Talking about watching: Using the Video Card Game and wiki-web technology to engage IT students in developing observational skills.

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Abstract

Designers need to develop good observational skills in order to conduct user studies that reveal the subtleties of human interactions and adequately inform design activity. In this paper we describe a game format that we have used in concert with wiki-web technology, to engage our IT and Information Environments students in developing much sharper observational skills. The Video Card Game is a method of video analysis that is suited to design practitioners as well as to researchers. It uses the familiar format of a card game similar to "Happy Families„ to help students develop themes of interactions from watching video clips. Students then post their interaction themes on wiki-web pages, which allows the teaching team and other students to edit and comment on them. We found that the tangible (cards), game, role playing and sharing aspects of this method led to a much larger amount of interaction and discussion between student groups and between students and the teaching team, than we have achieved using our traditional teaching methods, while taking no more time on the part of the teaching staff. The quality of the resulting interaction themes indicates that this method fosters development of observational skills.

In the paper we describe the motivations, method and results in full. We also describe the research context in which we collected the videotape data, and how this method relates to state of the art research methods in interaction design for ubiquitous computing technology.

Keywords: Observational Studies, Collaborative Learning, Video Analysis, Video Card Game.

1 Introduction

The advent of miniaturisation, fast processors, wireless technology and networked connectivity, allows us to postulate seamless ways of blending the information infrastructure with social interaction in physical space to create information environments. This insight underpinned the vision of Ubiquitous Computing (Weiser, 1993) in which computing devices would be widely distributed but invisible, operating in the background to support natural human interaction, rather than dominating and demanding human attention.

Designers of the myriad interfaces that work together to form an information environment need to develop very good observational skills in order to identify and understand the subtleties of human interactions in their environment. Good observational studies are key to identifying interaction problems and generating design questions.

In addition to sharpening our students observational skills, our goal in having students observe actual human activity in information rich, social, physical environments is to help them develop an informed view on how ubiquitous computing technologies might be employed in these settings and to challenge their assumptions about interface technologies. For example, unless pushed, many students would not question the GUI (Graphical User Interface) with its attendant menu selection system as the interaction method for a mobile device design, simply because it is so widespread that it has become a standard.

1.1 Prior experience in teaching observational studies

In the past we have taught observational methods to our information technology and information environments students by lecturing on the basic techniques derived from ethnomethodology (Hughes et al., 1993; Anderson, 1994) and then asking them to go out into the campus and conduct an observational study. Common mistakes made by our students are to overlook important detail and to mix observations with personal opinion, leading to stereotyping and premature judgment. As an example of overlooking detail, in a study of an administrative office, students reported, "the admin staff sort the mail into the appropriate places„. However they failed to describe all of the procedural details of sorting mail, such as where they get the mail from, where they place it for sorting, the method they use for sorting, where they place it when finished, the number of pieces of mail and so on. It is important to pay attention to the details of operations as therein often lie the causes of frustrations and the opportunities for redesign. As an example of mixing observations with opinion, students studying use of the library computers commented "students sending email on a non Uni account (such as Hotmail) can be assumed to be sending personal, non study related email„. This claim could not be substantiated from the observational data.

Observational studies in the IT domain are usually framed by some sort of design question of the form "what opportunities might there be to support the work practice here with information technology?„ While the framing question naturally bounds the kind of observations one makes, the good observer tries to keep as open a mind as possible so as to let the actions of the observed frame their understandings, in the tradition of

ethnomethodology. As novice designers that are very motivated by design and want to get on with design, some students do not seem to feel there is a benefit to doing observational studies. It is widely recognised that novice designers often fall in love with one of their first design concepts and pursue that concept without validating it and without sufficient exploration of other alternatives. This sort of mindset seems to preclude some students from doing an adequate observational study.

While in general our students do embrace the concepts of user-centred design, we feel that there is room to increase their motivation and ability to observe deeply.

