

## **Confessions of a Virtual Team**

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## Confessions of a Virtual Team

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### Abstract

*This paper presents the various challenges faced when working in large, multi-disciplinary, geographically dispersed research teams. The team discussed here is part of a Smart Internet Technology Cooperative Research Centre project within the Banking and Finance domain in Australia. In this project, the challenge comes not only from its multi-disciplinary approach, but also overcoming geographical distances. These challenges are exacerbated by frequent changes in team members who have differing epistemological backgrounds. New members join the 'virtual team' at differing times in their research careers and in our project. As we are working at the intersections of different disciplines, it takes a long period of time to work with common frameworks and methodologies in our virtual team. To get to a level of connected thinking about the data, its analysis and subsequent interpretation is a challenge in itself. This paper discusses the issues faced by the people rather than the project domain. Those involved enter the 'virtual team'.*

### INTRODUCTION

In this paper we focus on how a 'virtual team' of multidisciplinary researchers in Melbourne and Brisbane conducted qualitative research on banking and the management of money in Australia.

We are reporting here on the first stage of our banking research, which comprises one of four research streams of the project 'Trust, Privacy, Identity and Security' in the Smart Internet Technology Cooperative Research Centre (SITCRC). The Centre, set up in July 2001, involves 10 universities, five commercial industry partners, a consortium of small and medium sized enterprises, the federal government, and state government departments ([www.smartinternet.com.au](http://www.smartinternet.com.au)).

The Banking Research Stream of the "Trust, Privacy, Identity and Security" involves qualitative and quantitative research. We use *user-centred design (UCD)* methodologies in a collaborative academic and industrial research environment to scope broad project directions leading to specific product development and demonstrators, rather than initially focusing on specific product design. The insights gained will lead to the design of technology aiming to increase customers' perception of security, trust, identity and privacy within a banking context.

We have embraced the UCD methodology, which incorporates the use of personas and scenarios to perceive a number of different uses of the same technology (Beekhuyzen, von Hellens, Morley and Nielsen, 2004). A persona is a detailed description of a possible user. A scenario is a story of a possible situation in which a number of technology products and/or services could be utilised. The use of a persona with a scenario gives a deep understanding of a user in a situation with technology and is a widely accepted approach to technology development (Vredenburg, Isensee and Righi 2002; Carroll 2000a; Carroll 2000b; Cooper 1999). The UCD methodology also has synergies with Universal Design, a more widely used set of principles of technology design and development (Astbrink and Beekhuyzen 2003).

Presented here is a detailed account of the inner workings of our virtual team. This discussion explains the complex situation of conducting qualitative research in a new kind of team environment. The focus is not on multi-disciplinary research. In this paper we also do not deal with two other important stages of the research, that is writing papers collaboratively and translating the insights of qualitative research to design.

Our qualitative research team is spread across Melbourne with four researchers and two researchers in Brisbane. We work closely with the E-commerce and Identity Management Research Stream in Melbourne with four researchers (including one that also has worked in the beginning with the qualitative research team). At the next level are the nine associated researchers from different disciplines across the two universities in Brisbane and Melbourne. These two research teams aim to translate their insights into design and policy and to this end work

with four computer scientists in the University of Wollongong (just outside of Sydney). We also work with a bank in Sydney. Our work is then reported by the project leaders to the wider SITCRC. So there are at least six versions of the virtual team (up to 2000 kilometres distance at the furthest point) that come together depending on the phase of the research activity. In this paper we concentrate on one of these six versions, that is the qualitative research team in Melbourne and Brisbane. This paper also prioritises the perspective from Brisbane, rather than Melbourne where the project leader resides.

We currently have six researchers involved in the qualitative banking research, four in Melbourne and two in Brisbane. These researchers are from sociology and anthropology, law, psychology, information systems and education. This is of course the most recent face of our qualitative research team. We have previously had three other researchers associated with the research from media studies and sociology. At the same time there has been continuity because two of the researchers have worked together for close to five years, whereas two of the other researchers have been with the team for more than one and a half years. One researcher though has just joined in the previous week, at the time of writing.

The qualitative research of the banking project is nearly complete with 82 interviews and focus groups involving about 20 persons. Significant methodological challenges also arise with the large amount of qualitative data collected. While the use of technology helps improve rigour and transparency of the data analysis, different levels of training and experience of qualitative research contribute to greater complexities.

