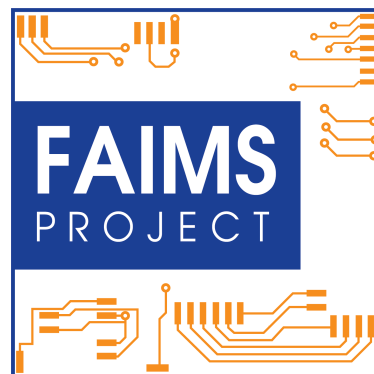# FAIMS Stocktaking Workshop Focus Groups, a Report

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Web Version 1.0

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This internal report summarizes the aims and outcomes of the Focus Groups organized by the Federated Archaeological Information Management Systems (FAIMS) project during the Stocktaking Workshop in August 2012. The Focus Groups were organized by the FAIMS Leadership team in order to receive feedback on the planned development of the FAIMS digital infrastructure for Australian archaeology. Answers to the questions asked by FAIMS Leadership are provided in the form of anonymized citations from the actual Focus Group transcripts.

http://www.fedarch.org

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1 Introduction

The Federated Archaeological Information Management Systems (FAIMS, see www.fedarch.org) project is an Australian initiative funded by the National eResearch Collaboration Tools and Resources (NeCTAR, see www.nectar.gov.au) program to develop an ecosystem for managing archaeological data from their digital creation to archiving. From the beginning the FAIMS project has focused on developing three main components:

1. a mobile application for archaeological data recording;
2. a web application for data processing; and
3. a digital repository dedicated to the curation of archaeological data.

These tools were developed either from scratch or by reusing existing code.

The Stocktaking Workshop was organized in August 2012 (after the launch of the FAIMS project in June 2012) to solicit input about development directions for the FAIMS project and to inform decisions about structure of the project, technologies, and modules to be supported. One of its aims was to gauge the level of convergence on data standards across academia, industry and state agencies as well as across different archaeological subdisciplines (survey, excavation, artefact analysis and sciences).

Originally the Workshop was envisioned to have 35-40 participants with 10 international participants discussing over two days. The response to the call, however, was overwhelming and the duration of Workshop was extended to four days from Thursday 16 August to Sunday 19 August. The Workshop was free to attend for registered participants. The webpage for the Workshop was created using OCS and linked to the FAIMS webpage. Registration, as well as the communication and information related to the Workshop, were channeled through this webpage.

1.1 Workshop Structure

In the end the Workshop attracted 80 attendees from all over Australia as well as overseas. The numbers stayed high on Thursday and Friday 16-17 August, and dropped gradually over the weekend. The least attended session on Sunday had 40 participants. Participants included members of the archaeological community, both academic and public, industry and state agency officials as well as all FAIMS developers and NeCTAR representatives.

The Workshop was structured as a stocktaking event with Plenary sessions driving the agenda of smaller afternoon discussion workgroups. The Plenary session speakers presented successful overseas initiatives in digital archaeology and broadened the horizons of the FAIMS debates. Plenary sessions were recorded and filmed.

After the inspiration provided by the presentation of foreign and domestic case studies, the FAIMS stakeholders were broken up in small common themed Working Groups, where they discussed record-keeping standards, requirements for the mobile systems, federation strategies and other specific issues that would inform the FAIMS project development. The groups created addressed Archaeological

Survey, Excavation, Artefacts (split into Ceramic and Lithic recording), Archaeological Sciences, Federation, Sustainability and Sensitive Data. Each group had the opportunity to meet multiple times during the Workshop.

The Workgroups were supplemented by a Focus Group element, facilitated by an experienced Focus Group leader. These Focus Groups were recorded, transcribed, anonymized and analyzed to supplement the information gathered in other fora including the project survey and workgroup discussions. The rationale for and the questions and outputs of the Focus Groups are presented in the following section.

2 Focus Group Themes and Questions

The FAIMS leadership team had used the Focus Groups to provide a more structured environment for topics discussed at the Working Groups, get feedback from stakeholders who either form a subgroup or do not quite fit in our current Working Groups, and gather information on specific topics or from areas of strategic importance, which would likely not be subject of the Working Group discussions or be only discussed marginally.

Seven Focus Groups were organized; the membership is listed in parenthesis:

1. State Agency Representatives (4)
2. Contract Archaeology Representatives (5)
3. Managers of Successful International Initiatives (4)
4. Artefact Working Group (6)
5. Survey Working Group (8)
6. Excavation Working Group (3)
7. Archaeological Sciences Working Groups (5)

The stakeholders who fitted the first three subject areas were invited to meet during lunch time and work with Focus Group facilitator. The Working Groups were visited during their afternoon discussions. Members of these groups were free to leave at leisure. Those who decided to participate signed a consent form agreeing to having their answers recorded. All answers were anonymised upon transcription. The lists of groups and excerpted answers follow. For the summary of main points that the FAIMS leadership took from each Working and Focus Group, please refer to the Agreed Standards Report on the www.fedarch.org webpage.

