Student Name: Puck Wang

Student Number: 13055793

Github repo: https://github.com/PuckWang123/InteractiveConversationalAgent (Links to an external site.)Links to an external site.

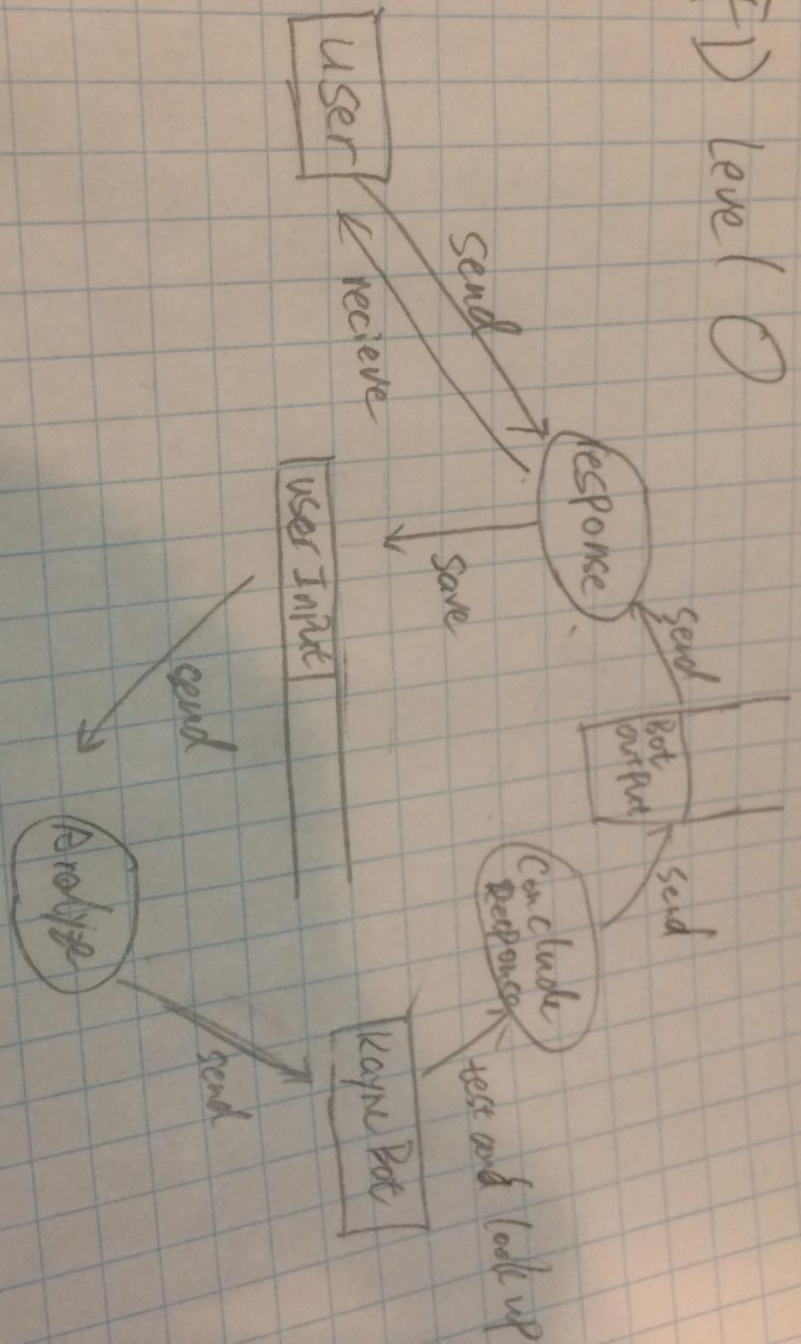git: https://github.com/PuckWang123/InteractiveConversationalAgent.git
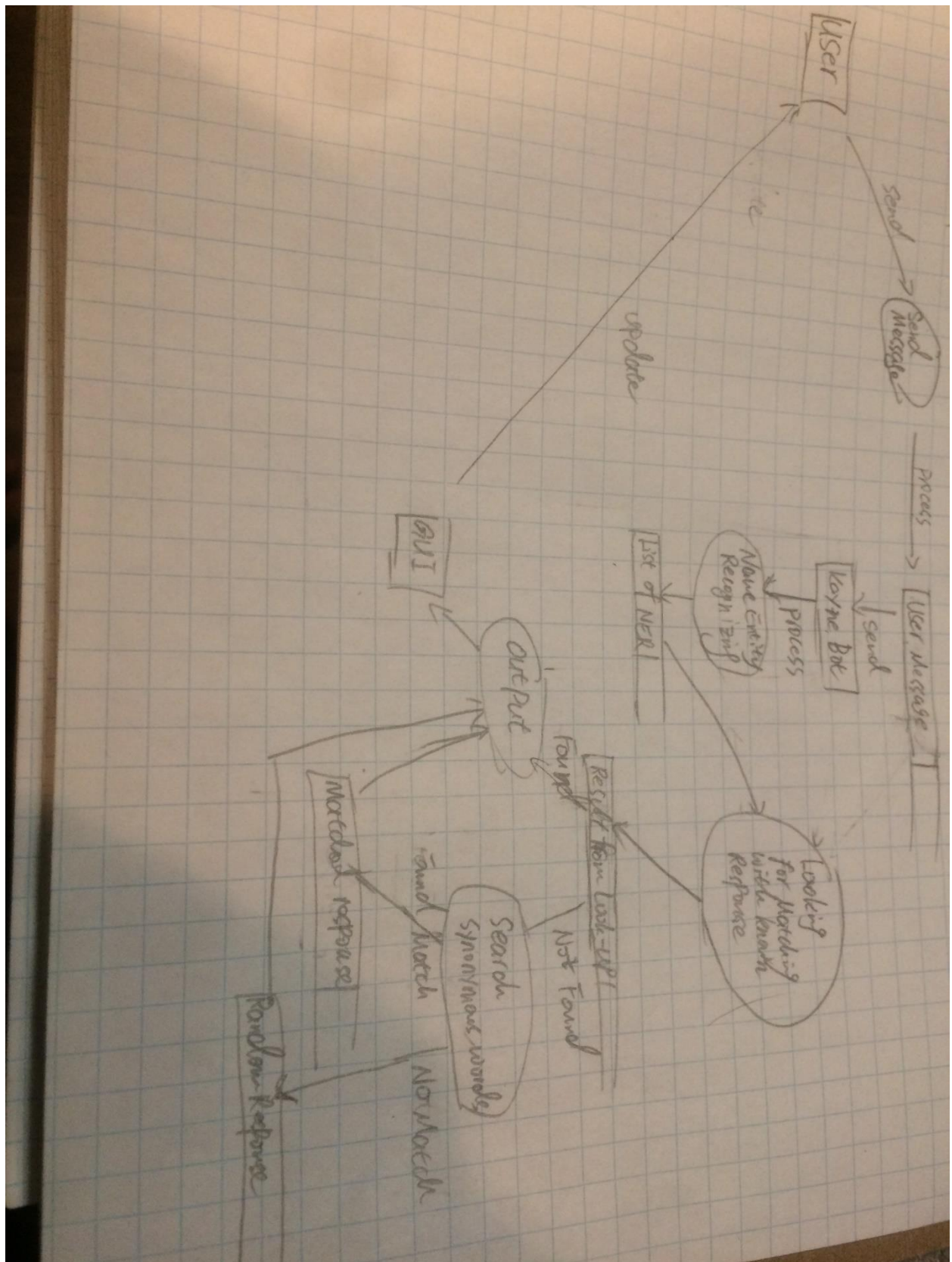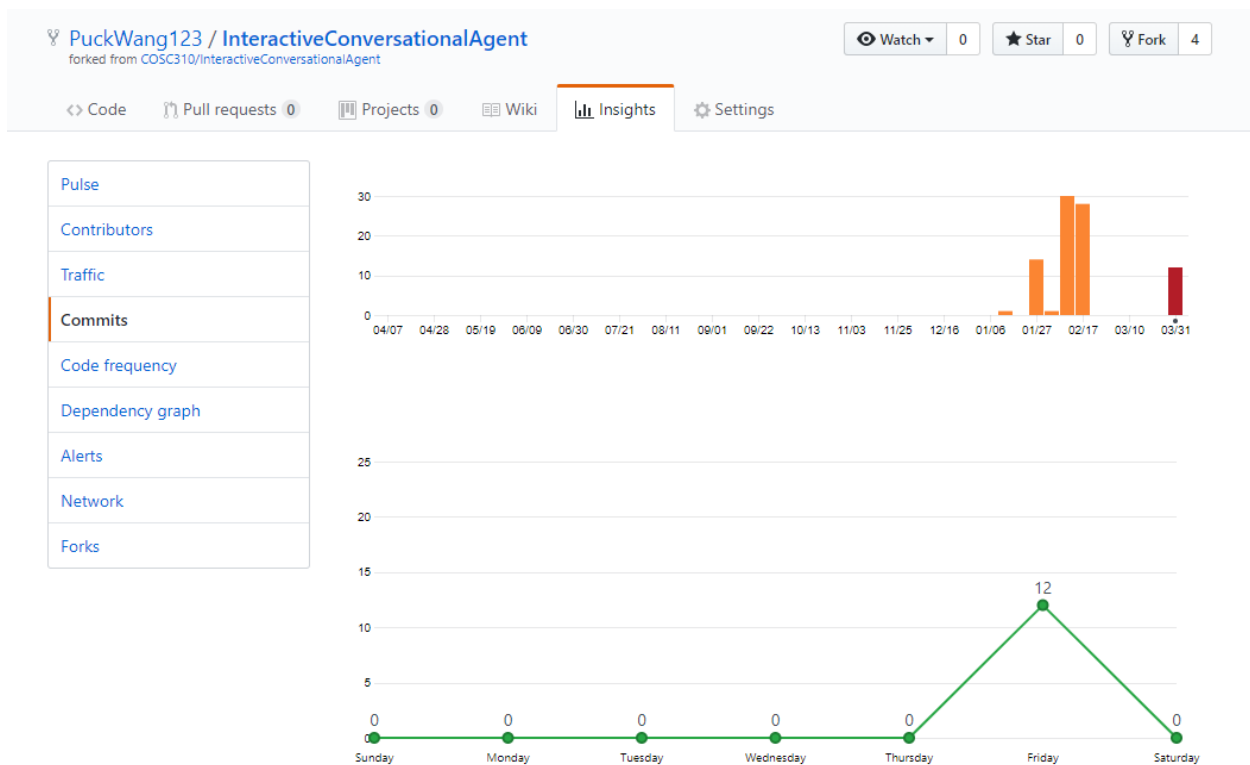