This qualitative account of our process of data collection and analysis intends to inform and provide insight into the methodological challenges that arise from this type of virtual team environment. This paper presents a snapshot of where we are currently at in the project, whilst suggesting improvements to our team processes and practices that will enable our physical and electronic spaces to be more integrated.

## VIRTUAL TEAMS

Resulting from the enormous impact the Internet has had on the way we work, researchers have had to re-shape the process of learning and sharing knowledge within the team and outside it. The emergence of this new form of virtual team has led to the creation and formation of a new dimension of work, which extensively utilises electronic networks and creates an 'electronic space'. This emergent 'electronic space' significantly increases the complexity of the work environment and the geographical flexibility of organisations and individuals (Kimble, Li and Barlow 2000). Information technologies may support or hinder the relationship of team members in a face-to-face or a virtual environment by enabling communication among community members (Greenhill, 2002). Failed attempts at implementing information technologies in these environments can be attributed to inadequate attention to the issues of the virtual sphere, and also neglecting the importance of collective trust and relationship building amongst team researchers.

We have a challenge in building collective trust based on shared meanings about roles and responsibilities, and this type of environment means team members have fewer cues about other team member's performance and also different perceptions about deadlines (Pearlson & Saunders 2006, p76).

The SITCRC members can be defined as "geographically and organisationally dispersed co-workers that are assembled using a combination of telecommunication and information technology to accomplish an organisational task" (Townsend, DeMarie and Hendrickson 1998). Diversity is at the heart of such an organisation, making a coherent and formal identity difficult to achieve unless there is a strong supporting infrastructure. We find ourselves working across spaces and places. The co-existence of 'two spaces' as suggested by Kimble et al., (2000) represents a fundamental change in the business environment. "Although the electronic space has emerged since the telephone and radio were invented, it has only recently become essential to organisations and individuals as advanced information infrastructures have become available and the information economy becomes firmly established" (Kimble et al. 2000)

Kimble et al (2000) argue that fundamental changes have taken place in the business environment which force people to operate 'two spaces' simultaneously; the physical space and the electronic space. This can be difficult to manage as the researcher's second space is often split also, balancing research work and teaching, which often has nothing to do with the other.

The electronic space is multi-faceted; being used by research teams who are geographically dispersed, and also teams that are not. Although the Internet, with its various tools is an essential communication medium, face-to-face interaction is essential for a successful working team. Regardless of whether the team members are co-located, information technologies can help to support every day research activities.

Within the contextual and cultural boundaries of this team environment, we adopt the views of Lipnack and Stamps on the one hand and Baxter's view of a virtual team on the other. Lipnack and Stamps (1997) define a virtual team as "a group of individuals working across time, space, and organisational boundaries with links

strengthened by webs of communication technology” (Lipnack and Stamps 1997, p189) Baxter defines a virtual team as “a group of individuals working across time, space. The individuals involved have complementary skills and are committed to a common purpose; they have interdependent performance goals, and share an approach to work for which they hold themselves mutually accountable” (Baxter 2000).

The existence of virtual teams in the educational environment is fairly recent (Vogel, Davison and Shroff 2001) with tools like Blackboard being quickly adopted by institutions to support and encourage these interactions. However Vogel et al., (2001) suggest that few academics have yet been willing to invest the considerable time and resources necessary to facilitate extended virtual team work.

One strong benefit of geographically dispersed (virtual) teams is that they allow organisations to hire and retain highly skilled people regardless of location or regular presence in the physical office. The virtual teams in today’s organisations take many forms; consisting of employees working at home, small groups in the offices, co-located buildings, different geographic locations. Using these many characteristics we can quickly realise the prevalence of virtual teams. As nearly every team can be called a virtual team to some extent, this brings about a new set of challenges for researchers and their teams.

## METHODOLOGICAL CHALLENGES

Our project to date has been a productive effort of the team and provides a good environment for continuing work within our research centre. This project team is unique within its context as it augments complementary interests in an important domain whilst employing rigorous research techniques. There are many influencing factors discussed in this paper that contribute to this complex project team environment. The resulting methodological challenges that have arisen in Phase 1 of this project are discussed here. Some of these challenges were identified during the course of the interviews, however most have only become apparent during reflection in a team environment.

There have been many challenges faced so far, and new ones arising every week. Some of the challenges faced include trying to work with imperfect coding and how to communicate interpretations so all involved understand them. We have a number of coping mechanisms to deal with these challenges, and are developing new strategies along the way.