2.1 State Agency representatives

2.1.1 What are the current challenges and opportunities for making data currently housed in state registries available for research?

2.1.1.1 Limitations of Access due to Restructuring

P1: "one of the biggest challenges with the AHIMS register and AHIMS site is that the organization of overarching structure that has been maintaining that has just been collapsed by the Government most of the staff are no longer there and actually getting access to the information for use and its statutory obligation to use the information can take for weeks to months to we don't know when we'll get it to."

2.1.1.2 Opaque Systems

P2: "to me the current challenge for accessing the data is every time I talk about putting reports from heritage managers the response either comes back; how do you do that; who do you go to see; what

are all these databases; what reports are out there; what data is in those reports; is it collected in a way I can use and frankly unless I've got a very specific thing it's hardly every worth my effort to try and figure out how I can get to that stuff."

P1: "There's issues there of complexity of the system that affects complexity of the legislation, complexity of historical evolution how that data has been put together."

P1: "…one opportunity exists at the moment which is set out in the O'Farrel Government's (NSW LNP Coalition Government) 2021 plan is that they want to make more data available to communities so there's probably an opportunity there for something like this project to discuss at high levels of the NSW State Government about how they might facilitate more access to information. You might be able to trigger something."

2.1.1.3 Would you like to see a national clearing house for archaeological data?

P4: "I would like that think that's was possible but I guess it depends on what it's parameters are and what outcomes it wishes to achieve in terms of archaeological data or if it is to be a one stop shop for people to go and gather their information and share information in that way and for it to sort of work as a sort of you know to assess the integrity being added to it."

P2: "I wrote a report to the NSW Government in 2006 recommending, and in fact I used the words digital clearing house under an open unknown structure to be determined.(…) I then went on to a national lobby group, the National Culture Heritage Forum, which has since been abolished by the Federal Government, unfortunately, to try and put it onto a national agenda. It was really hard going; heritage management in Australia is highly parochial."

P2: "There is some interest at a federal level but it's just so different from what we (inaudible) the state level. (…) You try and bring in all kinds of passionate speakers and people who can talk about the importance of this sort of research around Australia, but it's really hard going. But it's no reason to give up."

P4: "I would say yes but with a very strong proviso and that proviso is that once the database is actually…….if it's a database of information products that's available for heritage assessment then I would be a strong advocate. If it's just going to be a database of lots of data and compromising sensitivities around that data and they're not clearly thinking through how knowledge holders are respected in that process it will never get up."

2.1.2 What do you perceive as the main barriers and what are the main strategies to getting on?

2.1.2.1 Legislation and Funding Available

P1: "There is a bit of a direct correlation between how strong the legislation is in the different states to then the rigour in which they maintain those databases as well. So states like Queensland that tend to

have less rigorous heritage controls will tend to not have the same level of data supporting decision making around heritage management structures. (NSW, on the other hand) has been very focused on its heritage legislation…. that is a reason why we have so many well developed databases up until the present."

P1: "..resources (are) a key challenge (in a) political environment of fiscal stringency. There's no question that heritage has been hit really hard…."

2.1.2.2 Engagement of Indigenous Communities

P3: "The other half of the legislation equation is the strength of the lobby groups. In NSW the aboriginal community, represented by the NSW Aboriginal Land Council has always lobbied very hard for the sensitivity of the data to be maintained. There are perfectly valid restrictions on why data isn't released and it depends on the power of those lobby groups which varies from state to state and there's also varying degrees of accessibility of data."

P2: "To be completely relevant to the Australian situation I think (inaudible) needs an entire component that is building collaborative infrastructure with indigenous communities because I think it is exactly right that the future of research is collaborative to use one of many terms that's bandied about. To build a true collaboration there has to be capacity building, I think it's too much to just expect the average aboriginal man to step up and participate in archaeological research."

2.1.3 Would you support digital submission of data?

(not entry on web forms, but a direct upload of data by contract archaeologists) and what are the obstacles for you, technical or administrative to achieving that goal?

P2: "I can talk about how it works for us; we are shortly going to be having a mobile phone app (Application) which will allow you to record data and send it in. there'll be the basic data not necessarily the full suit of everything that could be."