DFD LEVEL 0:

DFD LEVEL 1:

DFD Level 0

GitHub repository:

Features:

Name Entity Recognition:

```
how are y
[main] INFO edu.stanford.nlp.tagger.maxent.MaxentTagger - Loading POS tagger from edu/stanford/nlp/models/pos-tagger/english-left3words/english-left3words-distsim.tagger ... done [0.6 s
[main] INFO edu.stanford.nlp.ie.AbstractSequenceClassifier - Loading classifier from edu/stanford/nlp/models/ner/english.all.3class.distsim.crf.ser.gz ... done [1.3 sec].
[main] INFO edu.stanford.nlp.ie.AbstractSequenceClassifier - Loading classifier from edu/stanford/nlp/models/ner/english.muc.7class.distsim.crf.ser.gz ... done [2.1 sec].
[main] INFO edu.stanford.nlp.ie.AbstractSequenceClassifier - Loading classifier from edu/stanford/nlp/models/ner/english.conll.4class.distsim.crf.ser.gz ... done [0.7 sec].
[main] INFO edu.stanford.nlp.time.JollyDayHolidays - Initializing JollyDayHoliday for SUTime from classpath edu/stanford/nlp/models/sutime/jollyday/Holidays_sutime.xml as sutime.binder.
[main] INFO edu.stanford.nlp.time.TimeExpressionExtractorImpl - Using following SUTime rules: edu/stanford/nlp/models/sutime/defs.sutime.txt,edu/stanford/nlp/models/sutime/english.sutim
[main] INFO edu.stanford.nlp.pipeline.TokensRegexNERAnnotator - ner.fine.regexner: Read 580704 unique entries out of 581863 from edu/stanford/nlp/models/kbp/english/gazetteers/regexner_
[main] INFO edu.stanford.nlp.pipeline.TokensRegexNERAnnotator - ner.fine.regexner: Read 4869 unique entries out of 4869 from edu/stanford/nlp/models/kbp/english/gazetteers/regexner_case
[main] INFO edu.stanford.nlp.pipeline.TokensRegexNERAnnotator - ner.fine.regexner: Read 585573 unique entries from 2 files
WRB
VBP
NN
```