The methodology used in the qualitative research is Grounded Theory, where the theory emerges from the data, rather than hypothesis testing (Glaser and Strauss 1967). This methodological approach often takes team members, particularly those not from the social sciences, some time to grasp the research aims and objectives. This is because there is no hypothesis to say we are testing X, or we are testing for Y. This makes it difficult for members of our team used to working with hypotheses. With Grounded theory there is no hypothesis. Instead, we are seeking to understand what the data is saying about the topic under research.

To date, we have found many different facets in the area of banking, security, trust and privacy. So rather than communicating a linear process, the project is dynamic, fluid, and emerging. Longer serving team members have sought to engage newer researchers into the project, by enabling them to use their area of research expertise, and epistemological understanding of the world, to seek to understand the issues. This allows them entry into discussion of the data, and provides a grounding from which they are able to manoeuvre their theoretical understandings on the project, and develop different frameworks from which to understand the data.

We now discuss the team structure, how it was formed, and how we communicate within the virtual team environment.

### Team Structure

*Our project team* is an example of a boundaryless network organisational form with a team assembled for the duration of a research project. In this case, it is two years. Due to the extended timeframe for this project, only a few researchers have been involved from beginning to end, with many entering the project during, or leaving before the completion of the project. This regularly changing team structure results in leaving members taking their knowledge of the project with them before the project end, thus causing a significant loss to the team each time this happens. Taking into account the length of the project, it is usually difficult for new researchers to join the project midstream as they need to get to know the team, and understand the complex nature of the project and the research centre to which it belongs. Two of the researchers in the team have worked together for close to five years, and two of the other researchers have been with the team for more than one and a half years. This continuity helps to maintain some stability and trust within the project. The formation of collective trust based on the essential sharing of knowledge within the group is vital in keeping the project running successfully despite these major changes in the team.

### Team Formation

Virtual teams may be temporarily focused for the completion of a specific project or long lasting, with stable membership over months or years (Piccoli and Ives 2003). *Our project team* is a combination of these. The availability of staff in SITCRC university institutions, and the match between the expertise required and that of the available researchers largely determines who joins our research team. While *our project team* members are from various disciplinary backgrounds, they coalesce more in the social science area – with only one team member with significant software development experience.

### Team Communication

Teams need a common idea of what they are trying to achieve and this needs to be supported by reliable communication. These common ideas are rarely expressed or understood in precisely the same way for each researcher – there will be different interpretations of purpose, with some communicating best through schematics/models while others prefer text descriptions or stories. Team members also have different levels of faith in the communicative power of technology. Together with the resources required, the unavailability of time, money and mandate, the technically capable members of the group have not succeeded in implementing a technical solution to support our local (within the team) communication needs.

These variations in communication preferences are often influenced by personal style and experience, and disciplinary approach and background. Variations in individual perspective or expressions of intention at least need to be complementary and somewhat aligned and be seen to reflect a common understanding in which there is a degree of ownership by individuals.

Teams benefit from a process infrastructure; this enables various activities to occur without having to be rethought each time, including processes for engagement and communication, progress monitoring, and facilitation. How effective the process infrastructure is needs to be questioned regularly and with thoughts of ways to which it can continue to be embedded in the future.

It is most appropriate to describe *our project team* as multi-disciplinary with the team working towards well-identified deliverables; these are ultimately our reports and publications, although the nature of these and the way of achieving them needs to be negotiated regularly. In many respects, some of the critical aspects of successful teams are generic - with the multi- or inter-disciplinary aspects influencing the ways in which these are achieved.

As Kimble et al., (2000) points out, “the evidence of case studies and from previous research has clearly indicated that geography matters in the information economy”. With team members physically located in different geographical locations (different States in Australia), we interact primarily through the use of computer-mediated technologies (email, teleconferencing, website, N6). We rarely see each other in person; but this is often also the case for those that are co-located.

Most involved participate in a group teleconference which happens at a set time each week, though differing schedules often interrupt this regularity. We also talk individually by phone when needed. The phone conversations are complimented by meeting face-to-face. Technology restrictions at the various universities have stifled the use of instant messaging, voice over IP (VoIP) and other possibly useful online communication technologies.