P2: "I do support digital submission of data but in our case with a statutory database we'd have to have a quarantining system and validation and make sure before it can go in there because of the statutory requirements."

P2: "Huge investment, public money (is involved in archaeological work). I think that for ethical reasons (we) should be talking about better management for that data and having (it) made available to researchers.

2.1.3.1 Problem with Incentives

P2: "There is an interesting difference between archaeology and heritage and also some other disciplines because I think from the archaeological perspective which has a lot to do with research the motivation isn't there for the data to be made public. But if you look at other areas such as bio diversity

where because there are broader concerns about wanting to preserve and conserve bio diversity there are strong motivations for people to give data to a greater cause. (…) there's probably some issues there (that) could generate motivation for sharing, not necessarily all raw data, but certainly information that would contribute to broader heritage issues and wanting to make the data relating to those issues more publicly available and I think that's where the motivation for sharing data might come from."

2.2 Contract Archaeology representatives

We are aware that majority of archaeological data in Australia is generated by consultants. All of you are members of successful consultancies.

2.2.1 What would you like to see in a successful info management system (IMS)?

2.2.1.1 Increased Efficiency

P4: "what benefits consultancy is what makes more money" through increased efficiency. This increased efficiency results from IMSs, which "allow you to do more work because you do better work" or simple "allow you to do better work.". Good IMSs facilitate "doing good archaeology (by) squeezing in research that doesn't even need to be there for compliance."

P4 The system would need "to formalise and make consistent (…) the recording of data and metadata."

2.2.1.2 Set of Minimum Requirements

P3: "legislative requirements for qualifications and accreditation (…) are different in every state. That is one of the things that I think is going to be a challenge because the legislation is different and you don't necessarily get better things because there is legislation."

P3: "knowing even within the same state, when it was done and which act it was done under has implications for the research methodology and the minimal requirements that you had to do. So even though all the states have something different, (we need) a platform that's a minimum that meets the different states requirements even if the state has no requirements. So possibly (the most suitable system would be) the Victorian system or NSW which seem to have the best or the most rigorous set of requirements."

2.2.1.3 Ease of Use and Free Access to Data

P5: "You have to be able to get data loaded into it, it has to be easy to get the data out of it and one issue I have with state government agencies is that you put data into it and then when you want your own data back out, they make it hard for you to get it. The fact that you were the depositor, you get nothing for it. And it can't be prohibitively expensive, because there are a lot of big consulting

companies who have big projects, big budgets, and big clients. There are small consulting companies who are sole operators or have only a small number or staff and small clients and they can't afford to pay big bucks to get access to the data."

P3: "if you put data in you are then allowed to get data out. I thought that sounds fantastic, as then you are enticed to put material in because you then get a benefit out of it rather then just being told you have to put data in."

2.2.1.4 Increase in Data sharing

P3: "if this project could do that (stimulate data sharing), that would be amazing, that would save every consulting company money and it would stop the fighting about well this is ours we are not going to share it with you it would make it a resource that everyone has access to."

2.2.1.5 Ease of Data Submission

P3: "Whatever our federated database is it can spit it out, so you give it information, we put our data in and say "print this on a WA form" or "print this on a Victorian form." so that if they change their form, you put the new form in. Some of the big consultancy companies have developed that (ability) in house because they don't want to share it with someone else because they have spent money developing it. But if this project could do that, that would be amazing, that would save every consulting company money and it would stop the fighting about well this is ours we are not going to share it with you it would make it a resource that everyone has access to."

2.2.2 What are the fundamental differences between the practices of contract and academic archaeologists, in the field and in the lab?

2.2.2.1 Data Standardisation

P2: "Contract archaeologists (…)collect data according to a particular standard." When working in a state where there is a regulatory framework in place, (they produce) more uniform data, which are, in terms of archaeological surveys, more likely to be reliable.

2.2.2.2 Time spent on task

P2: "You only get paid as a consultant when you are doing billable hours. When you are a researcher, even if you are not writing a paper you get paid. So there is a fundamental difference there between the research world and the consulting world. So as consultants, we might be able to start writing into project (budgets) that we need to do this data management at the end and we need time to put in our metadata.."

P3: "The amount of time that is available to consultants is really different. So a research project might have three years a consulting project might have three weeks and you have to have a deliverable to your client."

