



INSTITUTE  
OF BIOSTATISTICS  
AND ANALYSES  
Masaryk University

# Web-based tools for data visualisation enhanced by R scripts

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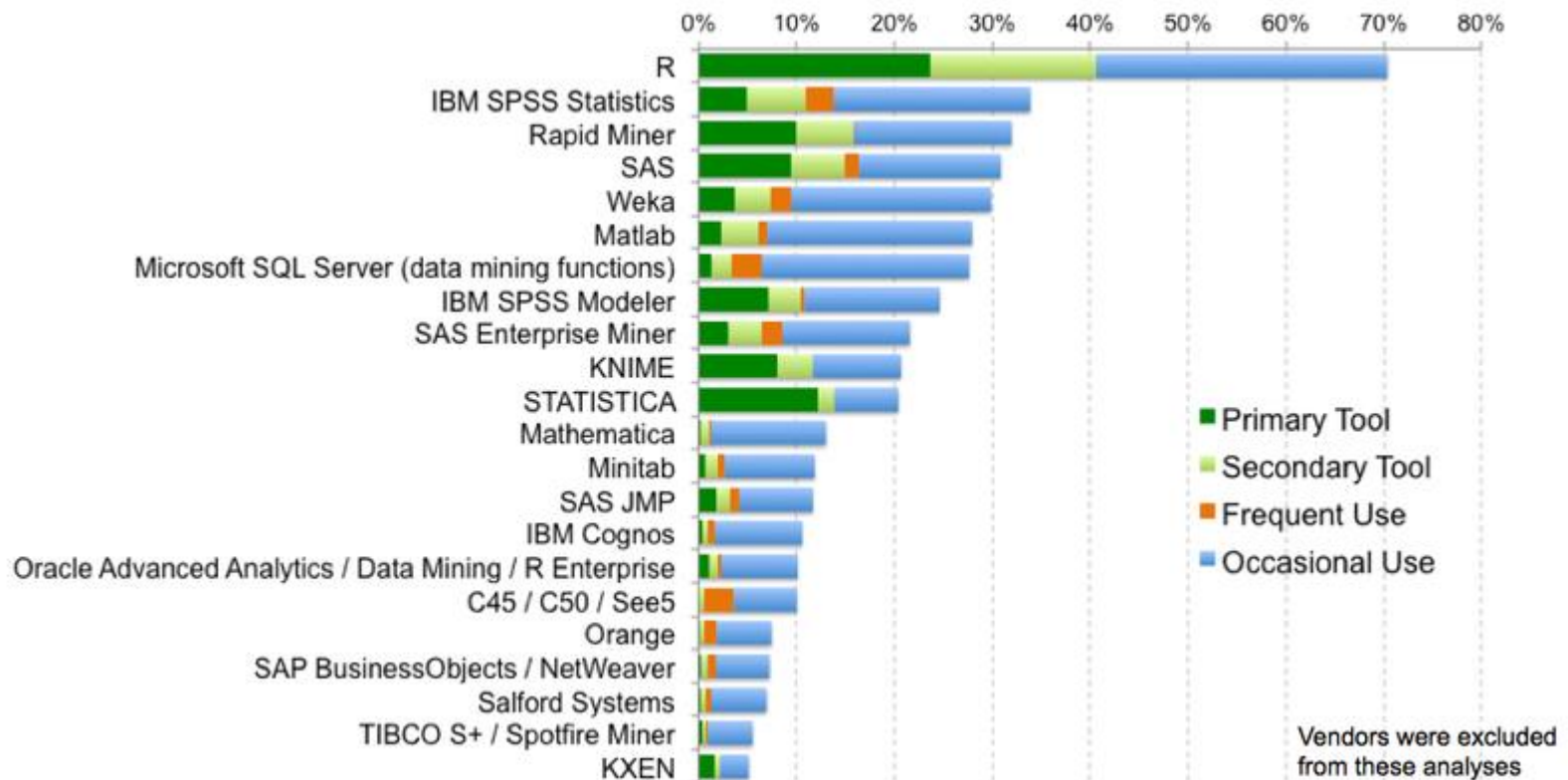


Masaryk University, Faculty of Medicine  
Institute of Biostatistics and Analyses

