



Information School

Coding Manual for “The Watcher and The Watched: Social Judgments about Privacy in a Public Place”

Batya Friedman, Peter H. Kahn, Jr., Jennifer Hagman, and Rachel L. Severson

Technical Report IS-TR-2005-07-01

July 13, 2005

Authors' Addresses: Batya Friedman, The Information School, Box 352840, University of Washington, Seattle, WA 98195-2840. Email: batya@u.washington.edu. Peter H. Kahn, Jr., Department of Psychology, Box 351525, University of Washington, Seattle, WA 98195-1525. Email: pkahn@u.washington.edu. Jennifer Hagman, Avenue A | Razorfish, 821 2nd Avenue, Suite 1800, Seattle, WA 98104. Email: jenny.hagman@avenuea-razorfish.com. Rachel L. Severson, Department of Psychology, Box 351525, University of Washington, Seattle, WA 98195-1525. Email: raches@u.washington.edu.

TABLE OF CONTENTS

ABSTRACT	4
INTRODUCTION	5
CODING MANUAL DEVELOPMENT	10
SAMPLE INTERVIEW QUESTIONS.....	12
GENERAL NOTES AND CODING PROCESS.....	14
EVALUATIONS.....	15
1. <i>All Right/Yes/Idea 1.....</i>	<i>15</i>
1.1. Unambiguous/Idea 1	15
1.2. Cautious/Circumspect	15
2. <i>Not All Right/No/Idea 2</i>	<i>15</i>
3. <i>I don't know/Can't decide</i>	<i>16</i>
99. <i>Uncodable</i>	<i>16</i>
JUSTIFICATIONS.....	17
1. <i>Personal Interest.....</i>	<i>17</i>
1.1. Unelaborated.....	17
1.2. Indifference.....	17
1.3. Biological Naturalism.....	17
1.4. Convenience.....	17
1.5. Connection through Information.....	18
1.5.1. Unelaborated.....	18
1.5.2. Natural.....	18
1.5.3. Social.....	18
1.5.4. Artifactual.....	18
1.6. Personal Enjoyment.....	18
1.6.1. To Watch.....	18
1.6.2. To Be Watched.....	19
1.7. Aesthetics of View.....	19
2. <i>External Sanctions.....</i>	<i>19</i>
2.1. Unelaborated.....	19
2.2. Punishment Avoidance.....	19
2.3. Social Condemnation.....	19
2.4. Rules and Laws.....	19
3. <i>Functionality.....</i>	<i>20</i>
3.1. Biology.....	20
3.2. Technology.....	20
3.2.1. Technological Isomorphism.....	20
3.2.1.1. Personal Video Camera/Camera.....	20
3.2.1.2. Webcams/Internet.....	20
3.2.1.3. TV/Video/Movies.....	20
3.2.1.4. Window.....	21
3.2.1.5. Other.....	21
3.2.2. Technological Augmentation.....	21
3.2.2.1. Biology.....	21
3.2.2.2. Physical World.....	21
3.2.2.3. Time.....	22
3.2.2.4. Trends.....	22
4. <i>Social Expectations.....</i>	<i>22</i>
4.1. Unelaborated.....	22
4.2. Technological Isomorphism.....	22
4.2.1. Personal Video Camera/Camera.....	23
4.2.2. Webcams/Internet.....	23
4.2.3. TV/Videos/Movies.....	23
4.2.4. Window.....	23
4.2.5. Other.....	23
4.3. Biological Capabilities.....	23
4.3.1. Exercised.....	24
4.3.2. Moderated.....	24
4.4. Place.....	24

