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Word at a Glance

a Customizable Word Profile Aggregator

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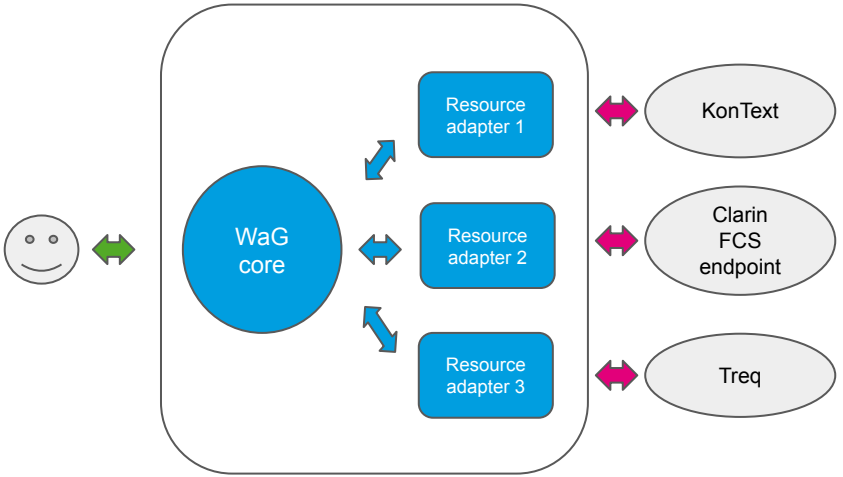
Motivation

- user-friendly presentation of word profiles based on available data
  - promotion of existing language resources
  - promotion of existing web applications that are linked from within Word at a Glance
- connecting different existing tools and datasets
  - within a single institution or project
  - across different sites
- intended audience
  - newcomers: easy access, showing the power of the data
  - advanced researches: overview of typical word's behaviour

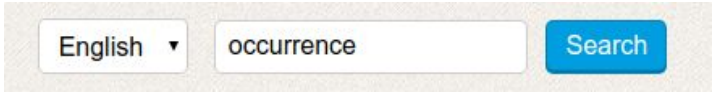
The Application ((Word at a Glance) at a Glance)

- Word/term knowledge aggregator
  - meta-search approach,
  - focus on results interconnection,
- Prepackaged application modules - tiles
  - diverse data resources,
  - different presentation modes,
  - selection and combination of the tiles gives a WaG installation its character & look