As *our project team* is spread across a number of cities in Australia, intimacy is difficult. We work hard at meeting face-to-face as a group at least 2-3 times per year. These get-togethers are usually two days filled with discussions and workshop-style presentations about where the project is at and the current workload and progress. During these two days, we make time for semi-social interactions within the team, usually over long lunches and dinners after the day's discussions. Often the discussion turns quite personal, with each presenting experiences and stories of banking and money, how we personally deal with it, and how this is constantly changing. We have found that these opportunities to share our own personal feelings about the project, the institution (the SITCRC) and the specific topic of banking and money are key to our personal interactions. For our team the added bonus comes in discussing such a private and personal topic (money and relationships), which brings a sense of fellowship amongst us.

According to Jarvenpaa and Ives (1994), virtuality requires trust to make it work and we have found that meeting face-to-face at the earliest possible time in the project is a bonus. Even if only once and brief, it provides a context for future interactions whilst establishing a platform for trust: an essential ingredient for research collaborations.

## FOCUS ON METHODOLOGY

Our qualitative study began in May 2005 and is continuing. We chose the qualitative approach for we needed to understand the banking experience from the users' perspective, rather than generalise from media and other reports, or to take a quantitative only approach. We have been working towards understanding the different facets of the banking experience and we are working on translating these insights into a design of banking systems in the Smart Internet Technology Cooperative Research Centre (Beekhuyzen and von Hellens, 2006; Singh, Jackson, Beekhuyzen & Cabraal).<sup>1</sup> The study has at its centre the perspectives of user-centered design where the user's activities within their social and cultural context are at the centre of design (See (Vredenburg 1999; Singh, Zic, Satchell, Bartolo, Snare and Fabre 2004). It is a 'grounded' study in that there was a fit between data and emerging theory, rather than a testing of hypotheses (Glaser and Strauss 1967) .

Our study has two phases: phase 1 focuses on the qualitative study and phase 2 focuses on a large quantitative survey and triangulation of both sets of results. Phase 1 is nearing completion and our qualitative data is drawn from our study of 80 people in Melbourne and Brisbane in Australia (24 interviews still to be completed as at April 2006, now all completed). Participants were representative across all of the age groups (18-24, 25-34, 35-44, 45-54, 55-64, 65+) thus providing a diverse user group, which is often not found in other studies. We have a good mix of males and females with varied ethnic backgrounds, lifestyles and occupations.

The participants in the study were sourced through personal and professional networks and through advertising on the university group mail. The interviews were recorded with permission and transcribed. We used N6, a computer program for qualitative analysis. In addition to the process described below, we also used the N6 program to identify negative cases to ensure that the study was rigorous.

### *Our Virtual Project Team*

We currently have 10 people involved in the banking project, each with different educational backgrounds, commercial experience, ages, gender and history with this project and the research centre. The 10 part-time and full-time researchers are located across Victoria and Queensland (up to 2000 kilometres distance). Six of the team are conducting the qualitative study of banking – four are in Melbourne and two are in Brisbane. Two of these qualitative researchers come from sociology and anthropology, one from psychology, one from law, one from information systems, and one from applied linguistics. A new team member is a visualisation expert. We also have a computer scientist and a mathematician. As mentioned earlier, a wider group of researchers gets engaged when we consider user centred issues in banking and e-commerce. Then broader group of 19 researchers is activated when we communicate with the four computer scientists in Wollongong who are designing the software. We also have a representative of the bank periodically involved with the project.

### **Doing Data Collection and Analysis**

After spending many months designing the study and working through the literature across the various disciplines, we commenced the mammoth task of data collection. Our qualitative data was collected primarily through one-on-one interviews.

### **Conducting interviews**

Each person in the qualitative team is expected to contribute to data collection. This is done primarily through interviewing. Each person organises their own interviews through their personal and professional network and then (usually) travels to the meeting place to carry out the face-to-face semi-structured interview. Each interview is recorded on cassette tape to be later transcribed. The interview lasts between 30 and 90 minutes.

With 100 interviews being conducted over a long period of time and by multiple team members, it is often difficult to keep track of who said what when drawing on the data. Our approach in addressing this issue is to produce and circulate field stories. Each participant is assigned a pseudonym at this point and that is how he or she is identified from here on. Of course, we also need to maintain an accurate account of who was interviewed, who by, when, if transcribed and coded and if so, by who, when, and where the physical transcript, cassette tape and consent forms reside. We do this in a spreadsheet that is a list of all participants and their characteristics and details about the interview. We keep a separate spreadsheet that has original names and associated pseudonyms. This latter spreadsheet is not distributed at all and is kept in a safe location on a stand alone university computer.

