

Agile Analytic Tool Development Using Knowledge Forum APIs

INQUIRY

- What is the best architecture/technology selection to build the **new, usable** and **flexible** analytic tools for Knowledge Forum in **agile** (very fast) way?

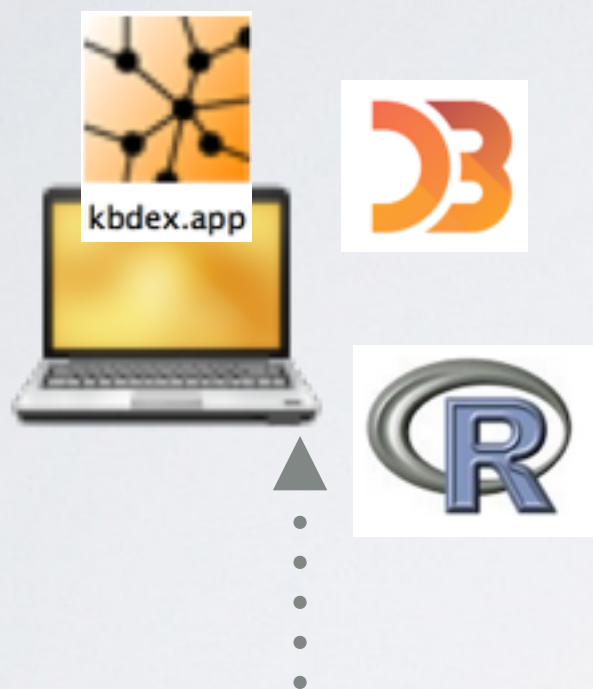
API

- API: Application Programming Interface
 - Interface for “software” to interact with each other

BASIC ARCHITECTURE

Analytic Tools
on Third Party Software

KF5 GWT client on PC/Browser



KF5 API

KF5 Service Interface

KF5 Server Core

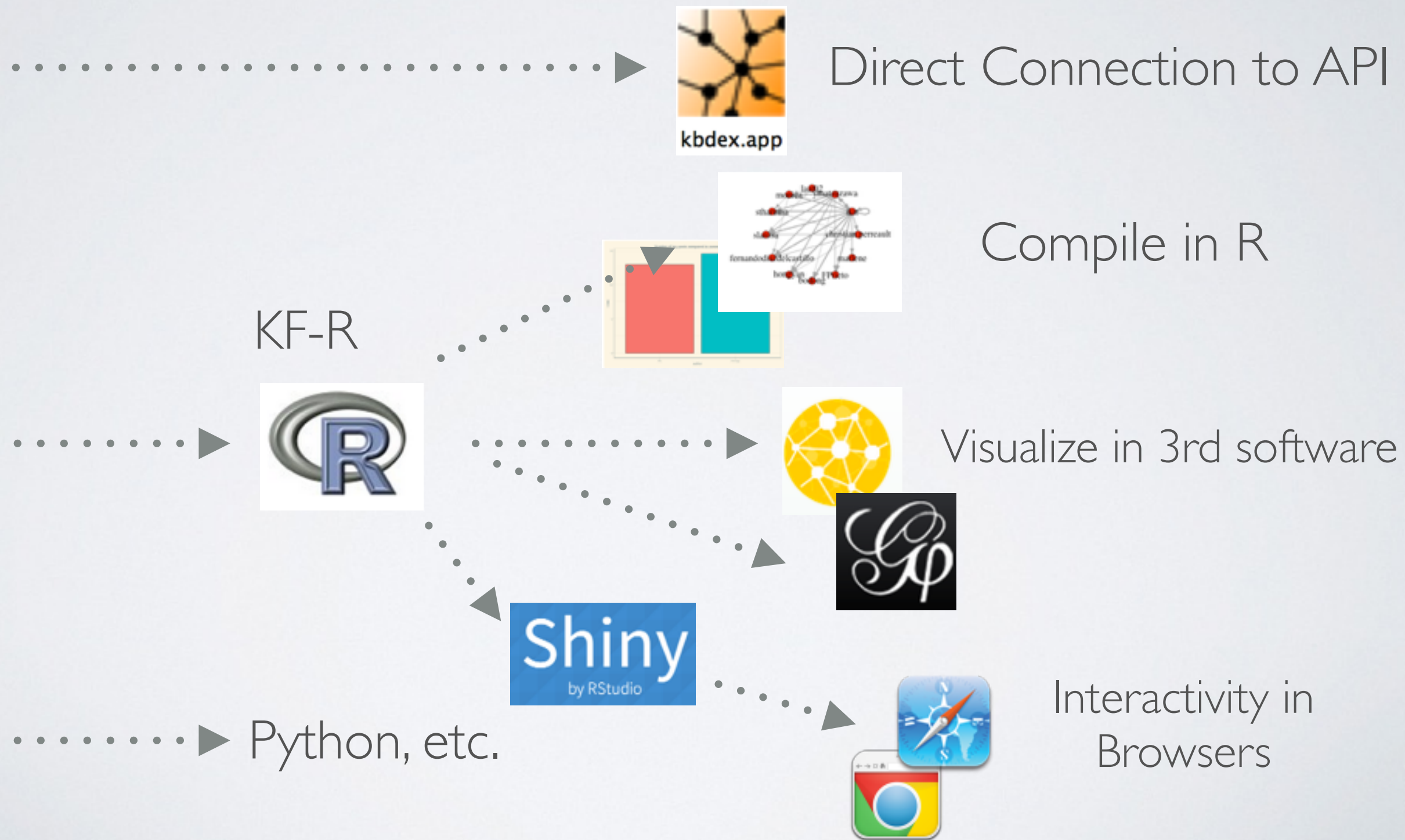


server



MySQL DBMS (on Server)

ANALYTIC TOOLS ARCHITECTURE



DEMONSTRATION I

- Shiny Application

AGILITY OF SHINY APPLICATION

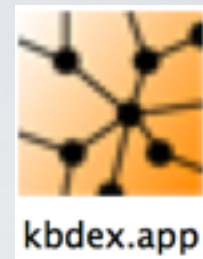
- KF-R: 100 Lines of R
- Shiny: 700 Lines of R
- Development Term: ~1 hr per component

DEMONSTRATION II

- SNA Analytic Tools Software in Four Ways
 - KBDex
 - Visualize on R (by igraph library)
 - KF-R to Gephi
 - KF-R to Condor3

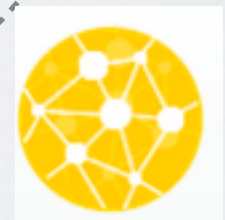
CHOICE

SNA SUPPORT SOFTWARE



KBDex

condor3



gephi



Content
Network

Human
Network

Static
Network Analysis

Temporal
Network Analysis

KF-R SNA PACKAGE

```
> kf.sna.init()  
> kf.sna.show()
```



AGILITY OF SNA APPLICATION

- KBDeX: - 1 day
 - 100 Lines: connection - Java
 - 300 Lines: GUI - Java
- KF-R-SNA: - 1 day (including understanding KF-R)
 - 70 Lines - R
- KF-R-SNA extension to gephi, condor3 - 0.5 day
 - 70 Lines - R

PARTY BEGINS!

ANALYTIC TOOL DESIGN

- What questions are you trying to answer?
- Who are you designing for?
- What will constitute evidence?
- How would you assess the tool?
- What data would the tool require? How would the API have to be expanded, changed, improved?