1.2 Our students

The courses referred to in this paper—*Advanced Human–Computer Interaction (HCI)* and *Interaction Design*—are delivered during the same semester to different student groups across two campuses of the University of Queensland (UQ). The courses aim to teach diverse groups of students within the School of Information Technology and Electrical Engineering (ITEE) about the nature of designing ubiquitous computing technology from a people-centred perspective, with an emphasis on design. One of the main differences between the two courses is in terms of the students enrolled. Advanced HCI is taught as an elective to Honours (4th year) students (60 enrolled this year) following Bachelor in IT degree program at the main St Lucia campus. Interaction Design, however, is a core course taught to 2nd year (60 enrolled) and Masters (10 enrolled) students following the recently established Bachelor and Masters in Information Environments. Both of these degrees follow a studio-based approach to bringing a design perspective to the development of IT. Central to this approach is a focus on the people who will ultimately use the technology, and a shift away from more traditional workstation-based solutions. The Information Environments Program is located at UQ's new Ipswich campus. For the students taking Interaction Design, the course is seen as one of the subjects that define their identity as designers of information environments rather than more traditional IT developers.

1.3 Approach

Our approach to improving students' observation skills was to introduce an assignment in the first two weeks of class that engaged the students in watching activity on videotape. Videotape has the advantage that it can be replayed, scrutinised and discussed in the classroom, so that students can get an insight into new ways of looking, for example, paying attention to: beginnings and endings of activity; pauses; disruptions, trouble and repair; turn taking; participation structure, spatial organization of activity; use of artefacts and documents. Although in-situ observation does not allow this level of scrutiny, we felt that video could help us to engender an awareness of human interaction that would assist students in a variety of other types of observational study, ranging from pure observation to contextual interviews (a technique in which the interviewer observes activity in situ and asks questions that arise from the activity rather than following any predefined interview script).

Videotape analysis was introduced through a lecture on the techniques, assumptions and methods of Video Interaction Analysis (Jordan and Henderson, 1995) and the Video Card Game (Buur and Søndergaard, 2000). One class viewed and discussed a videotape of a visit to the dentist. In the other class students observed each other engaged in operating common household devices and then discussed their findings.

In both classes students then undertook an assignment called the Video Card Game. We had used the Video Card Game in our research group and found the active participation engendered through the game format to be enjoyable and engaging. Although videotape naturally engages students at first, it can be tedious to watch a lot of videotape.

Our optimistic working assumptions were that:

- Videotape would help students to hone in on and observe human behaviour;
- The video card game format would engage the students in thinking and discussion;
- Through the process of developing descriptive themes of interaction in the card game, students would identify and generalise more detailed patterns of behaviour, habits and interaction problems;
- By writing up their interaction themes and posting them on wiki-web pages, students would engage in reading each other's themes.

Following the video card game, the curriculum of both classes is based around a design project, with the concurrent introduction of additional material on Contextual Inquiry (Beyer and Holtzblatt, 1998) and design methods (e.g. Gaver et al., 1999; Brandt and Grunnet, 2000; Burns et al., 1994). Students were encouraged to focus their design project around a particular interaction theme in a particular domain context. Thus the themes identified in the card game would potentially be useful for helping to define design projects.

2 Related Research Activity

The decision to use the Video Card Game in our teaching came out of our experience with the process during research workshops with colleagues from Denmark. We used the approach as part of our own user-centred design of ubiquitous computing technologies. This section gives an overview of our research in this area.

2.1 Designing wireless gestural technologies

Our research explores gestures used in the context of activities in the workplace and in everyday life in order to understand requirements and devise concepts for the design of gestural information appliances, in particular, wireless gestural input devices. The appliances of interest are self contained, not relying on external cameras,

screens or devices in order to effect gesture detection, as do many existing gesture recognition systems which are designed primarily for instrumented rooms, CAD systems or Virtual Reality. They are small, and can be packaged into devices such as rings, pens and watches.

While there is a large corpus of documented research focusing predominantly on how gestures arise in conversation (e.g. MacNeill, 1985), there has been little exploration of gestures in the context of activities, object manipulations, information work and interactions with the physical environment. As a result there is little understanding of how to apply research on gestures to specific interface and information environment design problems.

