

New eResearch Tools for Archaeologists

Creating, Sharing, and Archiving Digital Archaeological Data

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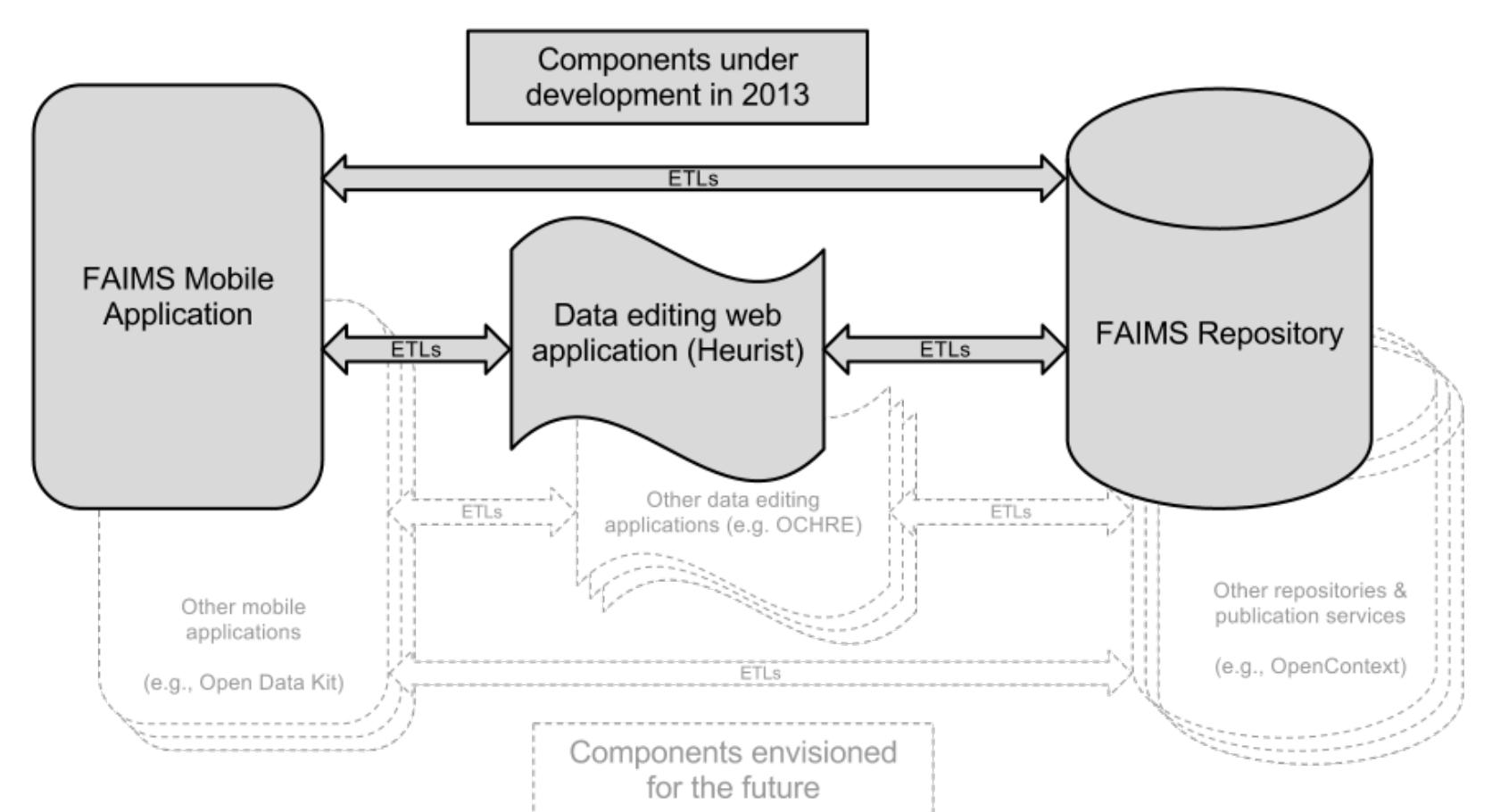
FAIMS is a \$950k eResearch Tools project, funded by the National eResearch Collaboration Tools and Resources (NeCTAR) program. NeCTAR is an Australian Government program to build new infrastructure for Australian researchers. The project is led by the University of New South Wales, Sydney, in collaboration with participants from 41 organisations, including universities, archaeological consultancies and heritage agencies in Australia and overseas.

FAIMS was launched on 5 June 2012, a beta version of all applications will be available in July 2013, with a full product release scheduled for October 2013.

