# Assessment Report on the Release of Heurist as a FAIMS - centric Web Application

FAIMS Deliverable #12C

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This report summarises the state of the first release of Heurist v3.1.3 and 3.1.4, which forms the basis of FAIMS-centric web application. The testing of this release was completed on 13 June 2013, after 11 weeks of development.

# Background

The FAIMS project is working with Art eResearch at USYD customizing and enhancing Heurist to serve as a web application for visualizing, editing and analysing data produced by the FAIMS Mobile Application. Heurist is an online data analysis and visualisation platform developed since 2007 by Arts eResearch at the University of Sydney <http://heuristscholar.org/>, as an option for data refinement and analysis. Heurist can be used for routine data editing, but it also facilitates fundamental reorganisation and rethinking of data. For example, its visualisation and association capabilities help decisions regarding which excavation contexts should be included in which horizons, or which individual artefacts should be classified as which types. FAIMS is working with Arts eResearch to ensure a smooth, automated workflow that takes data from creation in the mobile application, through refinement in Heurist, to processing in ArcGIS (and other commercial software), and archiving and dissemination in tDAR, OC.

Over the life of FAIMS project, Heurist is supposed to deliver the following functionality:

* (SDP#1) Staging, Editing and manipulation of data after collection and prior to deposition in an online repository. Automated import of data according to associated schemata from mobile devices; automated export of well‐formed data and associated schemata to tDAR/AHAD.
* (SDP#2) Develop export of Heurist to OC through transformation of XML formats as required.
* (SDP#3) Contribute documentation and other components (as necessary)
* (SDP#4) Provide a completion report as required by NeCTAR. Due in the Production Release
* (SDP#5) Store and retrieve definition documents for the FAIMS mobile application. Maintain a library of XML documents that can be downloaded to the mobile device application. Sufficient metadata must be maintained to allow users to locate the correct form. Forms should have a unique identifier, preferably a DOI. Note: this does NOT include the creation of the definition documents, that is a FAIMS research subproject led by Penny Crook and Heather Burke.
* (SDP#6) Make it possible to create and edit record schemas for the FAIMS mobile application in Heurist (an extension of the task above).

Many of these goals involve either recordkeeping that can be done on the central Heurist Server (SDP #5) or are an XML transformation of the type already demonstrated in core Heurist code (SDP #2).

Heurist is working on their documentation and SDK as they are migrating to the open source model. However, these things will be far more mature in the Production release, and Task 1 below will serve to adequately test their installation documentation.

# The Aims of the First Release

In the first round of UAT of FAIMS-centric Heurist we focused exclusively on mobile data ingest and manipulation in Heurist (SDP #1). We considered this requirement to be the most challenging among Heurist goals, as well as critical to the overall progress and functionality of Heurist as the FAIMS Web Application.

The first round of testing includes 10 Tasks, testing different functionality:

* Task 1: Installation of a new instance of Heurist on a suitably configured server.
  + during the test the installation of Heurist was done on the FAIMS server on the Nectar Cloud. It is, theoretically, equally possible to install Heurist on FAIMS server on any standalone laptop (with an adequate version of Ubuntu). The instance of ubuntu on NeCTAR Cloud was appropriate in this case of UAT because it a) offered a clean Ubuntu 12.04 install, b) is “hardware” we need to support, and c) is the easiest to work on by multiple people.
* Task 2: Login to Heurist, spawn a new database. verify successful creation
* Task 3: Download of pre-defined record types (entities), fields (attributes) and terms   
  (vocabularies) from the FAIMS Community server indexed in the Heurist clearinghouse
* Task 4: Import of FAIMS data from the SQLite database to Heurist
* Task 5: Run some basic checks to verify that data has been correctly imported
* Task 6: Create a simple map from the tracklog data
* Task 7: Import an additional FAIMS database
* Task 8: Run a simple search
* Task 9: Run a simple crosstabulation task
* Task 10: Carry out simple recoding of data in the Heurist database

Instructions for these tasks were provided [here.](https://docs.google.com/a/fedarch.org/document/d/1ntVrQ2ztpLXPl2xi_edaZQzflTXIcBvwMKg5LuAlJbU/edit)

# First and Second Tests:

The UAT#3 was scheduled and took place on 21 May 2013.

The testing Task 1 in this list required technical expertise at the level of Elizabeth (developer) and was to be skipped by non-technical users. It was conducted by Brian Ballsun-Stanton. Tasks 2 -10 required no technical expertise and were undertaken by student testers.

All of the UAT#3 criteria were passed by the Testers. Task 1 was passed with assistance, as it required assistance by the developers. The Tester, nevertheless, concluded that with the impending full migration of Heurist onto google code, the difficulties with install should gradually be minimized.