2.2 Collecting the corpus of videotape data

Our research group videotaped activities in four different domains in order to examine gestures using the method of the Video Card Game. The domains chosen for study involved people working or undertaking daily activities in physical environments with objects (see section 3). They either worked collaboratively or alone. In the cases that they worked alone, they described what they were doing as they worked (situated interviews). We also used videotape collected in two more contexts by our Danish collaborators. Approximately thirty minutes of videotape was collected in each context. The recording team of each domain then watched their tape and noted interactions of interest. Ten clips of videotape of 30 seconds to two minutes duration were then chosen

2.3 Using Video Interaction Analysis and Video Card Game methods

The Video Card Game draws upon the traditions of ethnomethodology and grounded theory (Strauss, 1987) as does Interaction Analysis, by attempting to ground understandings in observable empirical evidence -- However the Video Card Game departs from the Interaction Analysis tradition of treating video as “hard„ data. In this tradition, the analyst “identifies routine practices, routine problems and resources for their solution„. “Only those practices confirmed by the raw data that occur repeatedly in different parts of the tape are considered admissible in the analysis„ (Jordan and Henderson, 1995). The Video Card Game treats video material as a media for interpretation, participation and emphatic engagement after McLuhan (1964). “In this case video recordings are no longer hard data but the first attempts to create stories that frame the design problem and impose order on the complexity of everyday life.„ (Buur, Binder and Brandt, 2000). *Video Card Game* allows video segments to be turned into tangible arguments to support design work. It provides a design environment which promotes open discussion allowing the exploration of themes, patterns, and trends embedded within video data. One of the primary benefits of this technique is that it affords individuals whom are not experts at video analysis and have limited training, the ability to draw meaningful themes from raw video footage.

In the full Video Card Game, participants videotape activity and select from the videotape a series of short clips of interest. Each video clip is then represented by a key frame printed on a playing card. Participants view the clips, jot thoughts and notes about them on the cards and use them in a discussion game that results in making families of cards that correspond to interaction themes of interest. For the student assignment, we used a set of clips that we had gathered during our research group’s Video Card Game. The following section describes how we adapted the game for use as an assessed piece of coursework in the Advanced HCI and Interaction Design courses.

3 Video card game

The Video Card Game was designed to typically take place over the course of a single day, lasting a total of six or seven hours (Buur and Søndergaard, 2000). We adapted the game for our purposes as an assignment to take place over a two-week period. The assignment followed on from lectures on video interaction analysis (Jordan and Henderson, 1995) and ethnographic approaches to observational study

Preparation for the game involved placing the digital video clips so that students could access them in their laboratories, and generating and printing the cards for each clip. We used a total of 60 clips consisting of 10 clips in each of the six following contexts:

- A video player repair shop
- A flowmeter assembly station
- PDA and mobile phone use
- An experimental biologist describing fish experiments
- Passengers and operators of a ferry service
- A visit to the dentist

The clips were MPEG files ranging from 4 to 15MB in size, each one lasting from approximately 30 seconds to two minutes. Students accessed the clips using standard media viewers on laboratory-based computers.

A card was created for each separate video clip. The finished cards were rectangular strips of paper containing a key frame from the clip, and space below this to allow for annotations (see Figure 1 for an example annotated card). Cards were then grouped into batches of 20 cards consisting of 10 duplicates, taken randomly from the six contexts. Sufficient cards were produced so that, ultimately, each student would have 10 cards to work with.

The game is separated into a number of steps. This enabled the students to flexibly manage their time spent on the assignment over the fortnight’s duration. The game involves working as individuals, in pairs and in larger groups, as follows:

Step 1: Dealing the cards. The students were first of all asked to organise themselves into groups of 8. Within these larger groups, the students formed themselves into

pairs. Each pair was then randomly dealt a set of 10 duplicate cards to work with.

Step 2: Reading your cards. In pairs, the students then watched the clips which corresponded to the cards they had been dealt. While both students were watching the same clips together, they were instructed to at first do this without discussion, annotating the cards with their own thoughts on the interactions they were observing on screen. One hour was allocated to this step.