### **Field stories – the initial but essential stage**

On the day that an interview is conducted, a field story is written summarising the interview, highlighting the main themes of the interview and also any methodological issues/challenges faced in the interview process.

<sup>1</sup> The Smart Internet Technology Cooperative Research Centre website is at <http://www.smartinternet.com.au>.

Recording this on the same day is essential. The field story is between 2 to 5 pages long. Rather than replacing the interview transcript, the field story was a complimentary snapshot of the theoretical and methodological aspects of the interview (derived on reflection), providing team members with insight into the interview that has taken place, without reading the entire transcript.

These stories are a very useful tool for the team, and also for the interviewer. It helps in reflection on the interview and drawing out the main themes in the first instance, and also as a communication tool summarising the interview. Even having 100 field stories to help us familiarise with the unknown participant can be overwhelming, but this summation of data really does help in managing the large amount of information we are collecting.

### **Coding process using N6**

While we are collecting data, we also engage in analysis and interpretation as an evolutionary, but complimentary process. It was important for us to adopt a rigorous way of coding for this project. Due to our previous experience with the NUD\*IST product, we decided to use QSR's N6 (the latest version of NUD\*IST) – a qualitative software tool. Convincing us to use this technology was the inherent transparency of coding and the consistent view of the data for all involved.

Firstly, we created up the N6 project and located it on the central network drive at the university where most of the project team members are located. Though this caused some technology problems for Jenine in Brisbane, it is a valid and tested solution for the storage of team documents and backups of important resources. However, we found there are few technical solutions dealing with the problem of sharing large databases between researchers in different universities. In the end we had to resort to informal sharing of access codes.

Once the N6 project was established, we began importing our transcribed interviews (transcripts) ready for coding. During our methodological team discussions we realised it was important for a team member, other than the interviewer, to code the transcripts in the first instance. This process gives another team member the opportunity to familiarise themselves with the interview, as well as providing an objective view of the themes of the interview. This allows a transparent initial coding process.

Once the transcript is introduced, we then append the field story to the transcript and code to the 'field stories' node – then all stories appear in one node/category for easy retrieval.

### **Defining nodes**

We worked hard on establishing a solid coding structure to start the coding of our data. The core of our node structure was populated through a process of defining the relevant demographic nodes, adding the theoretical nodes (derived from appropriate theory bought by different team members), and experiential nodes; these are nodes that are derived from experience of team members in the initial stages of the project and the extensive literature review that was conducted on the topic.

The team worked with the node structure that was originally created for some time, until it became apparent during the coding process that we needed to re-define our nodes. As a team we began going back to the nodes not defined to make their definition explicit. We also restructured our nodes at this point as they evolved with our initial interviews. As a team, we agreed to commit to providing explicit definitions for nodes thus engaging our ongoing interpretation of the data. Time started taking its toll on our node structure, making it clear how important it is to make the coding process as transparent as possible. Document everything!

### **Coding to nodes**

It is necessary to firstly introduce the coded transcript/s to the N6 project. Once located in the program, coding can begin. One person broad coded each transcript with node definitions helping to remove ambiguities in this process (see Defining Nodes discussion for more information)

Once all introduced transcripts are broad coded, team members do text searches for key topics eg credit card, security, privacy etc. This ensures that all key terms and each time they were expressed are represented in the coding and thus analysis. Once we first broadly coded the data, we then organised the data into matrices to check for emerging themes. We do this so that the data analysis process remains transparent.

### **Coding analysis**

Any coding and analysis in a team environment can be troublesome and difficult. When team members do it mostly in physical isolation using a software tool (or not) with a different disciplinary background than others in the team, it can make this task even more difficult. When it came to the fine analysis of the data in this project, some team members, to help frame the matrices that were used as an interpretation tool, used Microsoft Excel. In

the team, we found that Excel and Word are better tools to collate these matrices than N6. The matrices we develop are fine codes taken from the already coded nodes, and this process is referred to as 'coding on' (Morse and Richards 2002).

After coding more than half of the 80 interview transcripts the team realised while discussing as a group, that some codes existed more than once (often with differing definitions) and that some node definitions were missing. The team discussions were integral in exposing these inconsistencies, mostly caused due the large amount of nodes in the project. After consideration, the codes that were duplicated were merged (if the definitions scope could be expanded to accommodate) or were renamed.