2.2.2.3 Quality Control

P3: "in many states because of the legislative requirements and the processes and the framework the whole idea of quality control has gone out the window. So in the academic world there is peer review of everything, every research grant you write gets critiqued and bashed by your colleagues until it's the best thing it can be. Every paper you want to write has to go through a peer review process and you get told to rewrite it, it's not good enough and to think about it and to fix it. Huge numbers of consulting reports get written, their mate sitting next to them says "yep, that's fine" and their mate who doesn't know how to write, they are not a good 'critique-er' says "yep that's great." they have a 'peer review' process. The quality control, the peer review process is different in the consulting world for many states and many companies than it is in the academic world so that affects the quality of the data and the reports".

2.2.3 How do contract archaeologists develop and improve data-capture techniques?

The participants focus on new methodologies (use of UAVs and Google Earth) and technical equipment with increasing accuracy such as high resolution dGPSs, satellites, digital calipers, etc.

2.2.4 How do you see the challenges and opportunities of making this data available for research?

How important is conducting archaeological research to you? Would you do more research if the data was more available?

2.2.4.1 Data Integration

P6: "I would be interested to see tools or software which integrate field recording of surface or sub surface sites and that may have artefact data. On a tablet incorporating a DGPS and hi-resolution camera. Field data will have spatial data embedded at the highest level will be able to include data tagged images, sections, maps, site plans et cetera. The data to then ideally go to a web based database where participants could analyse it with the data being available for manipulation and preparation for insertion into written reports including photos and tables."

2.2.4.2 Data Transfer

P4: "It needs to be able to go from there to the desktop and back again very easily.. So for example if you are working in ArcGIS now because it seems important that everything or most of your data will want some locational information to it so you might as well start that way in GIS then those attribute tables which can be seen as looking a lot like a big empty excel spreadsheet could go for example into an excel spreadsheet, for example, and back again quite easily. In ArcGIS its not that easy, if it was easier everyone would do it already."

2.2.4.3 Elimination of Double Entry

P4: "One of the overriding statements of this project from the start was that data would be more digital and it was always in there that then those data don't have to be played with from there right through to submission of the statutory authority. It was at one stage that you would almost be updating the statutory register in the field its not going to work because of that gatekeeper issue but that seems really key because it does do that thing of createing efficiencies. Because that's what consultants care about."

2.3 Managers of Successful International Initiatives

We have gathered representatives from tDAR, ADS, KORA, who all have run a repository for some years. This Focus Group gave them space to discuss things they did not have time to raise during the Plenary Sessions.

2.3.1 What experience would you like to impart to FAIMS?

P1: "Try to focus, try to do something nicely, without trying to do everything."

P1: "I detected a lot of emphasis on data correction and making clean pretty data that aligns to some general accepted standard, a little bit more commensurate, I think that all of that is really useful."

P3: "I want to see them build siteware infrastructure, complete with best practices both human and technical and these things like stable URI's and granularity and all that is all the technical best practices that anyone who wants to hook up to the plumbing adheres to and to hook up to the plumbing you have to follow those rules."

2.3.2 What advice would you like to give us?

2.3.2.1 Get Technical Expertise

P2: "I would really strongly make sure that they (FAIMS team) have, that they find someone with strong development experience, who has done mobile apps to be on their steering committee or their small internal group to augment the three of them, so that they can actually have someone who can interoperate, for lack of a better word, between the technical requirements and the actual archaeological requirements because there is a very large gap between those things."

P1: "somebody needs to understand how to do location based services as well because it's a specific designing part in that area."

P3: "I may be completely wrong but they need a digital librarian on their steering committee, if they don't already. (…)They need to have more physically local expertise on their steering committee."

2.3.2.2 Articulate Use Cases and Work Closely with the Community

P2: "they need a few very specific compelling news cases like the one that Claire (Smith) brought up, or a couple of others because without that it's going to be software in search of a solution."

P3: "this is absolutely a case of very solid need for a software design and user-centered design."

P4: "I would urge them to spend some money to go and visit not just compliance companies domestically internationally, go visit compliance offices and spend a few days looking at work flows. (…) they (archaeologists) need to be watched in their natural habitat while they are working. I mean you can ask them all the questions you want but until you watch somebody open and close applications, change data around, swap file types back and forth, communicate with their co-workers…."

P1: "build up a relationship with some people who actually want to use it and to engage in the whole development process because its going to mean everything to the people who are participating."

2.3.3 What have been the greatest challenges of running a successful repository?

2.3.3.1 Sustainability

P2: "Sustainability really is the greatest challenge of running a successful (inaudible) story, it means making sure that you have the services that are sustainable and a financially sustainable organization and all of those things take a lot of time, a lot of effort and a lot of money and unfortunately the largest challenge in all of this with this project is that it is a short term project."

P1: "In which case then running a repository for them is not what they s hold be doing, they should be reaching out and articulating with other groups like maybe with Clare who is thinking about a repository with other organisations,.."