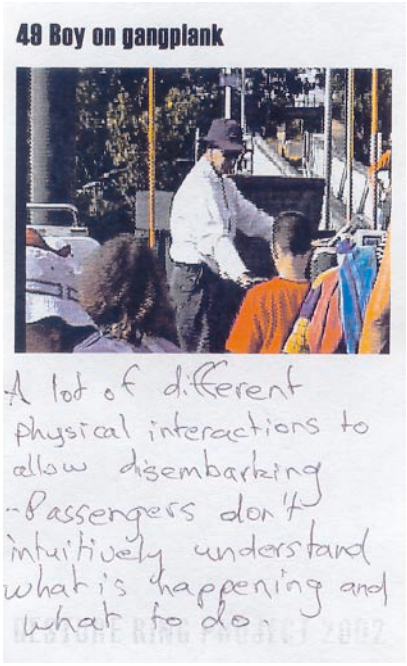

Figure 1: An example annotated video card

Step 3: Arranging your hand. Having watched the videos and annotated their cards, the students got together in their pairs in order to discuss what they had seen, and to start organising their cards into 'families' (see Figure 2), The grouping adopted by each pair was not restricted beyond the fact that each family should have some kind of theme in terms of interactions. The students were told that the clips had been filmed as part of our research into gesture, but they should not limit their themes to only this. They were told to expect in the order of three to six families from their set of cards, plus that some cards may not fit into any of their families. This part of the game was designed to last 30 minutes.

Step 4: Collecting and discussing card families. The first part of this step was for the pair to select their 'favourite' family out of the various themes uncovered. Back in their larger groups, each pair then proposed their themed family of interaction for discussion by the group. At this point, the game playing aspect of the process became more apparent, as the other members of the group tried to propose cards from their own hand to be added to the proposed family. The idea of the game during this stage is for the players to pass on as many of their cards onto other pairs, while the pair proposing the family is trying to avoid any further additions to their theme. The mechanism for accepting or rejecting a card into a theme is via discussion of the content of the video clip to which the card refers, and deciding on the basis of that discussion whether or not the clip contains an example of the theme. During this process, the theme proposers are trying to resist further additions to their theme, whilst the others are all trying to pass on as many of their cards as possible. At the end of this stage, each pair has produced a theme which has been discussed by the whole group. The duration of this stage is more open ended, but the students were told to allow for up to four hours outside of contact time.

Figure 2: Arranging cards

Step 5: Documenting themes. With the themes agreed upon, the final stage in the process is to document them. Originally, this consisted of the cards in a family being stuck onto a large sheet of paper and this sheet being annotated with a title for the theme, and a brief description of what it referred to. In our case, we decided to explore a more technological approach to supporting this process. The students were asked to write up their theme of interaction, structuring it according to the following areas:

- A succinct description of the theme,
- Describe what it is you see in an interaction that leads you to put it in this family,
- Describe an example or two,
- Describe the context in which this kind of interaction occurs,
- Describe how this kind of interaction works in the context of technology.

An example theme from our research was provided for the students as a guide to what was expected. Consequently, the students adapted this format for their own theme summaries (see Figure 3 for an example theme produced by a pair of students). The format consisted of:

- An introduction
- One or more descriptions of a specific examples of the theme as observed in the video material
- A list of 'Descriptors' for the theme, (keywords that one could use to help decide whether a particular video clip belonged to the theme)

- A speculative section about what implications the theme might have for the design of Ubiquitous computing technologies
- The list of video clips from which the theme was drawn.

