

Anaphoric Phenomena in Situated Dialog: A First Round of Annotations

Sharid Loáiciga
Simon Dobnik, David Schlangen

CLASP – Department of Philosophy, Linguistics and Theory of Science
University of Gothenburg

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Annotation of Situated Dialog

- ▶ We extend the ARRAU guidelines to annotate the texts of the *Tell-me-more* corpus.

Poesio, Camilleri, Carretero-Garcia, & Artstein (2021). Arrau 3 annotation.

Situated Dialog Data

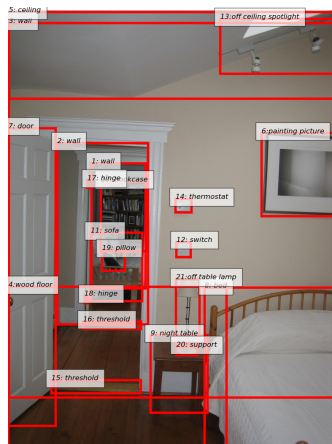
Tell-me-more



1. it's a bedroom scene with the bed partially visible
2. the bed has a curved wooden headboard with slots like a fence
3. there is framed art hanging above the bed
4. to the left of the bed is a door, which is open
5. there is a small square nightstand next to the bed which has a lamp on top of it

Situated Dialog Data

Tell-me-more: 5,701 image-document pairs. Images and BBs come from the ADE dataset.



1. it's a bedroom scene with the bed partially visible
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Illyukh, Zarriß & Schlangen (2019). Tell me more: A dataset of visual scene description sequences. INLG.

Annotation Tool

The image shows the Annotation Tool interface. On the left is a configuration panel for the class "[the bed]". It includes fields for "coref_set" (set_0), "min_words" (bed), and "generic" (generic-no). There are radio buttons for Gender (unmarked, male, female, neuter, unspecified), Number (unmarked, plur, sing, mass, undersp-num, unsure-num), Cardinality (unmarked, unique, unsure, group), Person (unmarked, per3, per1, per2), <> Reference (unmarked, new, old, non_referring), Category (unmarked, person, animate, concrete, space, time, plan), and various <> related object and phrase options. At the bottom of the panel are "Apply" and "Undo changes" buttons, and a green status message "Auto-apply is OFF".

On the right is a window titled "3210.png" showing an annotated image of a bedroom. Red bounding boxes are drawn around various objects, each with a number and a label: 1: ceiling, 2: wall, 3: ceiling, 4: wood floor, 5: hanging picture, 6: wood floor, 7: door, 8: night table, 9: support, 10: support, 11: sofa, 12: patch, 13: threshold, 14: thermostat, 15: bench, 16: threshold, 17: bench, 18: bench, 19: pillow, 20: support, 21: off/in/to lamp, 22: off ceiling, 23: off ceiling, 24: thermostat, 25: hanging picture.

Below the image is a menu bar with "File", "Settings", "Display", "Tools", "Plugins", "Info", and "Show ML Panel". Below the menu bar is a text area containing the following text:

It's a bedroom scene with the bed partially visible
the bed has a curved wooden headboard with slots like a fence
there is framed art hanging above the bed
to the left of the bed is a door, which is open
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This Release

- ▶ Single annotations for 500 documents ($\approx 10\%$ of total data).
- ▶ Double annotations for 50 documents for validation.

<https://doi.org/10.5281/zenodo.7084861>

IAA

- ▶ Krippendorff's α 0.56 ± 0.23 , according to Passonneau (2004), *Computing reliability for coreference annotation*, LREC.

1. Mostly [[this room]] is [[a bed]].
2. [[There]] is [[a lamp on a small white nightstand next to the bed.]]
3. [[The bed]] has [a [light blue bed skirt]] and [[white comforter]] and [[4 white pillows]].
4. [[There]] is [[a blue dresser with a lamp] on [it]].
5. [[There]] is [[a full length window with vertical shades]].

Interesting Multimodal Items

Collective entities

cardinality: unique or group to account for collective entities.



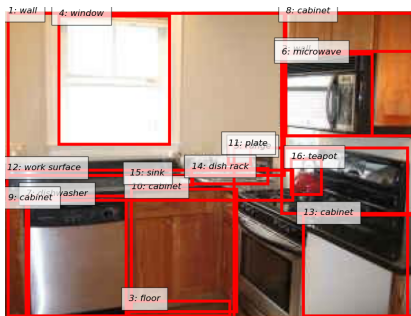
1. There is **four chair red laquer dining set** shown in the image.
- 2-3 [...]
4. The pools is surrounded by green shrubbery.
5. [...]

Interesting Multimodal Items

Information Status

Almost every document starts with seemingly old information.

1. **It's** a well-lit kitchen with stained wooden cupboards. 2. There's a microwave mounted over **the stove**, which has a red tea kettle on it. 3. **The appliances** are black and stainless steel in **the kitchen**. 4. **The countertops** look like they're black granite. 5. The window has sunlight streaming in and it's very brightly light.



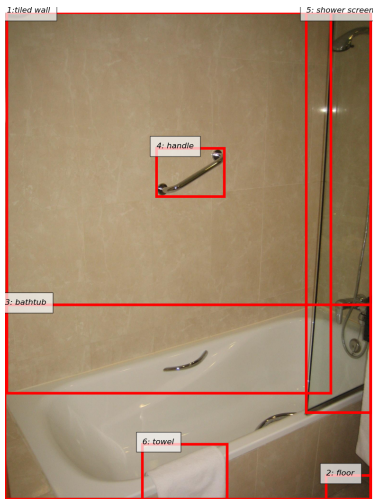
Interesting Multimodal Items

Grounding and referentiality

We distinguish between predefined visible objects and visible objects without a predefined ID.

- on image: yes|no
- if yes:
 - bounding box: yes|no
 - if yes:
 - choose label

1. This is a picture of a bathtub. 2. The tub is white. 3. The wall and *base of the tub* are brown. 4. [...] 5. [...]



Conclusions

- ▶ Annotation makes theoretical advances possible.
- ▶ Extending the annotation of coreference to the V&L domain is crucial to understand the relationship between reference and coreference.
- ▶ Although small, the corpus is useful for linguistic studies, validation of automatic methods linking entities to the image, and as an example for the annotation of more complex datasets.

Thank you