P3: "Even if this is not a repository, the same sustainability thing still applies, those are basic fundamentals."

P3: "A mobile app is going to be useful for five years but the technological landscape will be radically altered. So they don't necessarily need to have something that is a permanent organisational structure to do that."

P3: "So I would presume that choosing an architecture and planning, mid term planning is still important and long term planning for an organisation this young, lets face it, two years of planning is long term planning."

P4: "…many of the behaviours that they want to emulate, whether it's ADS or state and federal site files and repositories in the United States, are the end of a long process of public development that in many cases are supported by statutes that require people to use them and therefor governments, whether its at a city level, county level, state level, or federal level have budget lines that keep them

going. It may not pay for everything, there are user fees as well, there's not a lot of it that's completely self-sufficient, they are government entities."

P2: "when talking about a repository there is the idea of having an endowment set aside for the repository, for the migration over time and for a mobile app that same endowment is necessary but you will likely have to pull from it differently than you would for a repository because if you do see a major change over technology it's going to generally mean you are going to have to completely rewrite your code base as opposed to a repository where you will only have to deal with maybe a file format or a migration or something like that and is less likely to lead to the rewriting of the code base entirely and the timeframe over which that happens is much longer."

2.3.4 We see you all as successful initiatives. What did your repository try to do but failed?

2.3.4.1 Avoid Abstract Development, Focus on User-Centered Design and Get Feedback

P2: "We have tried stuff that didn't really work and a lot of it is because there was a bit of half arsed implementation that we couldn't really build and support. (…) what we focus on now seems to get a lot more enthusiasm especially from the people who want to give us data and want to work with us. (…) the immediate priority for us is the publishing side of things and the exhibition side of things and we are meeting the needs of people who want to show off. A little bit of focus on that for us has been really helpful. A lot of the stuff on having people tag things and all sorts of other things like that that just didn't work."

P3: "We failed when we did not listen, or when we listened to what they said, but not how they said it or what they wanted to do with it, and that has been a big challenge because often practitioners will say what they want, but it's not a valid representation of what they need."

2.3.5 Say a few words about how you have made your repository sustainable and comment on what has worked what has not worked and what advice would you give us?

2.3.5.1 Permanent Organizational Structure and Leadership Required

P1: "I think there needs to be an organization in place in Australia, or more than one, there need to be professionals with their careers dedicated towards this kind of stuff."

P3: "there has to be a director, there has to be an advisory board of some sort."

P1: "(FAIMS) needs to have a community building and ownership over this whole framework that would be useful."

P3: "(FAIMS) needs the institutional body as well it could sit within the university a long term stable institutional body."

P2: "Taking it more broadly, successful open source projects have a project leader and a couple of strong dedicated people and it is best when there is continuity and stability in that though there doesn't have to be a formal organization but there has to be that dedication to it."

2.3.5.2 Cater to Local Needs

P1: "I think they should stick with Australia and domestic needs, I saw so many things derailed by helping a very small group of people deal with their international problems. Make this a domestic tool, make it a good domestic tool you can bring other stuff in later."

P3: "A good domestic tool but with plumbing that is easily internationalized, using universal standards. But have it focused on the domestic needs then you can build out. (..)a national focus but tested regionally."

2.3.5.3 Be Realistic and Don't Start from Scratch

P1: "I think you also need to be very clear on scope and don't be ambitious, don't bite off more than you can chew. If you think you can do 'X' in a year; do seventy percent of 'X'."

P3: "So here is a question, they have a year and a half to go from nothing to something, are there any suggestions on how to succeed in that quick ramp up? The answer that immediately comes to mind is: find somebody who is already doing it and build on that rather than simply starting from scratch."

2.3.5.4 Reach out and Network with Similar Initiatives

P3: "I would sooner have the three or four of them (referring to the Steering Committee) just take a trip around the United States to go and actually see these things (other initiatives) in place."

2.4 Artefact Working Group

2.4.1 What has been your most frustrating experience?

P1: "I guess my frustrating experience with artefact recording is when people working for you get it wrong. (…)You have to go through it and you might as well have done it yourself."

P2: "One of my most frustrating experiences was where we were cataloguing using an established framework and there would be ambiguous terms. Particularly I had it with colours."

P4: "I've been in a situation where two different people were asked to record the same data and they came up with different (results)."

P5: "The other big thing about this, which is frustrating, I think, it (recording) can be incredibly tedious. (…)you have limited time, a limited travel budget, you have to get stuff done and you get fatigued."

P1: "The mistakes multiply as they get more and more tired and bored."

