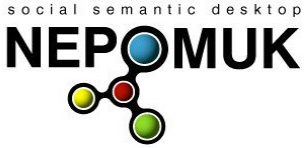
COGNIUM SYSTEMS

iPad

Semantic Laboratory Notebook



1. Addressed Needs

2. Solution: iPad

3. Case Study

Business Case: R&D productivity

"The time for discovery and development of a new molecular entity (NME) has gone from approximately *4 years in the early 1960s to over 14 years today*."

"A one month delay in a blockbuster drug's approval can yield *$41.7 million* (U.S.) in lost revenue."

"The pitfalls of paper are estimated to cost the drug industry over *$1 billion annually* in lost opportunities and duplicated research."

"If pharma companies are *to survive, let alone remain competitive*, they will need to find ways to coordinate and consolidate information."

"*R&D productivity* - not R&D investment - is the real challenge for global innovation."

Source: Atrium research, Rockley bulletin, Nature, First Consulting Group, Financial Times

KM needs in bioresearch

Collective data management (29) *share only what you want with whomever you want whenever you want, clarity, structure-based search …*

Data integration (21)
across applications, groups, organizations, business process, domains …

Data storage (21)
all data, electronic, open and standard formats, i.p. protection …

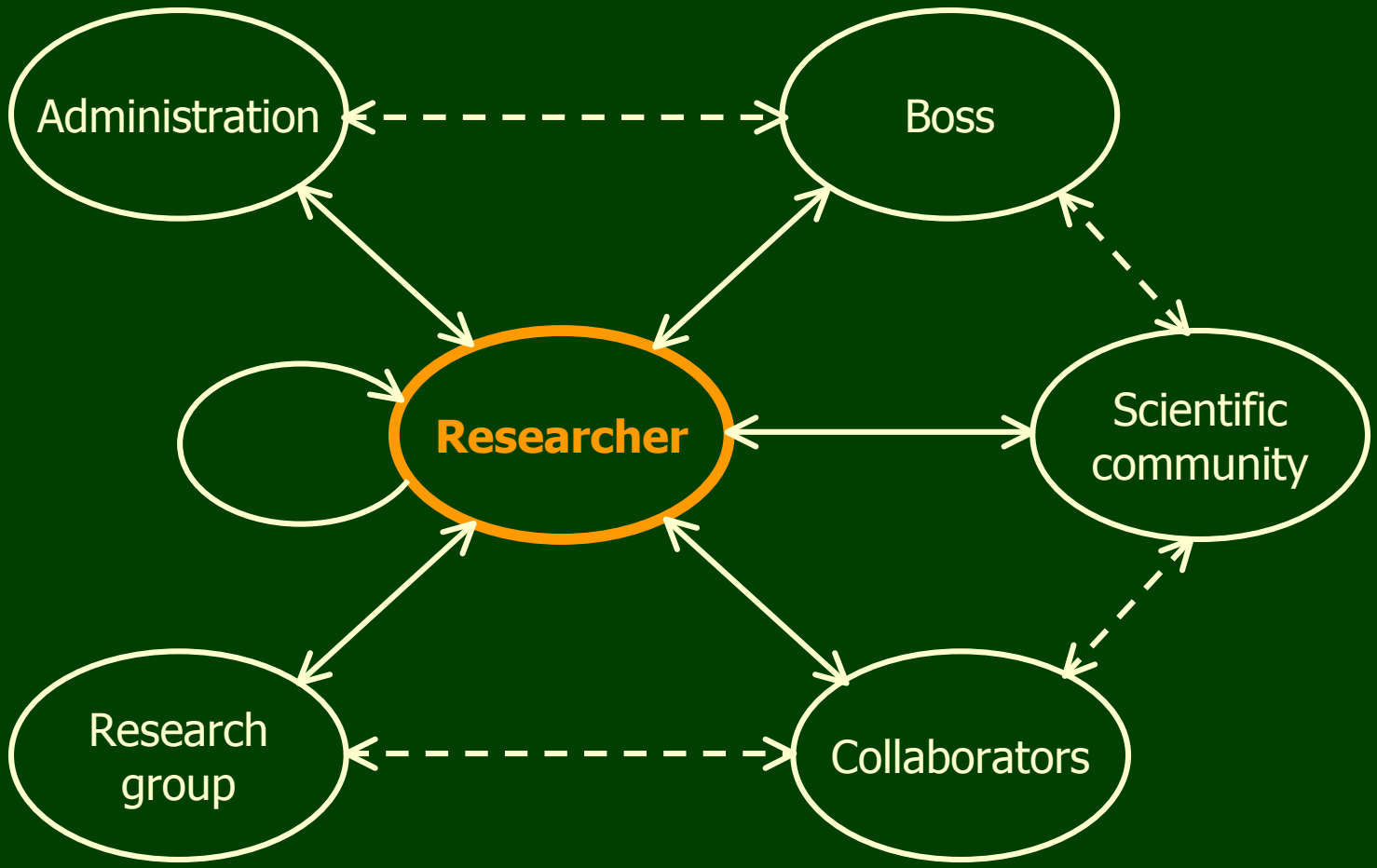
Personal data management (18) *effective data entry (simple, mobile, flexible, structured), useful perspectives, structure-based search …*