Canvassing the community

During August 2012, FAIMS conducted a stocktaking survey and workshop in order to set the design directions for the project. Participants articulated the following needs and desires:

- Comprehensive information management from digital data creation through editing to online archiving and dissemination
- Customisable; adapts to existing project workflows and terminology
- Mapping / GIS capable
- Error tolerant (versioning; backup; synchronisation)
- Manages sensitive data
- Data editing and visualisation tools
- Production of compatible datasets for comparative and regional research
- Offline functionality

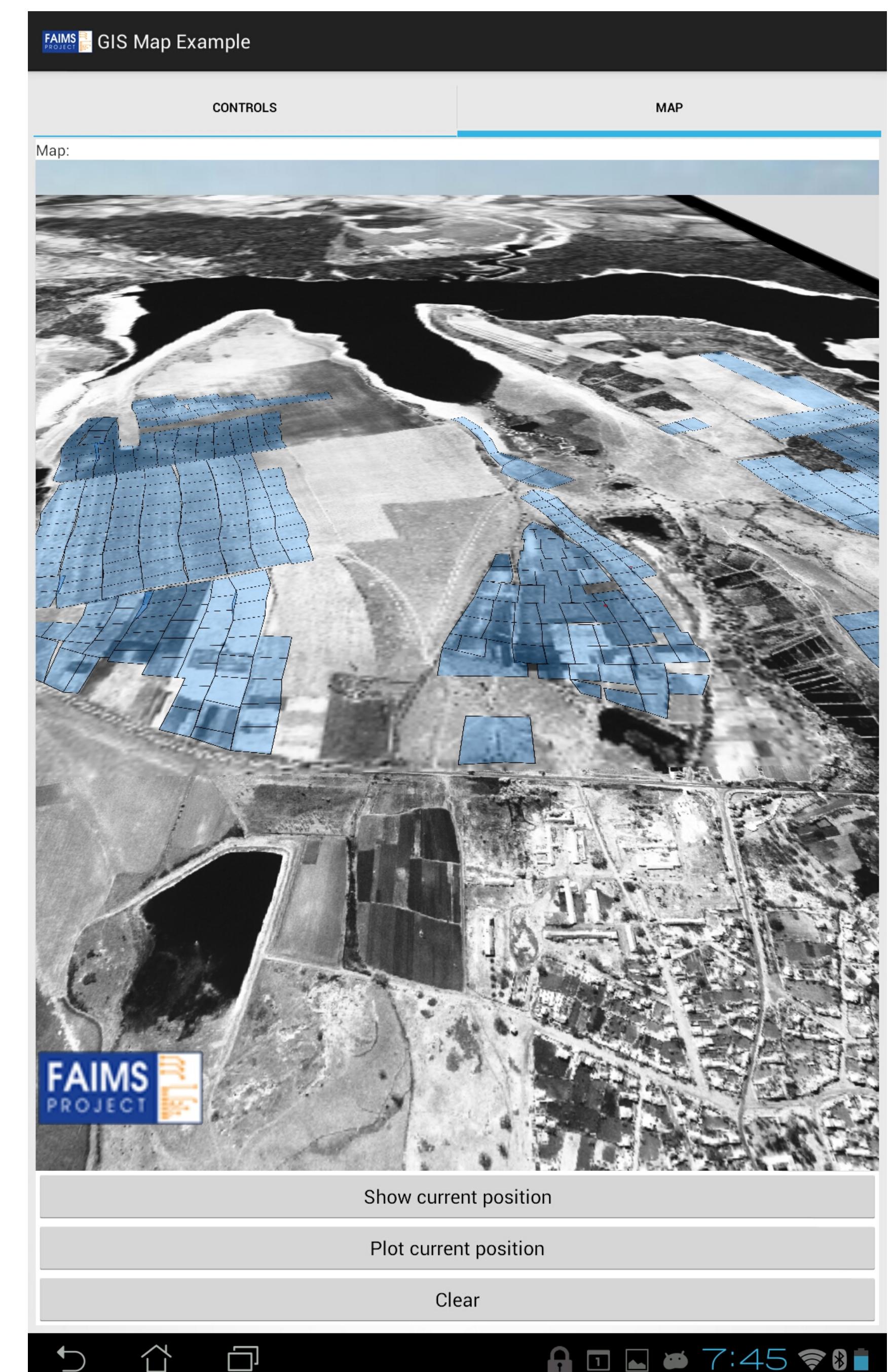


Current and planned federation components of the FAIMS infrastructure.

Development Focus

Based on this community input, we are developing open source software including:

- Highly customisable mobile applications for data collection;
- Web applications for data processing;
- An online repository for archiving and disseminating data, with provisions throughout for creating semantically and technically compatible datasets.