2.4.2 Would you use a mobile application for data recording?

P1: "I never use mobile tools to record artefact data."

P5: "We started to try iPads (…) so I'm in the museum with the ipady thing, we took photographs, which is great ,which we were uploading into the database for later which I liked. But that's about all we could do because it needed too much bandwidth and that was as far as we got and the screen wasn't big enough. You couldn't scroll okay."

P6: "I haven't actually used it in my field work but a good example of where it has been used a lot is at Corinth and that's one of the things people doing amazing things. They have encountered a lot of frustration and have gone through several iterations to really polish that and they've done it over years."

P1: "One issue with conditions in Australia is that you need a satellite phone to talk to anybody there's no coverage of anything there's not even electricity so you can't recharge your devices."

2.4.2.1 When you record some data in the field are there and issues with taking it back to the lab for integration into the database?

P5: "…you have to go through the records every day and check the data coming in every evening and just see if there is a consistency, if there are people who are leaving some fields under and then in the nicest possible way make sure they do it the next day."

P2: "sometimes I feel the paper catalogue can be better because there is a built in auditing. (…)the one thing to keep in mind with mobile data entry or even any kind of direct to computer database entering is the need for data audit and data checking and to build that into your work flow and in ways that with paper maybe we already have."

P6: "I guess it's also a question about feedback in that case if you enter a wrong measurement or something it somehow visualizes it for you and then you go 'whoah' that's wrong or you know I have a missing decimal point or something because it just looks totally wrong. So that's a, I suppose someone could build in these types of feedback mechanisms in different ways just sort of do it dynamically based on the other kinds of data that you've got and that might be a way to help improve quality."

2.4.3 What records must absolutely kept?

P5: "I see this as a wish list, there is quite a lot of stuff and everyone has their own individual requirements that don't need to be in the core original beginning and you build that in at the point of your particular project I presume."

P4: "Are there universal attributes? Yes there are universal attributes but we are not in agreement as to necessarily what they are as it were."

P5: "I think it's because we call them different names that's pretty much it or we put them in a different place on the thing but we are all actually recording them anyway."

P5: "Some people really need a broader group of attributes than I do and obviously you need the broader group and later on I can tailor it down it's better to have them and turn them off than to not have them."

P6: "You need it to be configurable so you can turn stuff on and off."

2.5 Survey Working Group

2.5.1 What are the most frustrating experiences you have had during survey record keeping?

2.5.1.1 Equipment failure

P7: "I have taken my Android Tablet out and it started to rain, thinking I was being terrible modern and back with a waterproof notebook. So the frustration was very relevant to this where the technology fails."

P7: "Yes equipment failure, in central Australia in the Pilbara I was running a base station to do differential post processing and keeping the base station working was a big, big problem."

P4: "Even somewhere where it doesn't rain."

P8: "I recharge the battery, went all the way out to the field and found out that it was not recharged."

P1: "I have had paper reporting sheets blow away in the wind."

P8: "Or destroyed by rain."

P1: "It's not just the digital stuff that goes wrong."

2.5.1.2 Training, Skills, People Factor

P7: "In relation to the technical stuff, my crew are all archaeologists they are all different ages and all have their own skill set but I find that the more technical we get the more and more it becomes reliant on one or two people to process all that data because there is a skill set drop."

P1: ".... It's hard to manage people that typically haven't been together ever who come from various backgrounds and that are living in very tight quarters of camps and what have you and for whatever reason something always happens on nearly most surveys...."

2.5.2 What are the most frustrating experiences you have heard of someone having when trying to use mobile tools to record, process or share data from survey?

P7: "With an application I use on the iPad I have to be really careful because it's really sensitive. If I take a record and somehow knock it during the day it might get tapped in the wrong spot and you can add data accidentally. (…) I would love a program that has a lock down type function."

P3: "Data loss, its got to be I think the biggest one for whatever reason, you're going along and someone does something or doesn't save or the battery goes down or you didn't do the save or for whatever reason you come back and you can't find the data."

P5: "If you don't have the appropriate validation."

P3: "…somebody thinks you have copied the data and they erase it because you are going back out into the field."

P4: "People, it's the weak link."

2.5.3 What records must absolutely be kept during a survey?

P7: "you've got to start from the statutory required things and then, oddly as it sounds, go onto the things that are archaeologically required. Because the government is not necessarily asking for information that allows you to do good archaeology they are asking for good information that is intended whether or not it does or not allow them to do good management, and there is a big difference between management and research. So as ugly as it is I think that's a starting point."

P4: "From a research point of view everything, what's done, who did it when it was done, where it was done and how it was."

