AI

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artificial intelligence markup language

- intro - dialog based ai
- intro - aiml
- software requirements
- aiml tags
- aiml in use
- further reading

natural language parsing

- intro – nlp
- first attempt – random
- analyzing text – next word method
- not intelligent language parsing
- extending the next word method


```
<BeF> i can not find my favorite book
<maedchens> What is the title of the book?
<BeF> harry potter
<maedchens> /amazon harry potter...
results: 452
...
```

- language parsing/recognition
- answer guessing

- language parsing/recognition
- answer guessing
- learning?

Wissensdarstellung in <XML>

software

e.g. PyAIML, java...

```
import aiml
k = aiml.Kernel()
k.learn("std-startup.xml")
k.respond("load aiml b")
while True: print k.respond(raw_input("> "))
```

categories, patterns, templates, ...

```
<category>
<pattern>HALLO<pattern>
<template>Hallo!</template>
</category>
```

categories, patterns, templates, ...

```
<category>
<pattern>LABER LABER LAMENTIER<pattern>
<template>geh sterben!</template>
</category>
```

wildcards

```
<category>
<pattern>* LAMINIEREN<pattern>
<template>
  Bitte keinen Kaese laminieren.
</template>
</category>
```

wildcards

```
<category>
<pattern>HALLO _<pattern>
<template>Hallo.</template>
</category>
```

```
<category>
<pattern>* WELT<pattern>
<template>Die Welt ist rund.</template>
</category>
```

wildcards

```
<category>
<pattern>* FICKEN _<pattern>
<template>zu mir oder zu dir?</template>
</category>
```

maedchens statistik...

```
$ grep -i ficken jab*log |wc -l
     58
```

star

```
<category>
<pattern>MEIN NAME IST _<pattern>
<template>Hallo <star/></template>
</category>
```

random

```
<category>
<pattern>* HANDKETTENSAEGE _<pattern>
<template>
<random>
<li>
  du bist eigentlich der ideale terrorist</li>
<li>
  Du bist bestimmt jung und student an
  ner deutschen uni</li>
</random>
</template>
</category>
```

srai

simple redAIrection

```
<category>
<pattern>* ODER SO<pattern>
<template><srai><star/></srai>
</template></category>
```

```
<category>
<pattern>* ODER SO<pattern>
<template><sr/>
</template></category>
```

that

```
<category><pattern>WHAT IS FNORD</pattern>
<template><random>
<li>Fnord is evaporated herbal tea without
the herbs.</li>
<li>...</li>
</random></template></category>
```

```
<category><pattern>WHAT ELSE</pattern>
<that>FNORD _</that>
<template><srai>WHAT IS FNORD</srai>
</template></category>
```

think, get, set

```
<category><pattern>* FEFE</pattern>
<template>Kondome schuetzen vor dem Forken.
<think><set name="name">fefe</set></think>
</template></category>
```


```
<BeF> i can not find my favorite book
<maedchens> What is the title of the book?
<BeF> harry potter
<maedchens> /amazon harry potter...
results: 452
...
```

http://www.alicebot.org/documentation/
http://www.alicebot.org/TR/2001/WD-aiml/

simple nlp

learning by talking

attempt 1 – random

random /usr/dict/words output...
monkeys on the moon

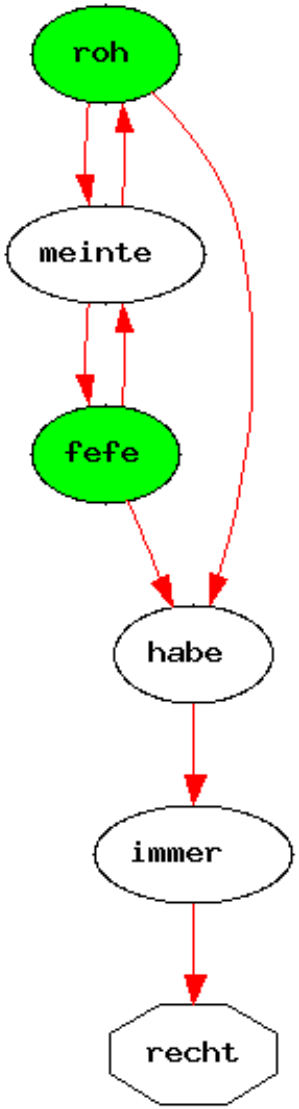
attempt 2 – next word method

intro

word1 word2 ... $->$ tree

simple example

roh meinte fefe habe immer recht.
fefe meinte roh habe immer recht.


roh
meinte
fefe
habe
immer
recht

sentence construction

```
#!/usr/bin/env python
# -*- coding: iso8859-15 -*-

from aill import parser
import sys

text = file(sys.argv[1]).read()

p = parser()
p.parse(text)

for i in range(10):
        print p.sentence()
```

