reservations. Modify your source data to make it suitable for training your system.