P3: "The most important thing that I think is usually lacking is environmental conditions, those ambient conditions that we typically don't think about because we are so focused on the key things that we were looking for and it could be as simple as popping up and noticing the rock near your eye line so that later on you can verify the data. We just don't record those things."

P4: "…one of the issues is that it would be beneficial to develop a system that collects redundant data and that allows you to deal with errors and problems with the database."

P5: "if I was going to have something digital I would incorporate something that also captured some kind of sketch maps so then you could utilize that information."

P6: "Acknowledge that it (survey) is after all just a sampling exercise and you manage the exercise with normal people."

P7: "I don't think it's biased, but every problem we have identified, its people that comes up every time. That's because that is the problem, it's not a bias we have."

P6: "For me there are a few levels of what records we keep and the basic level is about the survey, the survey area or the environment. Then there are records to keep regarding the actual site itself and the management of site, what's in the site and other statutory stuff that is required with that."

2.5.4 What records that are currently kept are redundant or derivable?

P6: "Photo record sheets."

P4: "In a digital environment time and location are really good redundant data if you record them constantly."

2.6 Excavation Working Group

2.6.1 What are the most frustrating experiences you encounter during excavation record keeping?

P3: "I want to be digging, everyone wants to be digging. They don't want to be recording."

P1: "The sheer amount of time it takes."

P3: "You excavate one square in an hour and then you might have to spend fifteen minutes writing some notes and recording stuff so you might get ten squares a day but you might have actually been able to do fifteen squares if you hadn't had to take all that time recording. So that is frustrating and nobody likes doing it, everyone wants to be digging, doing the fun archaeology they don't want to be recording the results."

P2: "The frustrating part was filling out the recording forms to the point where they were reasonably accurate, having to take countless hours that I don't even have just to go through and check records to make sure that everything is right."

P1: "And ultimately you want to do it that night."

P2: "yes this is six years later."

P3: "If I'm just ticking that box, it becomes automated and you don't actually think about the data that you are entering."

2.6.2 What is the most frustrating experience that you have had of having someone trying to use mobile tools to record process or share data from an excavation?

P3: "Machines not talking to each other, total stations, you want to share information and between your cameras and whatever else and that ones got an SD card."

P3: "Or someone's laptop doesn't have the SD slot so then you've got to have a physical cable."

P3: "Catastrophic loss of data would be my greatest fear."

P3: "our projects are always running on shoe strings (budgets). Budget is a really massive issue; to get even one iPad for a project with software on it would often be prohibitively expensive for most consultants."

P2: "It makes sense if you have a subsistence economy, to use a different metaphor, you don't change your crops, right? Because if you make a mistake you starve to death. You know that when you use these things (paper records) you can get these results in this amount of time and your client will be satisfied. Why would you pick up a bunch of new stuff, 'blow it' because you used it wrong? Our budget went through four different iterations of its software and the stuff that we used and we made mistakes and we went back we tried to fix them, some we couldn't fix."

2.6.3   What records must absolutely be kept during an excavation?

What are some desired extras? Are there common protocols for these records?

P3: "Some things that must be kept are your section drawings, I think you called them context forms, your photographs all of those things. Levels are one thing on our forms we always have start levels and levels for our spits or units or whatever we're are going to call them."

P2: "I agree with only the key elements that for me at least are the drawings and graphic documentation, the photographs, your records of however you keep your contextual records, what ties the pieces that you've dug out together, whether it is stratigraphy, or spits, a site with objects and a survey, or something, so the things that provide that fibre that unifies an assemblage. Usually some kind of a document, a record and a database, a paper context sheet, (...) the geospatial data, all of it because we have found lots of times where we had to go back and look at the job file."

2.7   Archaeological Sciences Working Group

2.7.1   What are the most frustrating experiences you encounter during scientific archaeological record keeping?

P3: "I think we have been grappling with an assumption that is embedded in here, is that archaeological science recording is simple and its embedded in the fieldwork of archaeology. The relationship with the archaeological sciences is quite complex and there is an awful lot of archaeological science which doesn't really touch this because the need for it to be done by an expert competent to do it rather than the archaeologist in the field."

P3: "How do you ensure that the archaeologist has actually engaged the science expertise in the planning process, made the critical decisions as to whether to engage them, how to engage them,

what that does in terms of planning their archaeology in the field working (inaudible) and the excavation itself and only then can we really start talking about sampling this stuff here you know the shape of this really is predicated, in my mind anyway, on a lot of discussion long before it so finding a standard set of bits of information that need to be recorded."

P3: "descriptive stuff is fine it's the intermediate interpretive stuff that is harmful."

