

Open source and complex knowledge bases: The OpenGALEN manifesto

Open Source Health Care Alliance
(OSHCA)

London, September 6th 2001

Dr Jeremy Rogers MRCCGP
University Of Manchester, UK



OpenGALEN

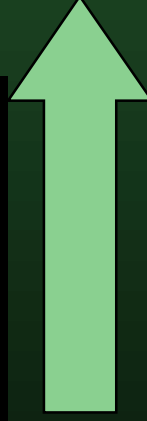


THE UNIVERSITY
OF MANCHESTER

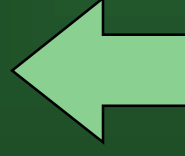
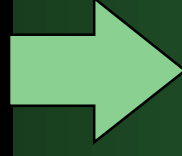
KBs in Medical Informatics

Information model: *Structure*

site : *pathology*
Liver : Cancer (metastatic)



Intelligent System



Concept model: *Meaning*

Metastatic liver cancer

Inference model: *Consequences*

IF:
metastatic neoplasm
THEN:
Action: refer (urgently)



KBs: An Observation

3 types of model

Millions of objects

1 System

Interoperability requires compatability and managed overlap

Never been done before

Single, central effort too complex and risky

Necessarily distributed effort – esp inference

How to manage interplay with distributed effort ?



Closed Source

- PRO:
 - Control
 - Attributable
 - Demarcation fixed
 - Commercially exploitable
- CON:
 - Inflexible
 - Blinkered
 - Isolated from prototyping
 - Management doesn't scale
 - Attributable = target
 - Demarcation may need to change in light of experience
 - Market distrust



Open Source

- PRO:
 - Unrestricted prototyping
 - No barriers to use
 - Management doesn't have to scale (WYSIWYG)
 - Overtly non-commercial
 - Users don't pay for own feedback
 - Users don't wait for improvements
- CON:
 - Requires developer community
 - Difficult to pump-prime



OpenGALEN Manifesto

- Complex KBs are needed
 - **KBs not data sets**; intimately related to software
- Needs prototyping and iterative development
 - Distributed working not just a nice idea, but inevitably going to happen: decision support
- Too complex to centralise
 - **Can't claim to manage all interfaces**
 - **Risk of blind spots**
 - **Risk of throttling resource**
- Users can't contribute unless open
 - **Won't contribute unless free**



OpenGALEN: Putting it into practice

- www.opengalen.org
- Open source terminology
- Open source development software
- Open source specification of delivery server
- Community
 - Developers: topThing, Kermanog
 - Users: France, Korea, UK
- Some attached resources **NOT** open source
 - Some NHS Crown Copyright



Summary

- Intelligent systems desirable
- Require many KBs that must interoperate
- Interfaces numerous and complex
- Not centrally manageable
- *ad hoc* development is inevitable and desirable
 - To pretend otherwise is to lie
 - Open source best model for this