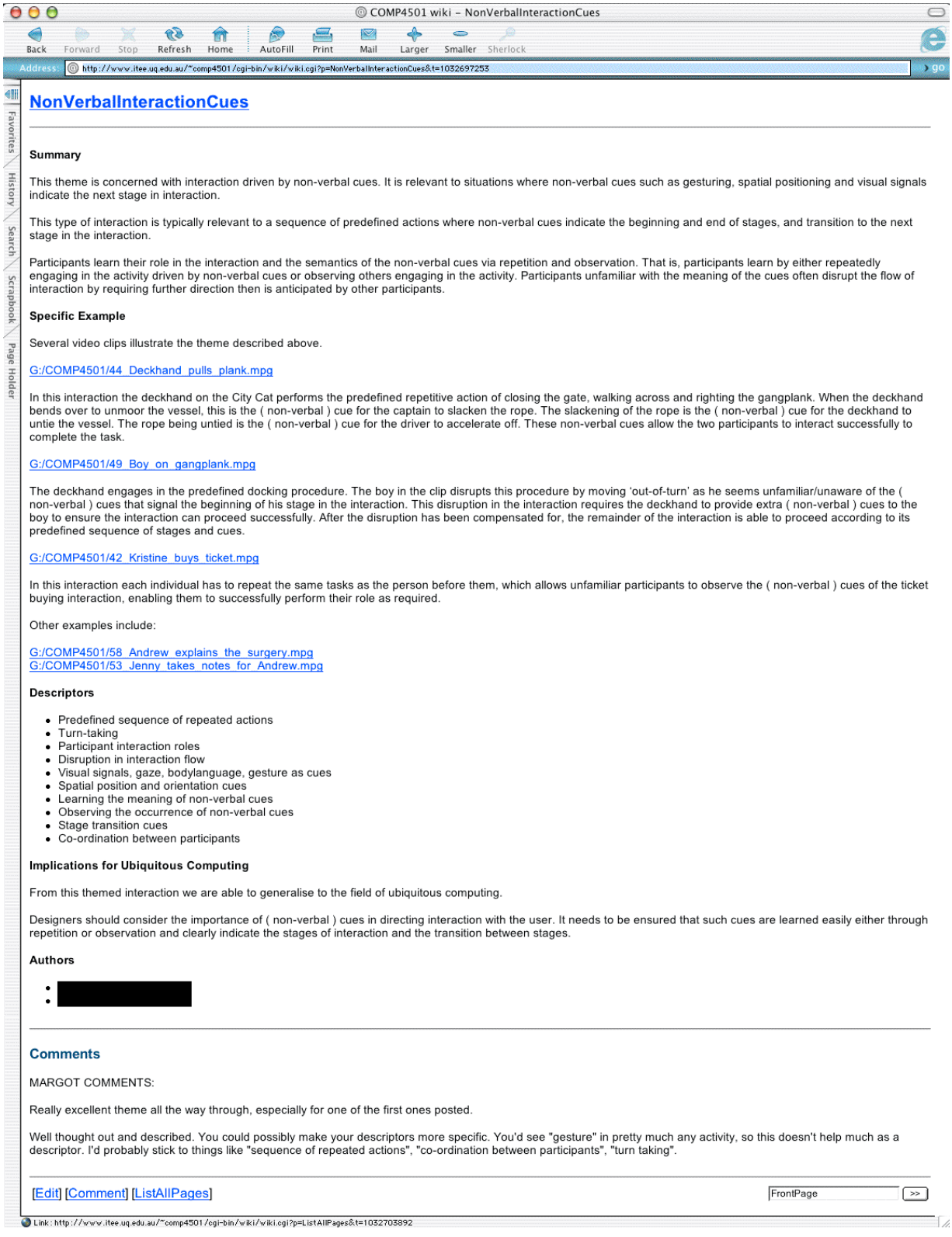

Figure 3: Example interaction theme wiki page

4 Use of the wiki-web

In order to facilitate sharing of completed themes and to allow for discussion to be opened up to the whole class, we decided to try running a wiki web page for this purpose.A wiki-web is a type of website that anyone can edit or add to using a normal web-browser. The original wiki-website was developed in 1995 by a group of software engineers as a repository for design knowledge, and is still in operation today[1]. Since then, there have been many re-implementations of the original idea. The code for our wiki was based on one of these[2], implemented as several perl cgi-scripts running on a web-server to handle the display and editing of wiki-pages and a MySQL database to store the text of the pages.