4.4.1. Public Place.....	24
4.4.2. Private.....	24
4.5. Time.....	24
4.6. Current Technological Practice.....	24
4.7. Work Practice.....	25
5. <i>Welfare</i>	25
5.1. Unelaborated.....	25
5.1.1. General.....	25
5.1.2. Stalking/Tracking.....	25
5.2. Physical.....	26
5.2.1. Unelaborated.....	26
5.2.2. Security.....	26
5.3. Material.....	26
5.4. Psychological.....	26
5.5. Educational.....	27
6. <i>Privacy</i>	27
6.1. Unelaborated.....	27
6.2. Private Content.....	27
6.3. Legitimate Use.....	27
6.4. Maintain Anonymity.....	27
6.4.1. Technological Limitations.....	28
6.4.2. Anonymity in Public.....	28
6.5. Control.....	28
6.5.1. Unelaborated.....	28
6.5.2. Intent to Maintain Privacy.....	28
6.5.3. Intent for Public Distribution.....	28
6.5.4. Unintended Loss of Control.....	29
7. <i>Property</i>	29
7.1. Tangible.....	29
7.2. Intangible.....	29
8. <i>Informed Consent</i>	29
8.1. Informed.....	29
8.2. Consent.....	30
8.3. Informed Consent.....	30
9. <i>Fairness</i>	30
9.1. Unelaborated.....	30
9.2. Misrepresentation.....	30
9.3. Reciprocity.....	30
10. <i>Non-issue/Negations</i>	31
10.1. No Harm.....	31
10.1.1. Unelaborated.....	31
10.1.2. Watcher Lacks Access.....	31
10.2. No Privacy.....	31
10.2.1. Particular Instance.....	31
10.2.2. No Privacy in Public Spaces.....	31
10.2.3. Right to Privacy No Longer Exists.....	32
10.2.4. No Intent to Maintain Privacy.....	32
10.3. Implied Consent.....	32
53. <i>Same Reason</i>	32
99. <i>Uncodable</i>	33
ACKNOWLEDGMENTS.....	34
REFERENCES.....	35

ABSTRACT

How do people reason about privacy when sophisticated cameras capture people's images in a public space? Toward answering this question, we interviewed 120 participants in one of four conditions. All conditions involved a HDTV camera on top of a university building that overlooked a public plaza. In one condition, 30 participants were in the office of the university building with a view through a window onto the public plaza. In a second condition, 30 participants were in the same office except that now the window was covered with a large display, and real-time HDTV image of the public plaza was displayed on the large-display "window." In a third condition, 30 participants were in the original office after it had been closed off with drapes (in effect, an inside office). In a fourth condition, 30 participants were in the public plaza. This technical report provides the coding manual used to code the reasoning of the participants in all conditions, emphasizing the perspectives of "The Watcher" and "The Watched." By a coding manual we mean a philosophically and empirically grounded means for coding social-cognitive data. The coding manual was developed from half of the interview data, and then applied to the entire interview data set. Our goal is to present this manual such that – as part of an on-going iterative scientific process – it can be used and modified by others interested in investigating people's conceptions of privacy in public, especially in the context of technologically-mediated interactions.

INTRODUCTION

Few would disagree that privacy represents an enduring human value, and in some form should be protected in private contexts, such as the home. Some measure of privacy also exists in public places. For example, before the advent of digital information systems, in a city relatively few people knew when or where you went shopping, or what you bought, even though the activity occurred in public purview. Yet such forms of privacy can be undermined by the technological capture and display of people's images.

In the United States, a version of this problem surfaced as far back as the late 1800's with the introduction of photographic equipment. For example, Warren and Brandeis (1985) wrote in 1890 that while in earlier times the state of the photographic art was such that one's picture could seldom be taken without his consciously 'sitting' for the purpose, the law of contract or of trust might afford the prudent man sufficient safeguards against the improper circulation of his portrait; but since the latest advances in photographic art have rendered it possible to take pictures surreptitiously, the doctrines of contract and of trust are inadequate to support the required protection. (p. 179)

Warren and Brandeis argued that "the protection granted by the law must be placed upon a broader foundation" (p. 179).

