usable access for open microscopy environments

MADISON APRIL 2006

Dundee EPSRC Project
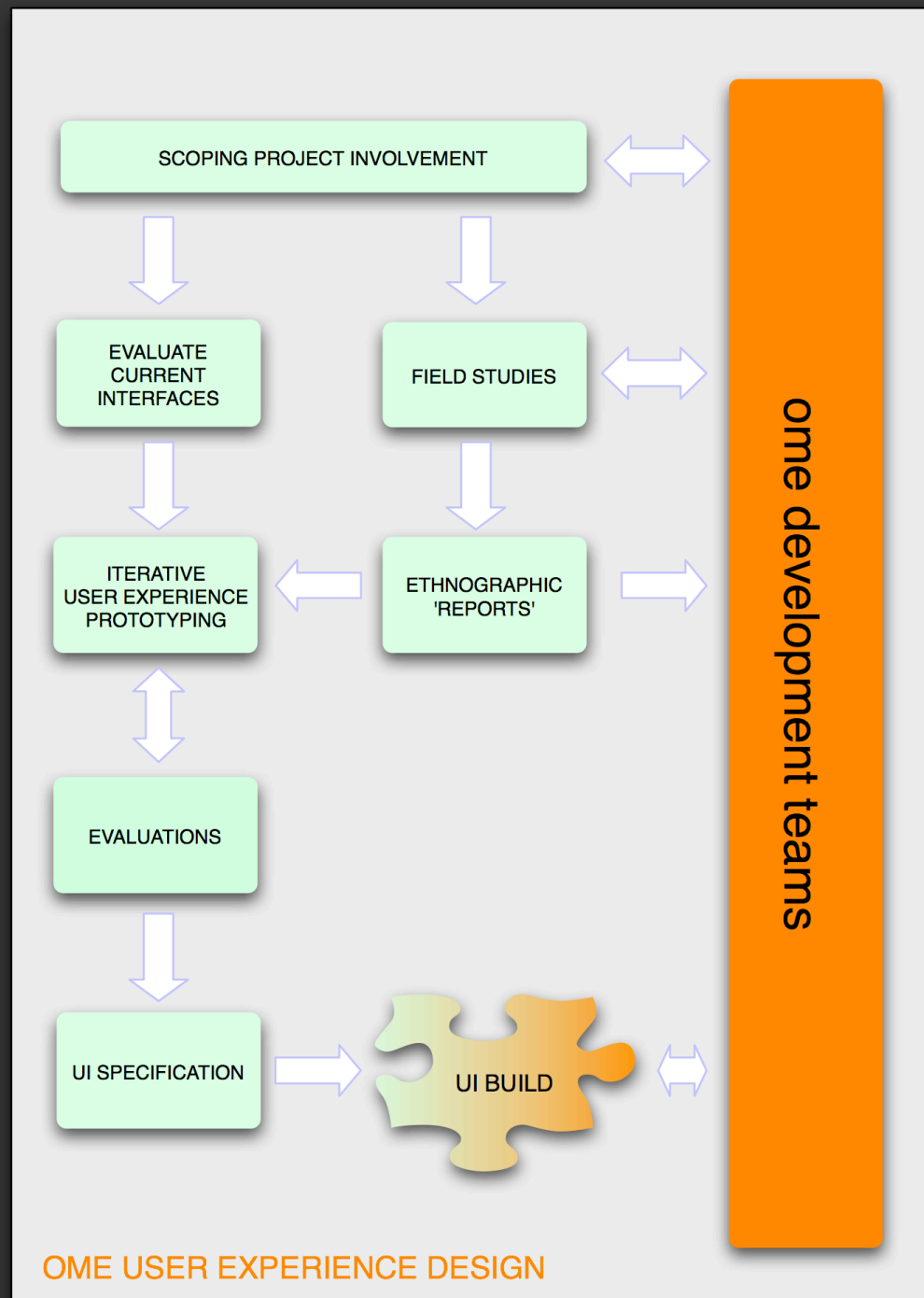
- **3 year project from June**
  - usable access to open microscopy environments

- **Investigators**
  - Jason Swedlow
  - Peter Gregor (interface design, usability expert)
  - Catriona Macaulay (requirements, design ethnographer)
  - Ian Ricketts (project management, developer)

- **Staffing**
  - Designer/Developer (3 yrs) and Design ethnographer (18 mo)
  - PhD Student (3 yrs)

Project Objectives

- Investigate ways of improving access to large and complex datasets

- Using ethnographic techniques, to study the ways investigators perceive and interact with a complex e-science system (OME)

- Analyse the usability of the existing interfaces to OME

- On the basis of these findings develop an iterative user experience improvement plan, adopting the best available techniques from human computer interaction studies and other fields

- Implement this plan and measure the outcomes

Ethnography?

- 'Writing Culture':
  - immersion in 'the field'
  - participant / observation (hanging about)
  - mix of qualitative and quantitative techniques
  - all about interpretations

- Ethnography and design:
  - widely used in industry (Intel, Sapient, Microsoft etc.)
  - Integrates well with HCI design methods like scenario based design

- Aim:
  - describe imaging work practices within Life Sciences
  - explore relationship of scientists with technologies like OME
  - export relevant insights to UI design

SCOPING PROJECT INVOLVEMENT

EVALUATE CURRENT INTERFACES

FIELD STUDIES

ITERATIVE USER EXPERIENCE PROTOTYPING

ETHNOGRAPHIC 'REPORTS'

EVALUATIONS

UI SPECIFICATION

UI BUILD

ome development teams

OME USER EXPERIENCE DESIGN

OME Developers as Participants

- You are already doing the ethnography!
    - tap into that resource
    - multi-site is exciting

- Highly specialised system:
    - Close relationship between developers and end users
    - Users don't always know what is possible
    - Users as developers

- The OME story:
    - history is valuable
    - history can get lost

Ethics and Consent

- Ethical issues:
    - professional basis (UK Association of Social Anthropologists)
    - informed consent
    - confidentiality
    - recordings (e.g. audio)

- Consent:
    - ongoing process
    - trust
    - sensitivities

- Next step:
    - read info
    - return signed form if OK

Next Steps…

- Getting to know you all

- Ethnographic study of end users and developers
  – focus on Dundee users initially
  – visit users at other labs

- Usability evaluations of OMERO and OME
  – Thinkaloud, heuristic, keystroke logging, focus groups, etc

- Planning/scoping for:
  – iterative prototype development / evaluation
  – integrating UI with backend and middleware developments