The distinguishing feature of wiki webs is how immediate the feedback of editing pages is. Each page has a link at the bottom labelled 'Edit'. When a person clicks on this they get a text-box where they can edit the content of the page and save any changes to the wiki.

Links can be easily added between pages in the wiki-web. All pages have a title that follows a standard format of at least two words, joined together, with capitalised initial letters. As an example, 'my page title' would become 'MyPageTitle'. When the wiki detects such a pattern in the text of a page it assumes that it refers to another page in the wiki web. If it finds an existing page with that name it creates a hyperlink to it. If there's no page with that name, it creates a special link that allows a new page to be created when you click on it. In this way, new pages can be added.

Some formatting is also possible on wiki pages. There can be bold or italic text, bulleted and numbered lists, horizontal lines and hyperlinks to normal web pages, email addresses, ftp addresses, and local files. This formatting is controlled by a simple mark-up code (see Table 1).

Because the video clips the students watched were accessible by them from a network drive in their laboratories it was possible to create a link from wiki pages to the video files. This allowed us to create an index of all the available clips and made it possible for students to link directly from their theme summaries to the clips from which they had drawn the theme.

We felt that students might be uncomfortable commenting on one-another's pages if they had to edit the main text directly. So we made it possible to leave comments about a page in a separate section. This worked in much the same way as the editing process, at the bottom of each page was a link labelled 'Comment'. When a person clicked on this they got a text-box with all the comments that have been left about the page which they could add to or modify. When the comments were saved they would be displayed beneath the main text of the page, separated by a horizontal line.

[1] http://c2.com/wiki/
[2] http://finiki.qaip.com/

Style	Code used
Bold	`'''Bold'''`
Italic	`''Italic''`
Bold-Italic	`'''''Bold-Italic'''''`
Horizontal line	`----`
• Bullet point	`* Bullet point`
1. Numbered list	`1 Numbered list`
www.website.com	`http:www.website.com`
an.ftp.link	`ftp:an.ftp.link`
me@home.com	`mailto:me@home.com`
C:/local_file.doc	`file:C:/local_file.doc`

Table 1: Wiki formatting codes

Because the Advanced HCI class was working 1 week ahead of the Interaction design class, we were able to get some preliminary feedback on the success of the wiki in time to make some minor changes for the interaction design class. When the Advanced HCI class had finished the exercise, we asked them for their thoughts on the success of the wiki-web for the exercise and for suggestions on how it could be improved. This was done informally, in class. Overall the response seemed favourable; however there were three specific suggestions for improvements.

First, creating new pages was too difficult. This involved;

1. Editing the text of the theme summaries page
2. Creating a link to the (still non-existent) new page
3. Saving the changes and going back to the theme summaries index page
4. Clicking the special link for the new page
5. Entering the text for the new page and saving it to the wiki web.

This had resulted in the theme summaries index page being deleted several times over the course of the exercise. The reason was that students thought they had to enter the text of their theme summary at step 1 instead of step 5. For the Interaction design class we added a box to the bottom right hand corner of the page where people could type in the name of a wiki page. If this page was in the wiki, the person would be taken to it, if it was not they would be able to create a new page with that name. This seemed to work better, (the theme summaries index was only wiped out once).

The second problem identified by students was that no allowance was made in the wiki-web for concurrent editing of wiki-pages by different people. This meant that if two people edited a page at the same time, then the person who saved back to the wiki last would write over

all the changes made by the other person. Unfortunately, this problem would require major changes to the code for our wiki, and there wasn't time before the next class started their exercise. The solution would probably be to replace or augment the MySQL database with CVS (or some other versioning system) as the back-end for the wiki-web.

The final problem identified was that it wasn't possible to rename pages. Unfortunately, as with the problem of concurrent editing of pages there wasn't time to change the wiki in time for the Interaction Design class.

5 Discussion

Figure 3 presents an example of an interaction theme produced by a pair of honours students in the Advanced HCI course. It can be seen that the students have developed their theme from a number of different video clips—some related (in that they are from the same context), and others not. In their summary, they implicitly link aspects of the theme with knowledge of interaction and communication break-down, topics not yet covered in class. Thus discoveries in the assignment led students into exploring the material to be covered in the class. This theme was considered high quality and is indicative of the quality of themes produced by 4th year Honours students.