# Outline

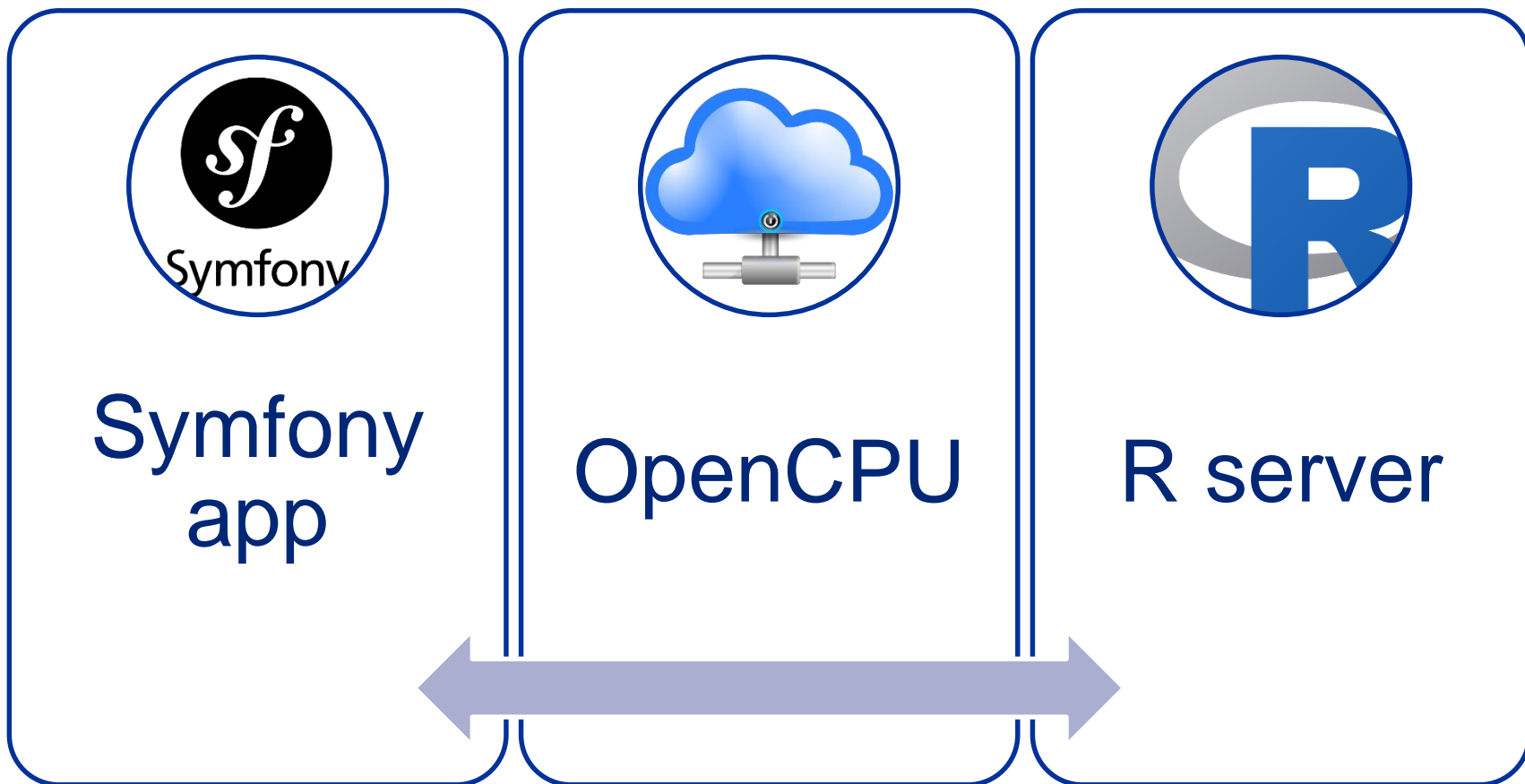
- R language context
- OpenCPU and R server
- Interactive Data Views of Comprehensive Cancer Care Network
  - Introduction
  - PPTX export
- MEDCIN Platform
  - Introduction
  - Data analysis
  - R graphics on the web (Shiny free)

# Graph of usage of tools for statisticians (2013)



<http://blog.revolutionanalytics.com/2013/10/r-usage-skyrocketing-rexer-poll.html>