Morse and Richards also emphasise the importance of checking your coding periodically for inter-coder reliability (Morse and Richards 2002). Once the above problems were realised, a process was put in place to routinely check the node structure and correct any inconsistencies found. If merging, a date and reason why merged also must be recorded.

We tried to ensure that all stages of data collection and analysis for each interview was done by a different team member, although it was important to maintain consistency and rigour. For example, the person who conducted the interview would not transcribe the same interview, and whoever transcribed or conducted an interview would not code the same interview. This was to enable the majority number of team members to get a feel for more of the data.

Interpretation of the data is the next step in this process, and it is complex and with its own set of challenges. This discussion is out of the scope of this paper but will be reported at a future date.

## WHAT WORKED FOR US

The challenge is that the virtual context may actually impede the development of collective trust within *our project team*. Handy (1995) suggests that in virtual organisations, trust requires constant face-to-face interaction – the very activity the virtual form eliminates. This research is in line with the view of trust presented by Mayer, Davis and Schooman (1995) as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (p712). In short, trust is based on the expectation that the other will behave as expected (Jarvenpaa, Knoll and Leidner 1998).

*Our project team* does not engage in specific team-building exercises but the face-to-face workshops that also include social interactions over meals help to build trust within the team. A barrier to team trust is due to the only central location for sharing of research data and interpretations is N6 – which is physically located in Melbourne (with an up-to-date copy sent to Brisbane weekly). For the dissemination of other information eg, minutes from meetings, up and coming events, working and complete documents, policies etc, there is also currently no technological way for team members to interact on a formal basis other than by email or phone.

The wider Finance and Banking research team (including both streams) is task oriented and rarely engages in social comments within the formal group communications (eg teleconference). The team is slowly forming a sense of task goals and are very aware of time constraints and other commitments of its members. The weekly meetings allow for members to remind each other of forthcoming deadlines. Members of the research team volunteer for explicit roles/tasks and engage in independent work. However, there is a strong emphasis towards collaborating with other members in the team and the leadership encourages this.

We face a number of methodological challenges in the project, ranging across epistemology, technology, data collection, history with the research centre, and geography. On top of these, our next and ongoing challenge is how to translate our findings from our interviews into design.

## ADVICE FOR VIRTUAL TEAMS – LESSONS LEART

There are a number of areas where we faced difficulties as virtual team researchers. One significant issue was in the interview process, in the actual conduct of the interviews. We found that different interviewers emphasised or omitted different questions, and also that the researchers could not get familiar with all of the interviews they did not conduct. We also found another significant issue with the coding of data. This was a both where data was coded, and when new nodes were created. The last and fairly significant issue we faced was with the transport of the computer program we were using to help with the coding and analysis of the data being in one location, where the Brisbane team could not access it. These issues are now summarised.

Issue	Difficulty	Virtual Solution	Physical solution
Interviews	Different researchers emphasising different questions, or omitting some	We set up a flexible interview guide. Researchers were required to use this when conducting interviews, just to ensure that all questions were asked.	When we met, we all sat together and went through the interview guide to ensure that it was working for us. We made any changes to the guide together as a team.
	No familiarity with other people's interviews	After each interview, the researcher was required to send out a 2-5 page summary of the interview to all researchers.	When we met, or were writing papers, we all discussed (either in person or over the phone) the different interviews, and some of the main themes that emerged from them.
Coding	As many people coded, and created new nodes, we found some codes were ambiguous, and others, repetitive	We established that anyone creating a new node must write as detailed description as possible of the node.	When we met in person, a researcher from Brisbane, and one from Melbourne sat together and consolidated the nodes, and wrote up detailed descriptions of the ones that were missing
	People interpreted the data differently and hence coded the information to the incorrect node	Addition of the description of nodes and any additions or changes as they occur.	An older member of the team sat with a newer member of the team, and worked with them in coding one interview. The new team member was then given half a day to play around with the program and get familiar with the type of data received.
File sharing of important information	We all coded from the one N6 program, but Jenine in Brisbane did not have access to University network in Melbourne	We used free online sharing networks when the file became too large to email	We copied across the latest copy of the entire folder onto Jenine's computer when meeting face to face in Melbourne. Occasionally we informally shared access codes, as there was no other way to ensure we were working on the same version of the file.

It is important to note here that in almost all instances, communication, both verbal and face-to-face were an integral part of the success of the project, and helped to bridge the spaces between places. Also, all team members maintained a social relationship, which also helped in terms of communication, and helped facilitate us to finding solutions to some of the difficulties faced.

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