Progress with GF Portuguese Resource Grammar

August 2009

Rami Galil
Overview

- Progress on Portuguese
- Code Extracts
- Demos and Results
Progress on Portuguese

- completed morphology for nouns, verbs and adjectives (improved smart paradigms)
- adjectivation is the most complex syntactic rule so far
- extended lexicon
- determination not completely finished
Some numbers

- 70 nouns in LexiconPor
- 60 of them are built given one form of the noun
- 20 verbs
- 16 adjectives
Nouns

- two smart paradigms for nouns
- first one accounts for the typical cases
- second does not try to decide on gender
- the order of patterns influences performance
  (maybe not so important)

\[
\text{smartNoun} : \text{Str} \rightarrow \text{Noun} \\
\text{notSoSmartNoun} : \text{Str} \rightarrow \text{Gender} \rightarrow \text{Noun}
\]
Nouns (cont.)

- alemão (Sg) => alemães (Pl)
- coração (Sg) => corações (Pl)
- smart paradigm can only account for one case
- what to do if the user wants to extend the lexicon?
Repeated code?

regVerbConj1 : Str -> Verb = \amar ->
  let am = Predef.tk 2 amar
  in mkVerb amar (am + "o") (am + "as") (am + "am" : "am") (am + "amos") (am + "ais") (am + "am")
          (am + "e") (am + "es") (am + "e") (am + "emos") (am + "eis") (am + "em")
          (am + "a") (am + "as")
          (am + "ado") (am + "ados") (am + "ada") (am + "adas")
          (am + "ando") ;

regVerbConj1G : Str -> Verb = \jogar ->
  let jog = Predef.tk 2 jogar
  in mkVerb jogar (jog + "o") (jog + "as") (jog + "am" : "am") (jog + "amos") (jog + "ais") (jog + "am")
          (jog + "e") (jog + "es") (jog + "e") (jog + "emos") (jog + "eis") (jog + "em")
          (jog + "a") (jog + "as")
          (jog + "ado") (jog + "ados") (jog + "ada") (jog + "adas")
          (jog + "ando") ;
Romance Functor

- o polícia || a polícia => Gender parameter has to account for this case
- difficult to integrate (a lot of linguistics concepts I don’t know)
- common library seems to be useful, allows the reuse of code

CN = (s : Number => Str; g : Gender) ;
Future Work

- complete morphology by the end of the year
- study some linguistics in order to implement more complex syntactic rules
- make use of GF in a relatively big case-study (proven to be very useful when we are dealing with specific domains)
- translating between program specification languages (seen as software contracts)
Thank you All!