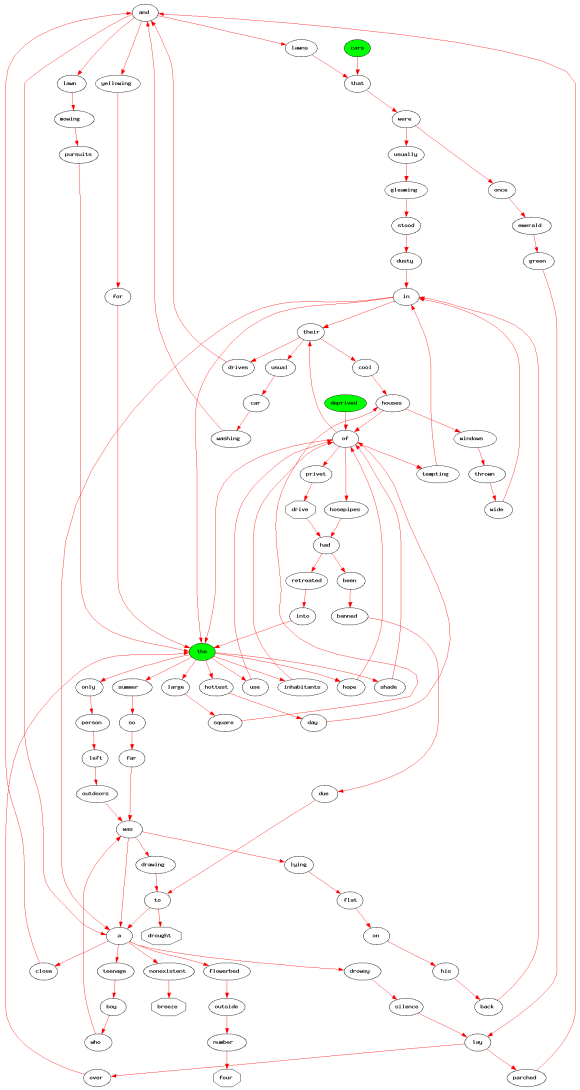
sentence construction

test

```
fefe meinte roh habe immer recht.
roh meinte fefe habe immer recht.
roh habe immer recht.
roh meinte roh habe immer recht.
fefe meinte roh meinte fefe meinte roh habe immer recht.
roh meinte roh meinte fefe meinte roh habe immer recht.
fefe habe immer recht.
fefe meinte fefe habe immer recht.
fefe habe immer recht.
fefe habe immer recht.
```

another simple example

The hottest day of the summer so far was drawing to a close and a drowsy silence lay over the large, square houses of Privet Drive. Cars that were usually gleaming stood dusty in their drives and lawns that were once emerald green lay parched and yellowing -for the use of hosepipes had been banned due to drought. Deprived of their usual car-washing and lawn-mowing pursuits, the inhabitants of Privet Drive had retreated into the shade of their cool houses, windows thrown wide in the hope of tempting in a nonexistent breeze. The only person left outdoors was a teenage boy who was lying flat on his back in a flowerbed outside number four.