Features & Innovations

FAIMS Mobile device application

- Customisable data schemata and user interfaces
- Mapping / lightweight GIS
- File management for images, drawings, etc.
- Versioning
- Synchronisation and backup
- Simple data editing
- Automated export to other FAIMS applications
- Creation of semantically compatible datasets
- Offline functionality

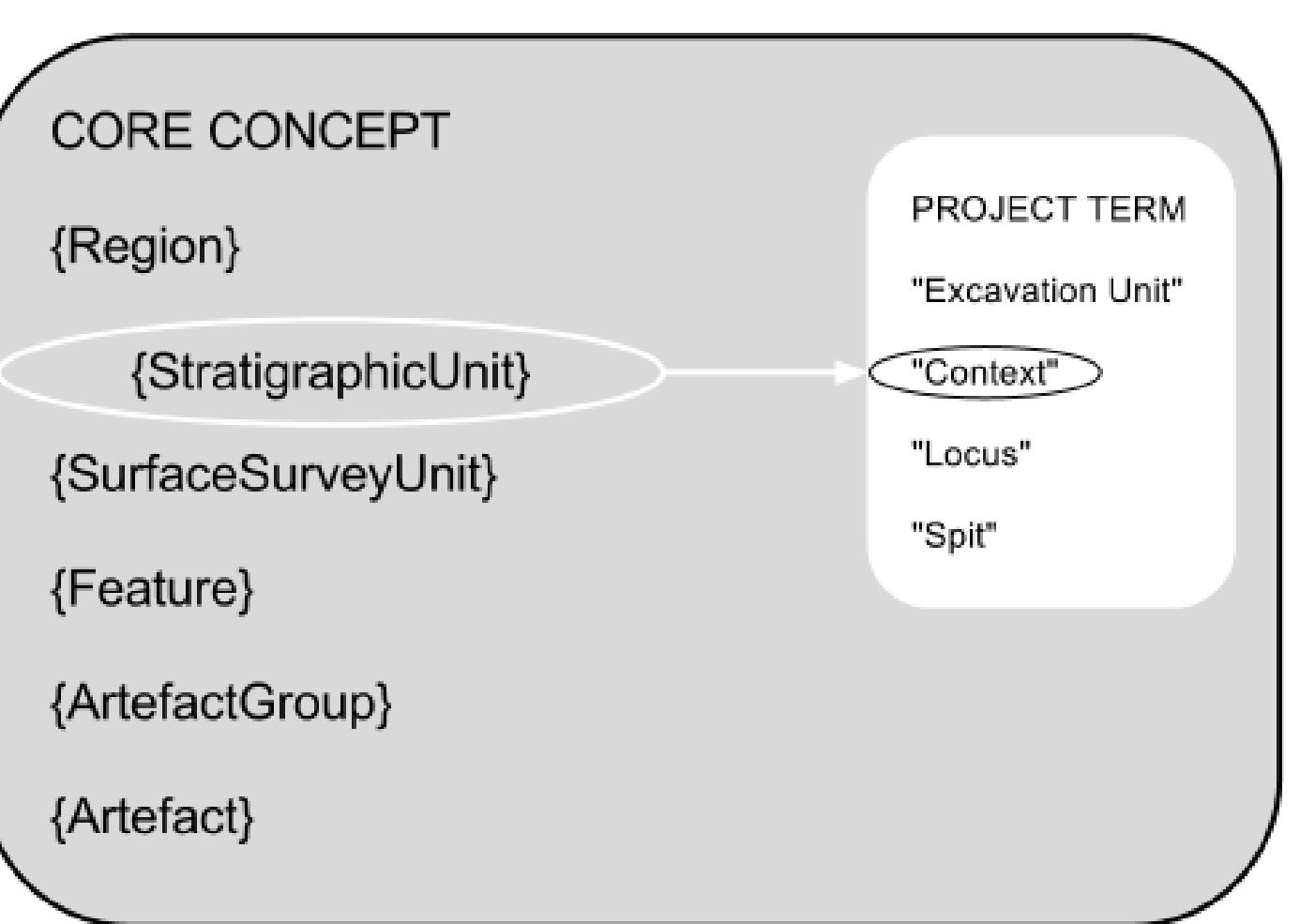
Heurist Data editing web application

- Multi-user, browser-based system (local or Internet)
- User-defined databases, publishing and sharing schemas
- Data editing including re-conceptualisation of complex data sets
- Searching, filtering, creation and visualisation of relationships
- Easy web publishing of data, maps and timelines
- Interoperability with other FAIMS applications

FAIMS Online repository

- "One page for potsherd": dataset record-level DOIs and pages
- Enhanced mapping with dataset record-level shapes
- Provision for sensitive data
- Automated import from other FAIMS applications

Project terminology mapping



Why use FAIMS?

FAIMS applications will manage information over the entire life-cycle of archaeological data, from digital creation in the field and laboratory through archiving and dissemination in an online repository. The mobile application will embody best practices in data management, including the creation of clean, structured, high-quality datasets mapped to widely-used vocabularies, promoting dataset compatibility from the outset. The FAIMS repository will provide long-term data preservation and access, utilising the NeCTAR Research Cloud and Research Data Storage Infrastructure. It will support large-scale, inter-site comparative analysis including new and legacy datasets. Throughout the system, data will be documented with relevant metadata ("information about information"), making it more discoverable. Dataset records will also receive a permanent, unique identifier, allowing them to be made available online at a fine level of granularity.

Using FAIMS applications provides many advantages over simply posting data to a project website, enhancing the quality, discoverability and interoperability of project data, thus ensuring it is genuinely available for reuse and repurposing. The FAIMS repository meets the data management requirements for major Australian and US grants (model application text available).



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