Tasks 2- 10 were performed independently with full success. The issues flagged by Testers were related to the language and novelty of interface rather than the functionality of the app.

The problem with language (which has been persistent in the previous UAT documents) has been partially mitigated by the inclusion of screenshots and illustrations, which the Testers have appreciated.

No bugs were found. Once Heurist v3.1.3 was installed, it worked smoothly. Student testers were happy with illustrative instructions and appreciated the functionality.

The fact that Task 1 - Heurist installation (SDP#1) - required developer assistance was, however, a concern to the team and the Steering Committee Delegate. Upon consultation we offered Arts eResearch a conditional acceptance of this UAT, if the installation is proven to be simpler and “executable without developer’s assistance” in the Final Release.

Arts eResearch, however, preferred to address the issue immediately and delivered an improved version of Heurist and installation script (v3.1.4) two weeks later for additional testing. New and improved [UAT3 Heurist Installation Guidelines](https://docs.google.com/a/fedarch.org/document/d/1WWDFmRR7sSvZ9kmj-E2F6WjZdpHaur69CIQORsm-3no/edit) were also provided for the purpose of re-testing Task 1.

The subsequent round of testing Task 1 - Heurist installation (SDP#1) - took place on 11 June 2013 and was successfully executed without developer’s assistance.

# Final Notes:

The development undertaken on v3.1.4 of Heurist was conducted in compliance with the requirements outlined by the FAIMS project for the first release of its web application.

9 out of 10 tested stories passed User Acceptance Testing via user acclaim. One story, Heurist install (SDP#1), was re-tested a second time at the request from Steering Committee delegate. On second attempt the improved version of the Heurist install script provided by Arts eResearch fully satisfied SC Delegates. The need for subsequent testing had delayed the delivery of this milestone by *ca* two weeks.

# Steering Committee Delegate Feedback after first test

Hi Adela,

I've now read the report. I think it's fine.

I have one query, to do with Task One. The task was "completed with assistance," but if I understand correctly the assistance required would have put the task well outside most people's ability. With this is mind, I'm a little hesitant to sign off on Task One.

Any of a couple of things would make me feel a bit better:

- Will there be a "Heurist VM" set up for the NeCTAR cloud?

- Could we confirm Task One conditionally on running the test again subsequent to this round of deliverables?

- There's some other mechanism for doing similar functionality without Heurist being installed.

Cheers,

Joe

Leadership Team Response

Dear Joe,

Thank you for your honest review. I understand your hesitation with signing off on the Heurist release. I had emailed Ian Johnson about it and received the following assurance.

"Completion of the UAT criteria coincided with significant revisions of Heurist, migrating it from internal development dependent on specific configuration of Arts eResearch servers to a portable version in an Open Source repository on Google Code. As part of this release, Brian was able to help AeR by developing an installation script for semi-automatic installation on the NeCTAR Research Cloud. This required significant collaborative work and while the installation is fine for technical staff some minor kinks are still being resolved to streamline it for mere mortals."

I am confident that the motivation of AeR to push out an open -source version of Heurist is directly aligned with FAIMS needs of having a functional and smoothly working install as well as working code.

The aspirational statement above does not change anything on the fact that the install of Heurist that we tested (3.1.1.) required assistance. I think it perfectly reasonable to require evidence of a smoother installation package, especially since Ian claims it is being worked on as we speak. He just emailed that a 3.1.4. version is being released today and that one of his developers is fully committed on working on the Google Code.

I think your suggestion no.2 is the best:

- confirm Task One conditionally on running the test again subsequent to this round of deliverables?

Adela

# Steering Committee Delegate Reply

Hi Adela,

I'm happy with that approach, of conditional approval.

Please consider this my sign-of-approval.

Cheers,

Joe, FAIMS Steering Committee delegate

# Steering Committee Delegate Feedback after second test

Hi Adela,

Sorry for the delay. Yes, this is great. Many thanks to Ian and Brian for repeating the task. I think the outcome is really good.

Cheers,

Joe, FAIMS Steering Committee delegate

# Summary

The first release of the FAIMS “Web Application” - Heurist v3.1.4 offers the following functionality to FAIMS users: easy installation on FAIMS server (or on Ubuntu 12.04), ability to connect to the FAIMS Sqlite database, page through it, visualize spatial or structured data and manipulate the data. This new functionality of the v3.1.4 Heurist was subject to external testing and has been validated to the satisfaction of the Steering Committee.

It is the belief of the FAIMS Leadership team that the assets tested as part of UAT #3 demonstrate real and added value commensurate with the 11 weeks of development time by the Heurist team.

The development of the Heurist Web Application remains on schedule and will continue in accordance with the schedule determined during the project Elaboration Phase.