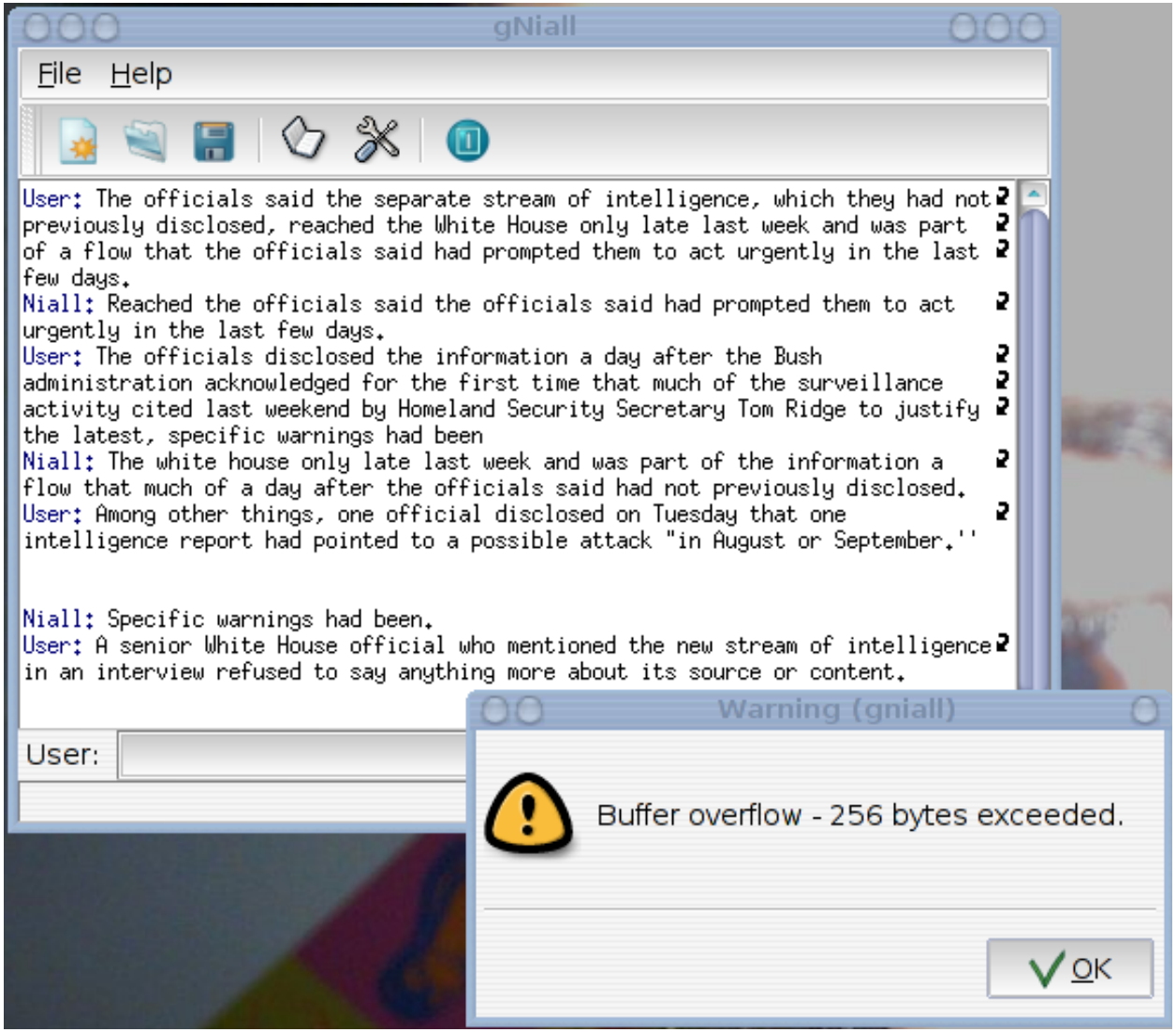

and
lawns
cars
that
lawn
yellowing
were
mowing
unusually
pursuits
gleaming
once
stood
emerald
dusty
green
for
in
their
drives
usual
cool
car
deprived
houses
washing
of
windows
privet
tempting
thrown
drive
hosepipes
wide
had
retreated
been
into
banned
the
only
summer
lamps
hottest
use
inhabitants
hope
shade
person
so
square
day
left
far
outdoors
due
was
drowning
lying
to
flat
a
drought
on
close
teenage
nonexistent
flowerbed
dreamy
his
boy
breeze
outside
silence
back
who
number
lay
over
four
parched

another simple example

sentence contruction

```
cars that were usually gleaming stood dusty in a
flowerbed outside number four.
cars that were once emerald green lay parched and a close
and lawn mowing pursuits the use of tempting in the
summer so far was lying flat on his back in the summer
so far was a drowsy silence lay parched and a teenage
boy who was a nonexistent breeze.
cars that were usually gleaming stood dusty in the
inhabitants of hosepipes had been banned due to drought.
deprived of their usual car washing and a flowerbed
outside number four.
```

```
Rem ***********************************************************
Rem **    NIALL  Non-Intelligent AMOS Language Learner Vers
Rem **    ======================================================
Rem **                  Written By Matthew Peck in 1990
Rem ***********************************************************
```


gNiall
File Help
User: The officials said the separate stream of intelligence, which they had not previously disclosed, reached the White House only late last week and was part of a flow that the officials said had prompted them to act urgently in the last few days.
Niall: Reached the officials said the officials said had prompted them to act urgently in the last few days.
User: The officials disclosed the information a day after the Bush administration acknowledged for the first time that much of the surveillance activity cited last weekend by Homeland Security Secretary Tom Ridge to justify the latest, specific warnings had been
Niall: The white house only late last week and was part of the information a flow that much of a day after the officials said had not previously disclosed.
User: Among other things, one official disclosed on Tuesday that one intelligence report had pointed to a possible attack "in August or September.''
Niall: Specific warnings had been.
User: A senior White House official who mentioned the new stream of intelligence in an interview refused to say anything more about its source or content.
User:
Warning (gniall)
Buffer overflow - 256 bytes exceeded.
OK

- lookahead
- probabilities

:)