# OpenCPU library



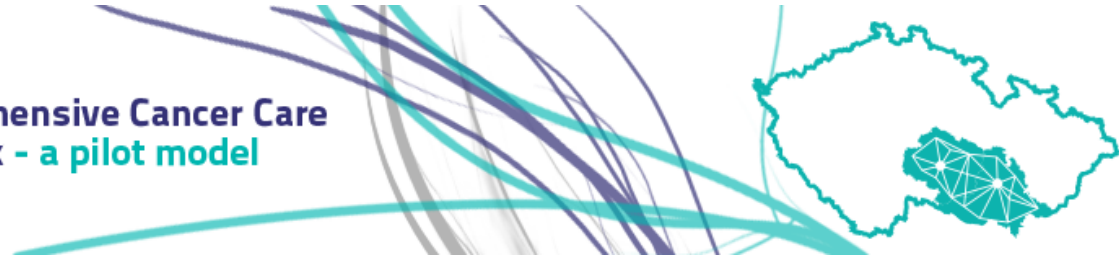


# CCCN





Comprehensive Cancer Care  
Network - a pilot model



”

*Our pilot model of CCCN involves eight hospitals, namely one highly specialised national comprehensive cancer centre, three regional cancer centres and four general hospitals.*

“

”

*The pilot model covers all components of cancer care.*

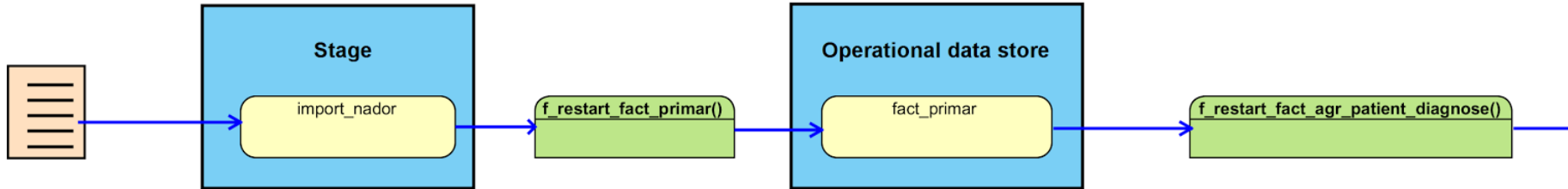
“

# The data source

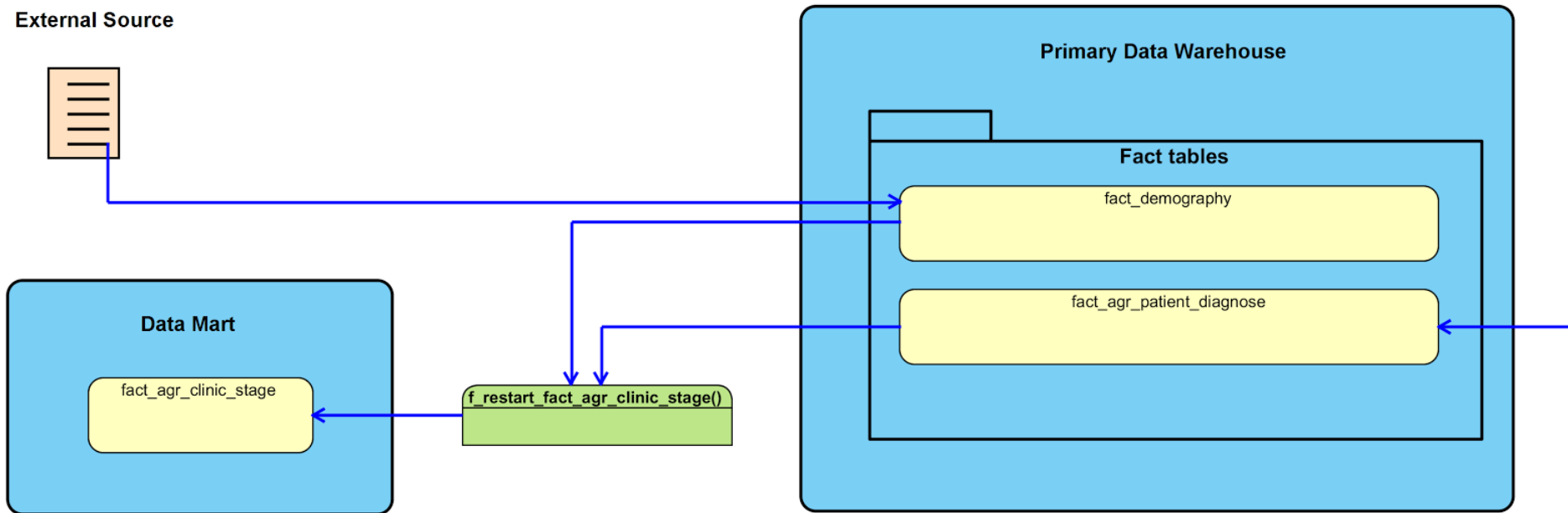
- The only data source is **The Czech Cancer Registry (CNCR)**.
- The purpose of the CNCR is registration of cases of oncological diseases and periodic monitoring of their further evolution.
- Includes information about patients with disease in following groups:
  - malignant neoplasms (C00 - C97),
  - neoplasms in situ (D00 - D09),
  - neoplasms of uncertain or unknown behavior (D37 - D48) and
  - other specified diseases with participation of lymphoreticular tissue and reticulohistiocytic system (D76.0).