The original output was "How are you". By using StanfordCoreNLP, it allows the bot to recognize each word's entity as being Partial-of-speech. Later, NER can be used to collaborate with Synonym recognition based on the type of the POS. Noticeably, the structure of StanfordCoreNLP is so large that it consumes almost 4GB of RAM to load.
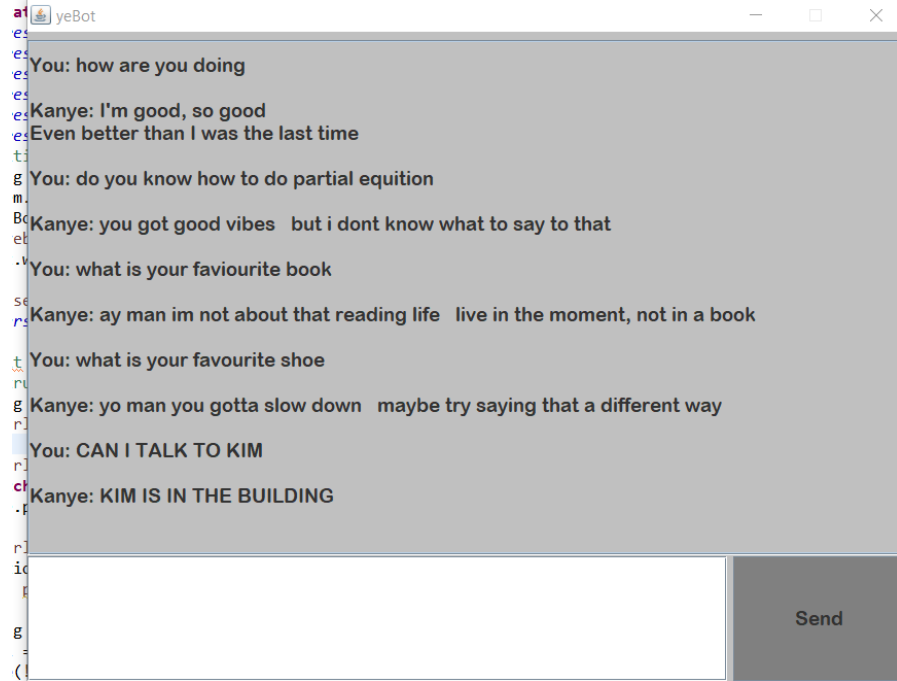
Stemmer:

Kanye: Ye is in the BUILDING NOW!

You: hi

Kanye: wassup

You: his

Kanye: wassup

Send

```
                }
            }
        }catch(Exception e) {}
    }
    System.exit(1);//This statement terminates the program
}

public static String find_syn(String[] input, IDictionary dict, final POS[] pos, Chat session) {
    String temp = "";
    try {
        System.out.println("Looking up synomous word...");
```

g =="WRB" || tag == "CC" || tag == "CD")

0]

When user greets to the bot the first time, it is appropriate. The second greeting however contains a typo as being "hi" becomes "his". The chatbot can still recognize it and stem it to "hi".
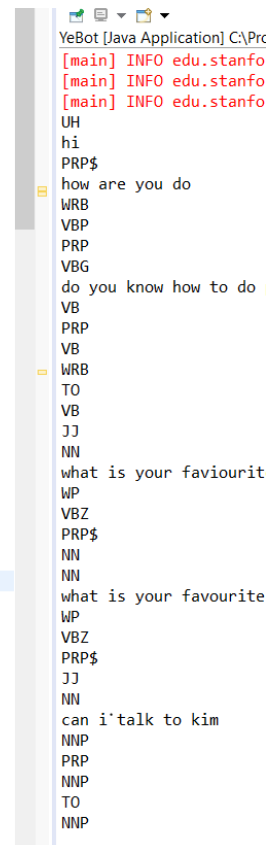
Demo:

yeBot

```
You: how are you doing

Kanye: I'm good, so good
Even better than I was the last time

You: do you know how to do partial equition

Kanye: you got good vibes   but i dont know what to say to that

You: what is your faviourite book

Kanye: ay man im not about that reading life   live in the moment, not in a book

You: what is your favourite shoe

Kanye: yo man you gotta slow down   maybe try saying that a different way

You: CAN I TALK TO KIM

Kanye: KIM IS IN THE BUILDING
```

Send

```
nput = null;
nput = conversation recieveInput():
```

```
YeBot [Java Application] C:\Pro
[main] INFO edu.stanfo
[main] INFO edu.stanfo
[main] INFO edu.stanfo
UH
hi
PRP$
how are you do
WRB
VBP
PRP
VBG
do you know how to do
VB
PRP
VB
WRB
TO
VB
JJ
NN
what is your faviourit
WP
VBZ
PRP$
NN
NN
what is your favourite
WP
VBZ
PRP$
JJ
NN
can i talk to kim
NNP
PRP
NNP
TO
NNP
```

Limitation of the program:

- Unable to use the WordNet dictionary due to Windows default decompression format, which conflicts with the format of JWI.
- The chatbot does not have neural network which limits its learning based on human inputs.
- Limited topic available
- Refactor is required to improve the execution time