Project management (12)
collaborative document editing, keeping up-to-date, task management …

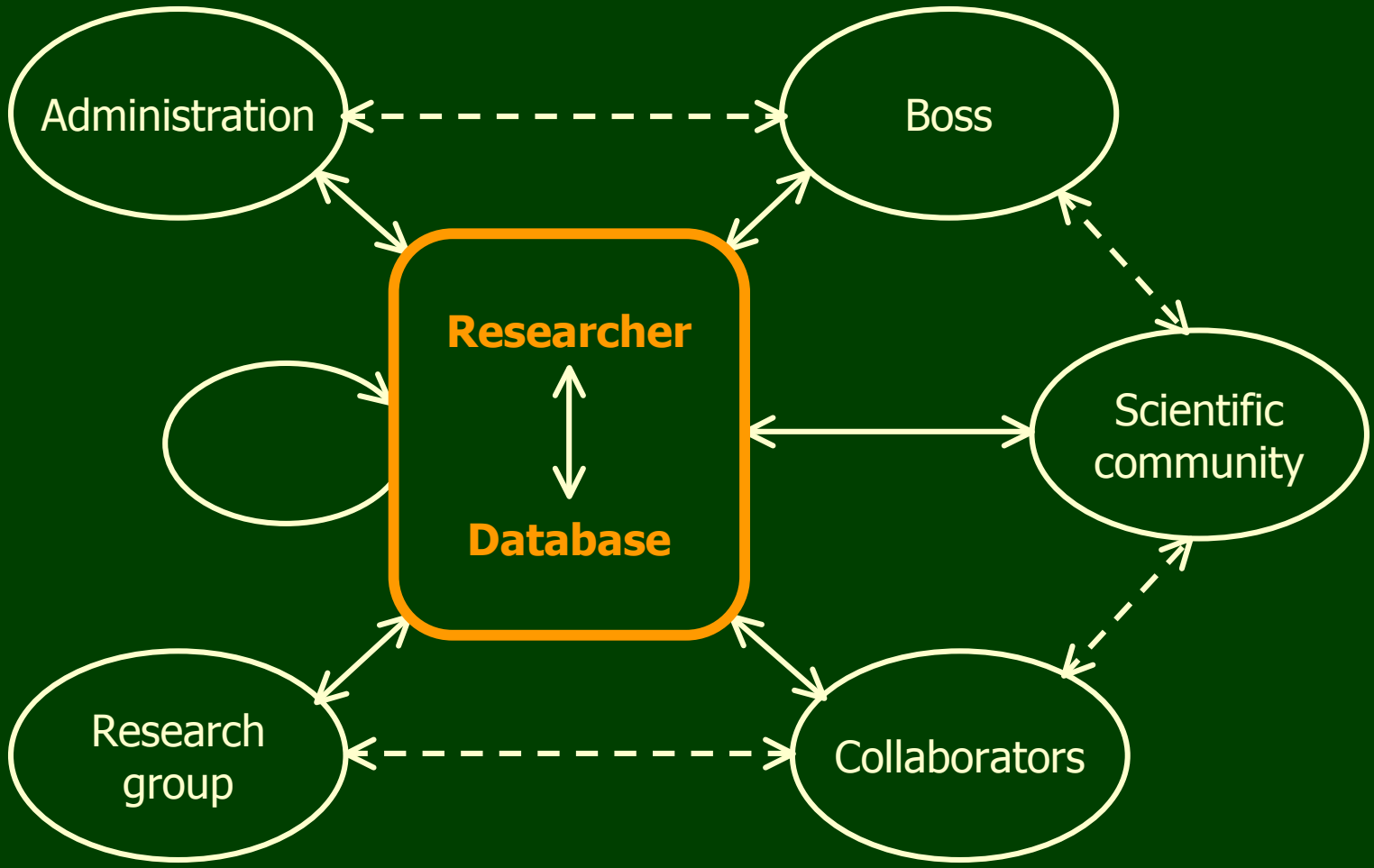
Analysis (12) *inference, validation, discovery, consistency, autocompletion*

Communication (7)
open channels, clarity, report & publication draft generation, multi-channel …

Flow of research information: at present



Flow of research information: proposed



Key technological issues

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   multi-media, without form constraints, inter-object relationships

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   proof of date and authorship in an electronic environment

Business Case: Semantic Web

"Gartner says the *explosion of unstructured data* is negatively affecting the productivity of individuals and the overall competitiveness of enterprises."

"A semantic model can have a *profound affect* on how research data can be organized in meaningful bundles."

"Semantic Web technologies will create opportunities for *improvements in discovery, development, and safety*. Companies should move aggressively to pilot the use of semantic technologies in these areas."

"*Life scientists in particular*, Berners-Lee insisted, could find the Semantic Web a valuable tool and "provide leadership to lots of other fields" in implementing this next-generation Web technology."

"The Semantic Web will likely *profoundly change* the very nature of how scientific knowledge is produced and shared."