In the Advanced HCI course, the lecturer offered to provide on-line comments on the first few themes posted in the wiki exercise, as an incentive for students to produce their themes early, also to influence the quality of *all* the themes, as the comments would be available for all to see. At the end of the wiki page in Figure 2 are comments from the course lecturer. We believe this influenced the overall quality of themes. Two early themes that were overall rather poor received praise on parts that were done well and a lot of pointers and constructive criticism on parts that could be improved averting potential mistakes by later posters. However, there was hardly any evidence of students commenting on each other's themes.

In contrast, when the assignment was announced and described for Interaction Design students, the (different) lecturer emphasised the collaborative nature of the exercise and encouraged the students to comment on each other's pages. There was certainly more evidence of Interaction Design students commenting on each other's work, especially the Masters students. This led to situations such as a theme called *ExperIence*, which itself wasn't particularly good, yet it generated a small exchange by a pair of students (one 2nd year, one Masters) as follows:

> *Good work guys, keep it up. Although i think you still need to do some editing here and there if ya know what i mean... Eh? - L*
>
> *I find it interesting that as people become more expert in a task or process and it becomes automated, they are often less able to effectively explain what it is they are doing. You have listed "distinct process of the task" and "knowledgeable" as descriptors, but I find that experts are less able to communicate the distinct processes of a task, as so much of the task is automated and assumed. - K*
>
> *I have to agree with what K said above. Although i believe what you are trying to say leans closer to 'experts doing routine tasks' as opposed to 'recognising experts'. However if i am wrong then feel free to tell me. - L*

The themes produced by the Masters students in particular had long threads of comments at the bottom of each one, several of which explicitly referred to literature on the class reading list related to their themes.

Another interesting feature of the themes was the names given to them by the students. As mentioned above, each theme was given a name in the wiki-web style consisting of several words strung together into a single string, with capitalisation used to show the beginning of each word. We found that, in general, the honours students tended to produce incredibly long and detailed theme names, including:

- BodyLanguageInAnUnfamiliarEnvironment
- InteractionThroughVisualInformationExtraction
- GivingContextToSituationsWithGestures
- HowTechnologyEffectsOurAbilityToExplain

This was quite different in Interaction Design, where themes tended to be given shorter, punchier (and less descriptive), names such as:

- GuessAndCheck
- ThisIsHowiDoIt

And also more inventive and humorous names:

- Ges4Ex [Gesture for explanation]
- AllYourBase

This both demonstrated and contributed to the more informal way that Interaction Design students engaged with the technology to support completion of their assignment. On reflection, we feel that student commenting could have been encouraged in the Advanced HCI course as well. This could be done by making more explicit the potential link of themes to projects later in the course. For example, the assignment could be modified to ask students to list three interaction themes posted that they might like to explore for their project and why. They could post their rationale in the relevant wiki page as well as in the assignment that they hand in. In this way assessment would explicitly reward the participation that we think benefits students learning.

Another interpretation of the participatory phenomena is that different cultures embodied in the students taking the two courses has led to different degrees of collaboration in the game and via the technology. In fact, Guzdial et al (2001) claim that a model of collaborative learning must be fostered for such approaches to teaching and learning to be successful. The students taking Interaction Design in particular are following a degree program where they spend a lot of time working in small groups and teams, and are also frequently involved in presenting their own and critiquing each other's work. All of the students know each other. After three semesters, this has created a cohort of students who have a very strong identity, and who have relatively high levels of confidence when it

comes to putting their work up for criticism. As such, the group discussion and subsequent publication of themes on the wiki for the Video Card Game assignment held little fear for these students. In contrast many of the IT students do not know each other as there are hundreds of students in the degree program and only 60 take this subject as an elective.

