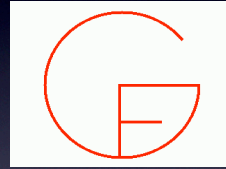# GF - Portuguese Extension

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Overview

- Portuguese language

- Starting with a new language (personal experience)

- Future work

Portuguese

- Romance language

- mutually intelligible with standard Spanish

- most of the lexicon is derived from Latin

New Language

- started without the functor for Romance languages

- using a small set of files: GrammarPor, LangPor, LexiconPor, ParadigmsPor, ResPor

- majority of the work is in GrammarPor and ResPor

New Language (cont.)

- morphological paradigms easier than syntax rules

- implemented: morphological paradigms for verbs, nouns and adjectives

- try to have a good smart paradigm in order to use the worst-case function as little as possible

Verbs

- verbs are the most *inflectionable* words in Portuguese (number, person, mood, tense, aspect and voice)

```
VForm =
        VInf
    | VFin TMood Number Person
    | VImper NumPersI
    | VPart Gender Number
    | VGer
    ;
```

```
-- very simple for now
TMood =  VPres Mood ;

Mood = Indic | Conjuct ;

NumPersI  = SgP2 | PlP2 ; -- | PlP1 ;

Tense = Pres ;
```

Adjectives

- adjectives in Portuguese: some can be placed before the noun; some can be placed after

- how to deal with adjectives that can be placed before and after?

- in some cases the same adjective can mean different things depending on the position (*homem rico vs. rico homem*)

```
Adj : Type = {s : Gender => Number => Str ; isPre : Bool} ;
```

Results

- small extracts from test.trees and test.treebank

AdjCN (PositA brown_A) (UseN door_N)

AdjCN (PositA heavy_A) (AdjCN (PositA small_A) (UseN door_N))

Lang: AdjCN (PositA brown_A) (UseN door_N)
LangEng: brown door
LangPor: porta castanha

Lang: AdjCN (PositA heavy_A) (AdjCN (PositA small_A) (UseN door_N))
LangEng: heavy small door
LangPor: pequena porta pesada

Future Work

- complete the verbs param

- implement more syntax rules (predication and determination)

- check if the use of the functor for Romance languages is convenient in this case

- refactoring (not sure if all the definitions are in the files they should be)