Source: First Consulting Group, Science, Bio-IT World, Nature

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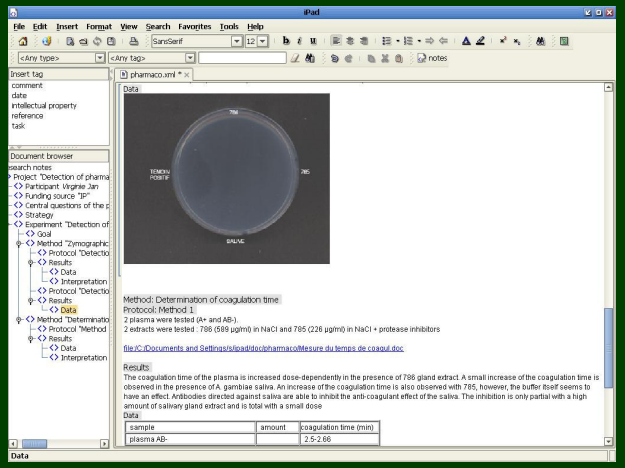
iPad Components



iPad Editor

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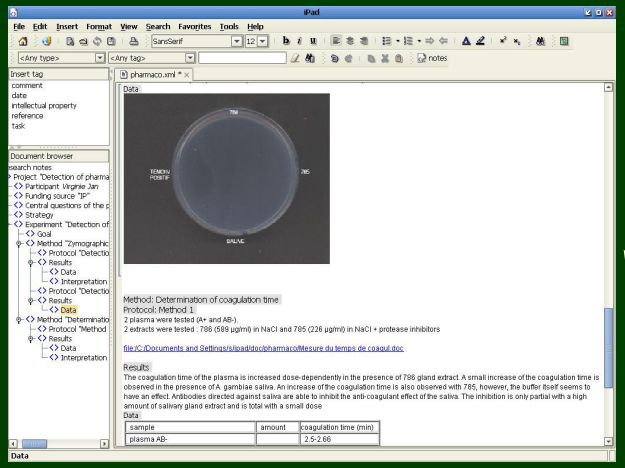

iPad Editor

iPad middle-layer server

Database

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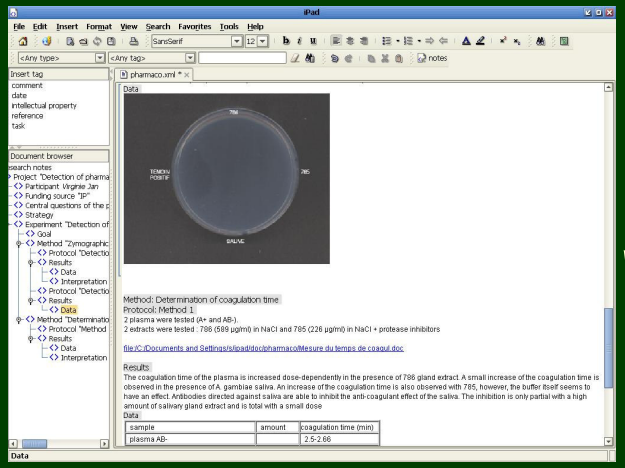

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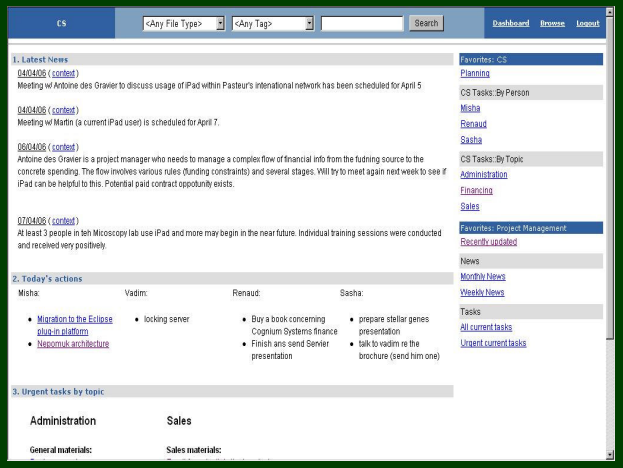

iPad Web Portal

Database

iPad: functionality checklist

- ✓ **Collective data management** *share only what you want with whomever you want whenever you want, clarity, structure-based search …*
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  open channels, clarity, report & publication draft generation, multi-channel …

Source: CS Market Analysis, 2006

iPad: key issue checklist

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Major Benefits

Monetary savings

+ Less lost work
+ Resource optimization

Time savings

+ Faster search and assembly
+ Faster communication and formatting
+ Less lost work

Increase in the quality and quantity of research

+ Useful perspectives
+ Improved collaboration
+ Improved project management
+ More information available to the organization
+ More information given to the scientific community (in the future)
+ A tool to structure scientific data (in the near future)

Drawbacks

- Learning new software (rather simple)
- Changing habits (will go away over time, gradual adoption)

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Case Study at Institut Pasteur

- Over 1 year continuous use
- Formal evaluation is planned within NEPOMUK
- Positive user feedback so far
- Feedback confirms our hypotheses
- Interest from pharma industry