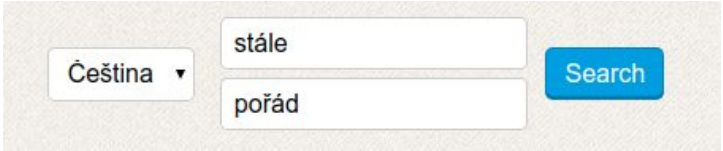


The Application - **Query Modes**

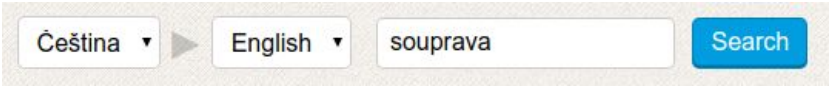
1) Single word search



2) Two or more words comparison

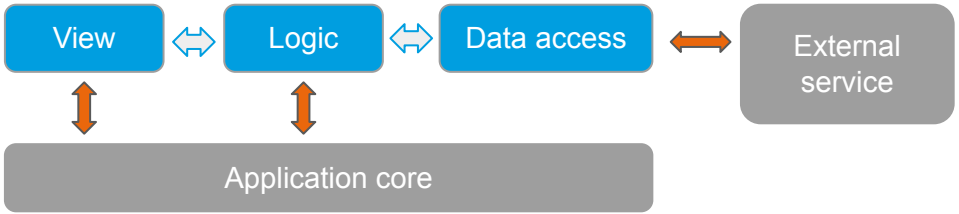


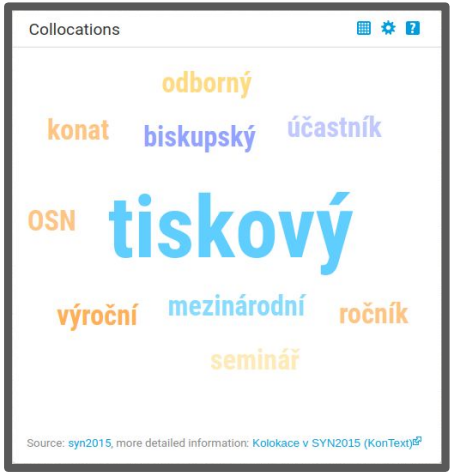
3) Word translation



The Application - **Tile**

- basic building block
  - query result = set of tiles
- data resource + function + presentation

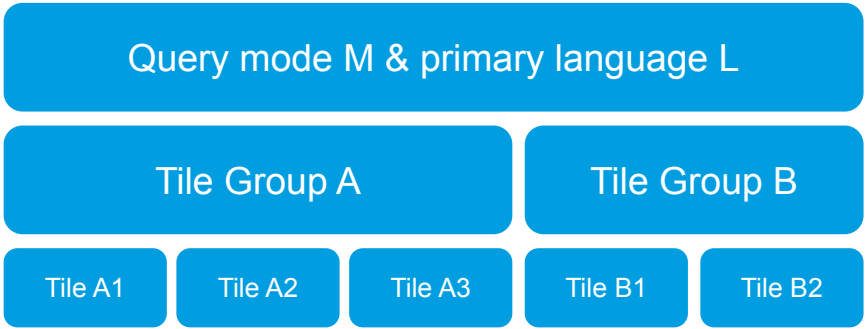




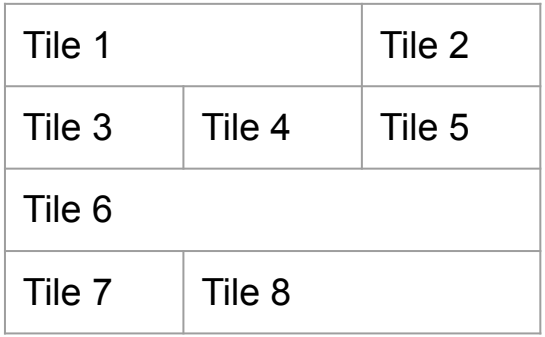
Already available: concordance, bar chart, pie chart, word forms, collocations, speeches, time-based distribution, word translations, word translations vs. contexts, geo areas, word freq. profile, filtered concordance, datamuse.com, raw HTML, multi-source freq. distribution