2.7.2 What records must absolutely be kept during archaeological sciences?

What are some desired extras? Are there common protocols for these records?

P4: "I've got a list, I've been writing the sorts of things, under the things we want I've got: Site name, date, excavator, level or scope, position which I guess means within the square or from the screen, which square, the geographic position, I guess geolocation would be a better word and then we want to ask for like a count or weight I've never done that in the field for anything (inaudible)."

P1: "One thing I was thinking what about the size of the screen (mesh size) that may be something that varies and in Australia a lot of the fauna is very small so it would be great if there was a least a sample that was one mil in addition to having the three."

P3: "Oh yes I think that's the you're right I wouldn't mandate it (mesh size), but it's a bit like field working forms you set the basics like the date, the weather conditions and who's actually recording and in that case I think that's a specialist one for screen sizes that has to identify the type of sieving."

P1:"When cataloging artefacts, the categories I can think of were bone, what do you call it animal tissue, fauna or something, plant matter (flora) and geological, is there anything else?"

P5: "Animal, mineral, vegetable."

P1: "Then you know we can if it's bone we can ask him to put it in articulation, if it's plant matter we can ask is it perpetual."

P1: "And that's the actual useful thing we are talking about having a mobile. (…) so if you click bone then we will all have our list of little things and click on the plant matter and all of them will probably be pretty similar."

P5: "It would be nice to have some forms. I think there are a lot of common things to all of the things that are collected. So you have the sort of top-level information and then there could be subforms. Say for instance if it's like a geological sample, morphological sample, paleo-ethnobotany, say, if you have more space there is a number field and your Pbot sample(…) so everything gets this, this, this, but then there's a subform, which is a little more specific."

P3: "Well I would have some level of uncertainty in there because there's a really interesting sort of intellectual mindset and an archaeologist's primary focus is on humans. So they see artefacts the geo scientist for example sees natural features and you can have some very interesting discussions about

whether an object is naturally modified or artificially human modified and it's not always that clear it sometimes takes quite a lot of checking."

P2: "Its probably best to again find what your sampling strategy is on that site so whether you're just targeting defined features like paths and pits - you know note down that sort of thing - or whether you're taking a bulk sample out of just the general sediment. And then the quantities at which you're collecting so for like half a pit ideally you'd want to be taking like a hundred (100) percent of that when if it's just more general you'd probably just take sixty (60) litres so how do we have these things noted down like if it's collected a hundred (100) percent whether it's you know at least sixty (60) litres?"

P2: "..and maybe desired processing method or something like that."

P3: "So this is intention, intentionality I was going to say something similar actually if we go back to the planning and the purpose of the sampling is in a sense in a digital thing we'd like it to have a check box that says is there, this is the higher order stuff, is there a purpose for the sampling? In other words is there a sampling strategy?"

P3: "It could be an established strategy for the site and you simply check, does this accord with the agreed protocol or if it doesn't why? Maybe because there's not enough of it or because half of the hole got dug out before we realized, you know."

P5: "You are just priming the metadata ahead of time so it reduces the time in the field and say this is back in the metadata."

P4: "Yeah so they click on the amount thing and there will either be a drop down or a list and we will have one (1) litre be the default or whatever the excavation protocol is."

P3: "That's good actually, having defaults, yes."

P4: "What you were saying before is that we are really trying to avoid going on this stuff is anything that will be interpretive or topological or taxonomic because once they get a label like that the label stays with them I mean it not only could be wrong but they also lose the motivation to give it to someone who actually knows what they are doing."

2.8 Focus Group Summary

This report summarizes the outputs of the Focus Groups organized during the FAIMS Stocktaking Workshop in August 2012.

The first three Focus Groups - special stakeholder subgroups of Contract archaeologists, State agency archaeologists and International participants - have provided very valuable feedback on the various socio-technical, ethical, administrative and legal challenges of the FAIMS project. The guidance ranged from suggestions of development strategies to ensuring that the resulting digital archaeological infrastructure of the FAIMS project would be sustainable. The discussion covered topics of the varied needs and incentives among the contractual, academic and indigenous stakeholders of the FAIMS project, and the need for the project to articulate well with existing initiatives organized elsewhere.

The other four Focus Groups comprised participants from field recording Working groups - Artefact, Survey, Excavation and Archaeological Sciences. Their feedback was valuable for a detailed commentary on various frustrations and hopes associated with the use of digital technology. Thanks to the direction provided by the facilitator, the comments in the Focus Groups often went deeper than was possible during the Working Group discussions, and often centered on the discussion of best practices and range of standards rather than mere minimum recording thresholds.