VOCES. An R-based Dashboard for Lexical Semantics
Krzysztof Nowak (krzysztof.nowak@ip.pan.pl)
Institute of Polish Language (Polish Academy of Sciences)

**Motivation**
- quick inspection of word properties in lexicographic and lexicologist practice
- rapid integration of the code produced by a research group and external R packages (workspace etc.)
- reducing distance between development and users
- filling the space between fully-fledged corpus query systems and ad-hoc scripting

**Points of Access**
- single lemma
  - query starts with the simple search form
  - on success the Overview page is populated with widgets presenting selected lemma properties
  - on widget click the Details page opens
- corpus
  - basic corpus stats may be inspected from the Corpus Info page

**The Details Page**
- word distribution by authors and texts
- basic prose description of the word distribution
- wordform frequency by corpus position
- word similarity chart (pkg: wordspace)

**Understand**
- text snippets explain where the data come from and how they have been computed

**Reuse**
- both raw data and graphics can be downloaded

**R Server**
- the entire code is stored in a single package
- on session start data tables (word / lemma frequency etc.) are loaded into memory
- wrapper functions: process user's input, dispatch call to relevant functions, return results
- reader functions: communicate with NoSketchEngine, CWB etc. and process their output
- plotting and computation functions

**How does it work?**
- written in Webix (a JS UI library)
- communicates with a REST API
- processes output of the R session
- displays returned data as tables, d3.js charts etc.
- embeds R plots

**I. Interface**
- written in Webix (a JS UI library)
- communicates with a REST API
- processes output of the R session
- displays returned data as tables, d3.js charts etc.
- embeds R plots

**2. OpenCPU**
- communicates with the R server
- exposes an R session as REST API to the web application