The Application - **Layout**

Logical structure

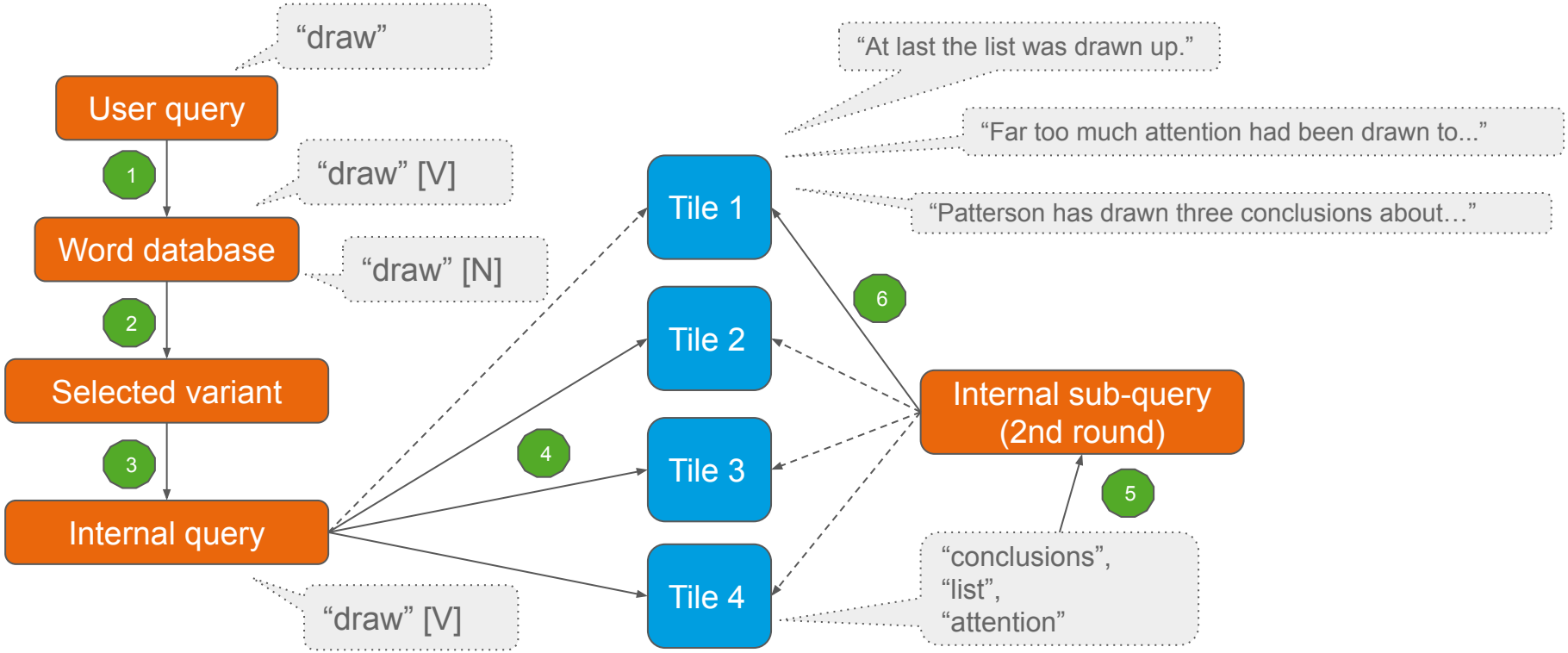


Visual structure



Mobile screen friendly

The Application - **Tiles Interaction**



Technical information

- built on existing development experience with KonText,
- written in TypeScript for both client and server side,
- based on React, RxJS, custom state management
- only system dependencies:
  - Node.JS + npm (package manager)
  - HTTP proxy server (Nginx, Apache,...) for WaG and attached services
- Configured via JSON files
  - JSON schema available for easier editing

Configuration (of a tile) - example

```
"CollocExamplesSynchronic": {
    "tileType": "ConcFilterTile",
    "label": {"cs-CZ": "Ukázky kolokací", "en-US": "Collocation examples"},
    "readSubqFrom": ["CollocationsSynchronic"],
    "apiURL": "http://kontext.korpus.test/kontext-api/quick_filter",
    "corpname": "syn2015",
    "posAttrs": ["word"],
    "metadataAttrs": [
        {"value": "doc.title", "label": {"cs-CZ": "Název", "en-US": "Title"}},
        {"value": "doc.author", "label": {"cs-CZ": "Autor", "en-US": "Author"}},
        {"value": "doc.biblio", "label": {"cs-CZ": "Bib. info", "en-US": "Bib. info"}}
    ]
}
```

Installation & deployment considerations

- Backend services availability & reliability
  - Multiple remote (3rd party) services => outages, processing times out of control
  - solution: caching, redundancy
- Increased load on backend services
  - Single WaG query produces typically at least N queries to backend services (N = num. of tiles)
  - solution: caching, load-balancing, proper backend service setup

Outlook

- Multi-word expressions
  - phrasemes, idioms, named entities,...
- Words comparison
  - = rewrite of an existing CNC application SyD
- More data resources
  - ElasticSearch, general SQL, NoSkE, Corpus Workbench,...
- 3rd party tiles / resource adapters
  - Add a custom module to the configuration -> compile -> deploy

Conclusion

- universal word meta-search tool,
  - usage not limited to linguistics,
- great for extracting interesting functions out of different tools and putting them together,
  - promoting of tools and data sets,
- production ready - https://www.korpus.cz/slovo-v-kostce/,
- open-source
  - developed on GitHub - https://github.com/czcorpus/wdglance,
- active development - more functions to come.

Thank you!