# Building the data warehouse

External Source



External Source



A Pilot Interactive Data Viewer for Cancer Screening, Dušek L., et al.



# PPTX Export

- User browse the Data Viewer and use the form to submit data and metadata
- After submit the R function is executed
- An output PPTX is stored in OpenCPU files structure
- The output is returned to the user for download
- User can continue in browsing



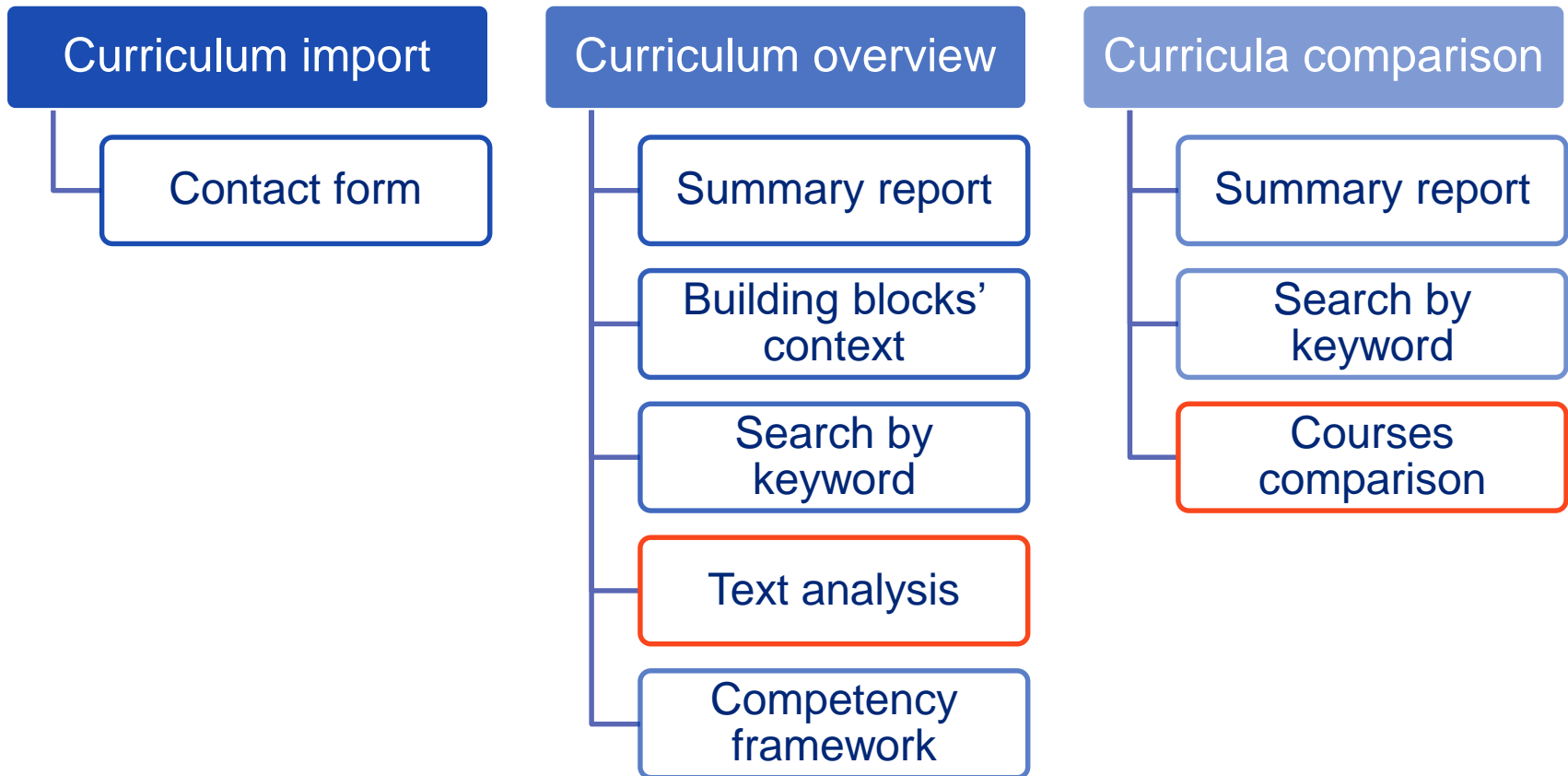
# MEDCIN



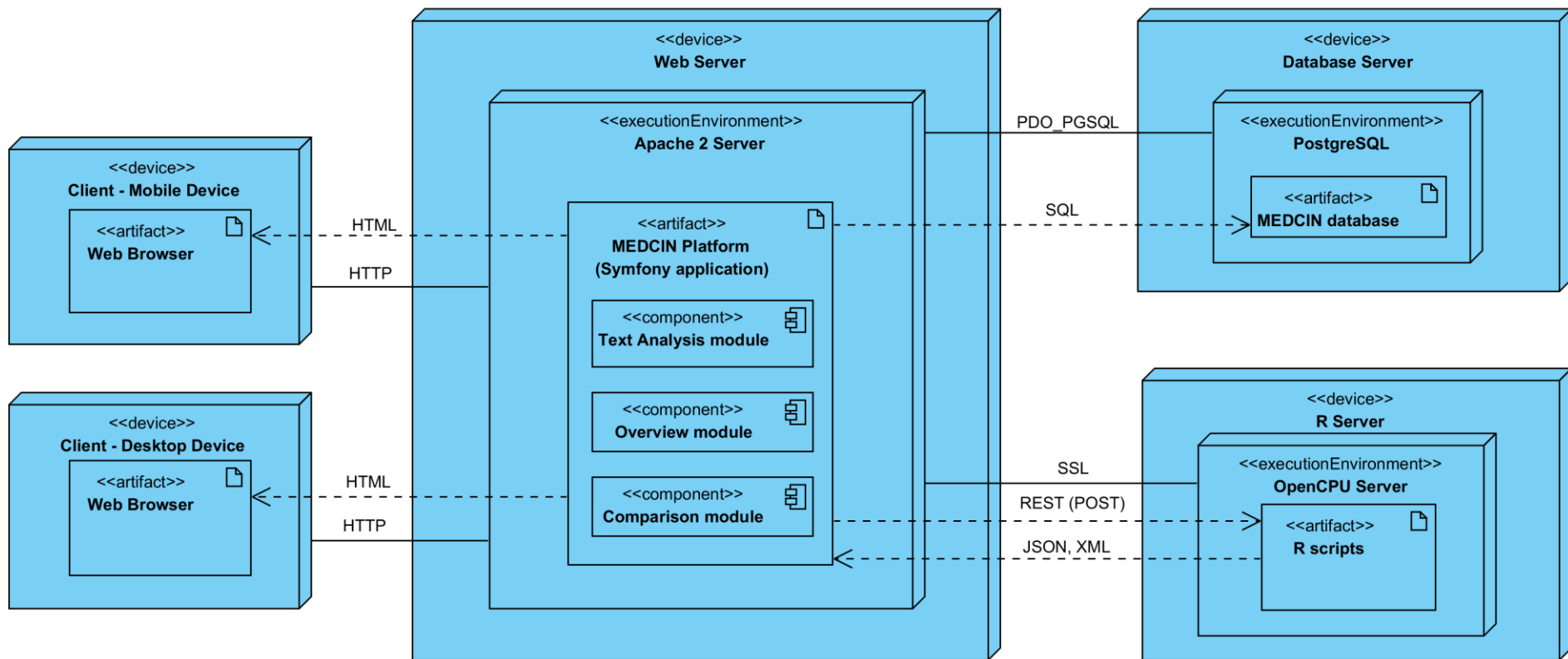
## Medical Curriculum Innovations – aims

- Curriculum management system standardisation
- Background to evaluate and map medical curricula
- Medical curricula comparison model
- MedBiquitous educational standards spreading
- Exemplar implementation for dissemination of best practice

# MEDCIN Platform – provided modules



# The structure of the MEDCIN Platform



Towards a Keyword Extraction in Medical and Healthcare Education, Komenda M., et al.

# Conclusion

- We are able to use R scripts in the web environment
- We reflect the needs of our analysts
- We participate in the open-source development
- We use new technologies
- We are open to a collaboration on projects



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