In both courses, there was slight evidence of the learning in this assignment being carried forward (indicating that deeper learning had taken place). In Advanced HCI, for example, the students who produced the NonVerbalInteractionCues theme (Figure 3) decided to continue working together for their design project and to investigate technology to support non-verbal interaction between staff and customers in very noisy pubs and bars. In interaction design, where the assignment had been set up so that it would be much harder to work in the same group for both this assignment and the final project, a number of projects made use of the idea of descriptors from the interaction theme summaries, and used it to describe their own project work.

At the time of writing, the two courses are still running, and we are now considering how we will adapt this assignment for delivery next year. As part of this process, we have started to look for evidence of other approaches to using similar lightweight collaborative technology to support student learning in open-ended problems.

In this light, it has been interesting to note that Guzdial et al (2001) further suggest that this type of technology[3] is not suited to the type of assignments where there is "one right answer,,. Rather, collaborative learning should revolve around exploration of problems and their formulation. This is precisely the nature of the design problems—where no right answer exists—that we pose to our students in Advanced HCI and Interaction Design. In fact, they are well versed in discussing the nature of such 'wicked problems' (Rittel and Weber, 1973).

At the core of our teaching and learning approach is a perspective on learning which supports the creation of themes from various observations and the exposing of students to other students' work. This learning perspective and philosophy is in alignment with that developed by Marton and others working in the area of phenomenography. In this approach variation in the student's learning is seen as fundamental to their learning outcomes, what Marton calls the 'architecture of variation' (Marton & Booth, 1997). Our teaching method supported this in several ways. First, the students were exposed to variation among the video clips they watched to develop their themes of interaction, (exaggerated by our choice to present clips from a variety of diverse contexts). Then, in the discussion phase of the video card game when the students presented each other their nascent themes of interaction there was an opportunity for them to explain, elaborate and debate their interpretations while experiencing the differing perceptions and themes of others. Finally, when the students published their finished themes of interaction as wiki pages variation in the work of the class as a whole was discernable and could be commented on and reflected upon.

This paper was largely motivated by our desire to share our reflections on how a new approach to teaching Advanced HCI and Interaction Design has succeeded in engaging students in deeper understanding of the issues surrounding observational analysis of people for the purpose of informing design. Our findings at the moment are reflections and are tentative, because we did not set out to do formal comparisons. We are currently considering how to take this forward to next year's courses. In particular we are interested in exploring how the wiki-web could be used to support collaboration between the two courses and three groups of students, so that the 2nd years can benefit from the more sophisticated analysis of the honours students, the honours students can benefit from the more open culture of commenting and critiquing each other's work, and the masters students can benefit from the larger group with more diverse opinions.

6 Conclusion

This paper has presented our initial experience with the use of wiki-web technology to support students' learning in the area of observational study through the use of the Video Card Game. Our exploration of this space was not motivated by the desire to perform a study. Rather, our first hand experience with the Video Card Game approach led us to believe that our students would engage with the subject matter more effectively themselves than had been the case previously. In fact, we believe that the work reported in this paper embodies our strongly held belief that being active in research leads directly to good practice in our teaching. The Video Card Game integrates detailed, situated knowledge of people's work practice into the design process. Using this approach in class improves our own skills with the method, and provides the students with first-hand experience of an emerging people-centred design method. Wiki-web technology is widely used in the design patterns community, and is becoming increasingly widespread in more recent applications of the patterns concept within the fields of HCI[4] and CSCW (Computer Supported Cooperative Work)[5]. Whilst we did not name them as such, the interaction themes produced by our students are basically patterns of human interaction (cf. Martin et al., 2001), and our experience with this exercise is now opening up new avenues of research in this area.

[3] They are also using a wiki-based system (called CoWeb) to support collaborative learning in a variety of courses across the curriculum at Georgia Tech (http://www.cc.gatech.edu/csl/)

[4] Most of the work in this area is collected at http://www.pliant.org/personal/Tom_Erickson/InteractionPatterns.html

[5] For example, wikis exist supporting the development of patterns of cooperative interaction and groupware patterns (http://polo.lancs.ac.uk/pointer/) (http://www.groupware-patterns.org/)

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