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Arts and
Social Sciences

NeCTAR Research Tools Project: Federated Archaeological Information Management Systems

A heterogeneous, modular, and federated approach to
archaeological information management

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Partners

- Intersect, NSW
- VeRSI, Victoria
- 15 Australian Universities
- 9 Australian archaeological consultancies
- 9 foreign organisations (universities, institutes, etc.)
- ACT Heritage Unit
- NSW Heritage Branch
- NSW Office of Environment and Heritage
- Australian Archaeological Association
- Australian Society for Historical Archaeology
- Australian Institute of Maritime Archaeology

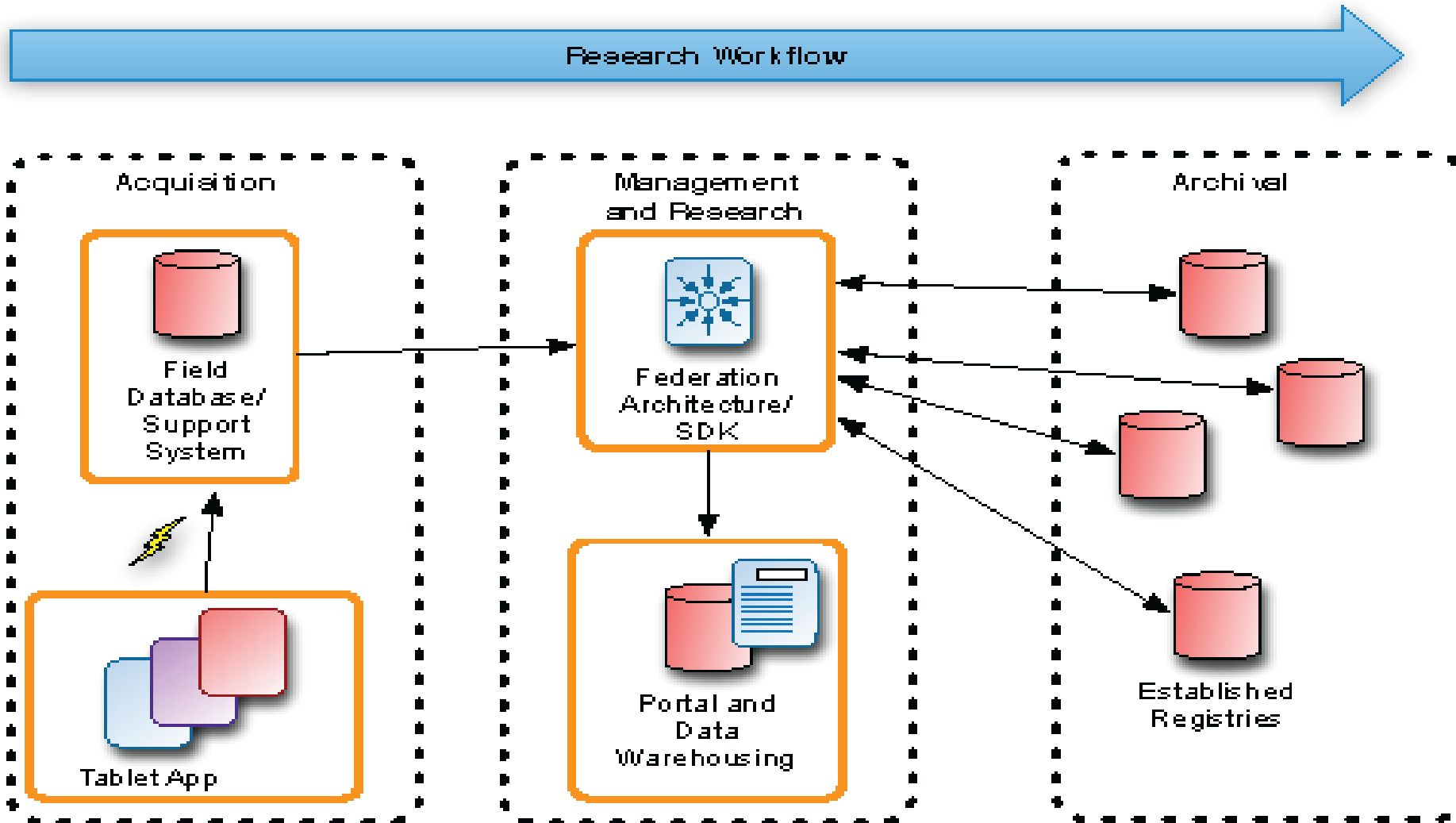


Approach

- Manage digital data from creation to archive
- Break data out of its “destination website” silos
- Federated, rather than centralised, system
- Utilise existing resources wherever possible
- Encourage portable, machine-readable, reusable data
- Facilitate access to these resources through a portal and interoperability protocols allowing work across data sources
- Develop new applications only where necessary: mobile device applications and (maybe) an operational database



Research Work flow



Components that will be built as part of the proposal



Existing resources (examples)

- Heurist
- Open Context
- The Digital Archaeological Record (tDAR)
- Australian Historical Archaeology Database
- NSW Archaeology Online
- Archaeology Data Service (UK)
- Archaeological Map of Bulgaria
- MATRIX (Michigan State University)



Interoperability

- Physical
- Data
- Specification
- Semantic



Data ideas

- “Small science” data: varied – structured, unstructured, multimedia, spatial, etc.
- Many organisations and projects produce data
- No widely accepted / used discipline standard
- Data management geared towards individual research agendas
- Comprehensive data / metadata standards probably won't work (cf. CIDOC-CRM)
- **INSTEAD:**
- Ontology based multi-agent systems OR
- Loose coupling plus metadata about quality



OCHRE Core Ontology

- http://ochre.lib.uchicago.edu/index_files/Page845.htm
- Spatial unit
- Taxonomic unit
- Temporal unit
- Agency unit
- Relationship
- Taxonomy
- Etc.



Data ideas

- Sematic interoperability: promote recordkeeping standards – separate from data management, a “guide to best practice” against which data can be graded
- Work with the AAA and other peak bodies to lobby the ARC to recognise datasets that meet certain thresholds as research outputs