



University of Vienna



Dept. of
Med. Computer Sciences

workshop 3

Integration of Medical Image Processing into Clinical Workflow and
the Electronic Patient Record

Considerations for the integration of medical research data and patient care data coming from distinct sources

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overview

- ◆ background
- ◆ data integration (3 proposals)
- ◆ further problems
- ◆ discussion

background



General Hospital of Vienna

- ◆ project for renewal of IT infrastructure for patient care & research sector
- ◆ financial budget: \approx 40 Mio €
- ◆ distribution of budget:
 - 75 % patient care
 - 25 % research
- ◆ timeline: 2002 - roll out at end of 2007
- ◆ current status: invitation to suppliers

responsibilities



- ◆ patient care: General Hospital IT-Team (Community of Vienna)
- ◆ research: IMC (University of Vienna)
planning, selection, installation & testing,
maintenance
- ◆ IMC proposed 4 research subsystems:
 - trial- and evaluation
 - bio-informatic
 - image archive
 - platform for development of expert systems



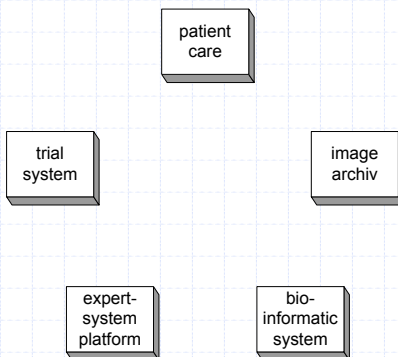
data integration problem

- ◆ linking subsystems and also patient care system
- ➔ one single case will be spread over several systems
 - ie: trials containing images for documentation
 - ◆ **trial** data is held at the trial system
 - ◆ **images** are archived at the image archive
 - ◆ data from **patient care system** is necessary

? But how should the systems be linked ?



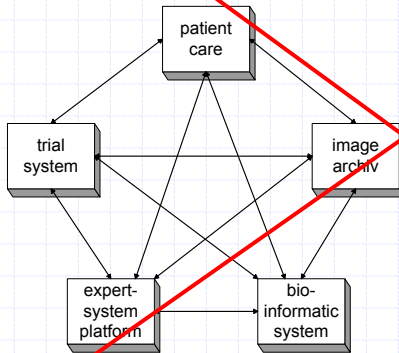
starting point



to integrate:

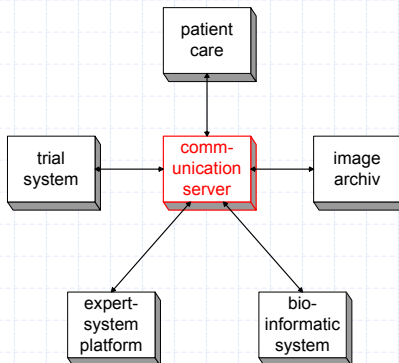
- 5 distinct systems
- 5 distinct archives

proposal 1 direct interconnections



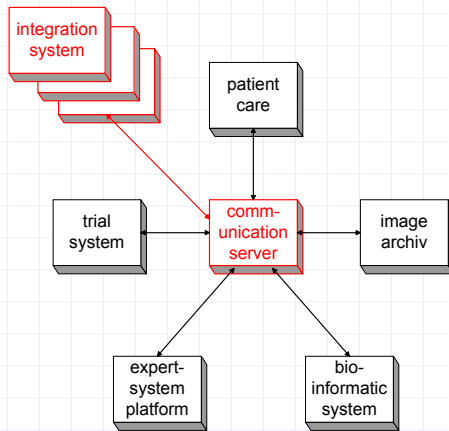
- each system must be able to accept / process data from / to 4 other distinct systems
 - ⇒ manipulation of commercial systems
- maintenance of large number of interconnections is very cumbersome

proposal 2 communication server



- communication is managed by communication server (CS)
- + number of interconnections is reduced
- CS has to process the data
 - ⇒ lot of work has to be done at CS
- systems must be able to integrate the other systems' data

proposal 3 integration system

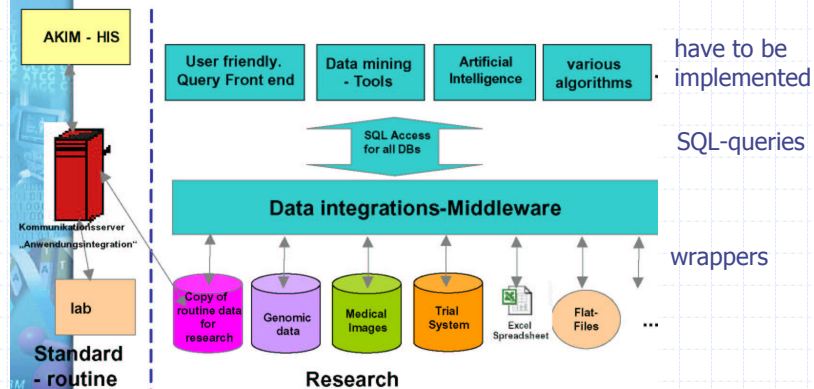


- integration systems (IS) serve as user interfaces to all other systems
- IS presents & distributes the integrated data via a CS
- + special ISs for different tasks
- IS has to be implemented, adjusted to existing systems

DiscoveryLink (IBM)



AKH - Research Integration Platform





further problems

1. high organizational effort necessary
Which data has to be presented to whom ?
2. preserving transparency over the whole service to decision-makers
 - sub systems alone are losing influence
 - only user interface of IS is visible to user



discussion

IS proposal is the most promising.

Are there any other proposals ?

Are there any experiences in similar integration projects ?

Is it worth the effort ?