

A CRAIGSLISTBARGAIN Web Interface

Figure 2 shows our web interface where workers negotiate.

B Argument Detection of the Rule-based Parser

Price detection. On CRAIGSLISTBARGAIN, given an utterance, we want to detect mentioned prices in it, which are arguments of intents such as propose and counter. We first detect ground truth prices in the training data, which are numbers starting or ending with the dollar sign. At test time, a number is considered a price if it starts or ends with the dollar sign, or (a) its left and right neighboring words appear next to ground truth prices in the training data and (b) it is not larger than 1.5x of the listing price.

Item and count detection. On DEALORN-ODEAL, given an utterance, we want to parse the proposed split of items, i.e. numbers of balls, hats, and books for each agent. We first detect first/second person pronouns, the three objects (ball, hat, and book), and counts (1 to 10) by regular expression matching. To decide the grouping of agent, object, and count, we process the utterance from left to right; as soon as a pair of object and count is detected, we group it with the most recently referred agent by resolving the pronouns (e.g., “I” or “you”).

C Example Dialogues

Examples of human-bot chats on DEALORN-ODEAL are shown in Table 9, where bot utterances are in bold. The full set of evaluation dialogues are available on the Codalab worksheet.

Let's Negotiate!

Show/Hide Instructions

You and another user (or a bot) will negotiate the price of an item for sale.

Instructions - Please read carefully!

- Your **role** (buyer or seller) is to the right, as well as the description of an item for sale and a photo (if available).
- Use the **chat box below** to negotiate with your partner given the description on the right. Please use complete, grammatical English without typos.
- Feel free to negotiate terms that are not financial!**E.g., offering to pick up the item; throwing in free items; negotiating additional benefits like a warranty or utilities. Be creative, but **don't contradict any facts** given in the description or shown in the image!
- At the end, **submit** the agreed deal in the text box at right, which will be **accepted or rejected**
- Please do not leave the chat unattended. If you are inactive for more than 3 minutes your connection will time out.**
- If you run into any trouble with the website, use the button on the top right to report the issue.**

[12/29/17 21:46:10] <You entered the room.>
 [12/29/17 21:46:31] <Your partner has joined the room.>

Enter your message here

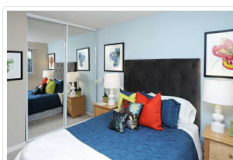
Scenario

Report

You are the potential **buyer**. The list price for this item is **\$2525**. You would like to pay for **\$1515**. You can accept higher price though if the item is really good or there are other perks.

Basic facts

BEAUTIFUL, SPACIOUS 2 BEDROOM IN A PARK-LIKE SETTING



Situated in a tranquil, park-like setting, Countrywood Apartment Homes offers you the relaxation you crave and the variety of choices you deserve.

Final agreement:

Be careful. You can only enter the offer **once**.

Price

Quit:

If you think that it will not be possible to negotiate a deal, you can choose to **quit** this dialogue.

Figure 2: Our chat interface for CRAIGSLISTBARGAIN.

	Item Count	Value to Bot	Value to Human
Book:	2	4	3
Hat:	1	2	0
Ball:	2	0	2

A: SL(word) B: Human	A: SL(act) B: Human
A: i would like the books and the hat .	A: i want the hat and 2 books
B: you can have 1 book and a ball , i need a hat and a book	B: i would like the hat and one book
A: ok	A: i would need the hat and the books
B: deal	B: ok sounds fair
A: DEAL AGREED (book: 1, hat: 0, ball: 1)	A: DEAL AGREED (book: 2, hat: 1, ball: 0)
B: DEAL AGREED (book: 1, hat: 1, ball: 1)	B: DEAL AGREED (book: 0, hat: 0, ball: 2)

Table 9: Example human-bot dialogue on DEALORNODEAL. Bot utterances are bolded. SL(word) is quick to concede, while SL(act) is generally harder to persuade.