With today's technologies – such as surveillance cameras, Web cams, and ubiquitous sensing devices – there is all the more cause to be concerned about privacy in public places (Nissenbaum, 1998).

In the human-computer interaction and computer supported cooperative work communities, researchers have partly explored this topic through real-time video collected in one part of a work environment and displayed in another. Some studies have involved "office-to-office" video connections on desktop systems (Adler & Henderson, 1994; Dourish, Adler, Bellot, & Henderson, 1996; Dourish & Bly, 1992; Mantai, Baecker, Sellen, Buxton, Milligan, & Wellman, 1991; Root, 1988; Tang & Rua, 1994). Other studies have involved linking common rooms in research organizations by video (Fish, Kraut, & Chalfonte, 1990; Jancke, Venolia, Grudin, Cadiz, & Gupta, 2001; Olson & Bly, 1991). For example, Jancke, et al. (2001) linked three kitchen areas within a workplace by means of video cameras and semi-public displays. Unsolicited responses to their announcement about this proposed application alerted the researchers to privacy concerns. Despite the addition of an "off" switch, roughly 20% of the individuals continued to voice concerns about privacy throughout the system's deployment.

As telecommuting became popular, researchers moved from linking offices within the workplace to linking home offices with workplace offices. Hudson and Smith (1996) speak to resulting privacy issues that can ensue:

The home is often thought of as a protected and private space and part of the advantage of working at home is being able to operate in that more relaxed and informal setting. For example...home work spaces are often shared by family members who are not part of the work group and who have important expectations of privacy in their home.... [T]urning an otherwise private physical space into part of a very public virtual space (e.g., with a live video feed) is really not acceptable. On the other hand, working at home can easily cut one off from the rest of a (distributed or co-located) work group if no awareness support is provided.

(p. 250)

Hudson and Smith offered various technical solutions, such as the blurring of the video images so that people's presence could be noticed but not their specific activities (see also Boyle, Edwards, & Greenberg, 2000).

More recently, researchers have begun to investigate real-time images and video within home environments in and of themselves. Junestrand, Tollmar, Lenman, and Thuresson (2000), for example, presented a scenario using comTABLE, a video screen and camera in the kitchen that would allow a virtual guest to come to dinner through video-mediated communication. Elsewhere, Hutchinson, et al. (2003) described a videoProbe that provided a simple method for sharing impromptu still images among family members living in different households. The images were displayed on a screen that could be mounted on the wall or sit on a desk, much like a picture frame. "Images fade over time and eventually disappear, to encourage families to create new ones" (p. 21).

In all of the above contexts, people are largely known to one another, people have reasons to be seen by others, and the nature of the interaction is largely reciprocal (e.g., Office Worker A sees Office Worker B, and vice-versa). However, what happens when video cameras point their lenses at the public at large? What do people think about having their images captured by video cameras when they (the people) are out in public, and where the purpose is not for maintaining security (e.g. to prevent shoplifting in a store or physical violence in a subway station) but for the enjoyment of the viewer (as occurs, for example, with the multitude of webcams in public places across the globe)? Do people think it violates their privacy? Does it matter to people if their images are recorded or not, displayed locally or internationally, or displayed in a single location or in many locations? What if people could be in the position of directly using (benefiting from) the captured video themselves – would that change their

views on some or even all of these issues? Do men and women bring different perspectives to bear in the judgments about privacy in public? Our current research sought to address these questions.

Our research draws on principles of Value Sensitive Design: a theoretically grounded, interactional approach to the design of technology that accounts for human values in a principled and comprehensive manner throughout the design process (Friedman, 1997; Friedman, 2004; Friedman & Kahn, 2003; Friedman, Kahn, & Borning, in press). One principle of Value Sensitive Design central to our investigation entailed consideration of both direct and indirect stakeholders. Direct stakeholders refer to parties, individuals or organizations, who interact directly with the information system or its output. To date, the vast majority of work in human-computer interaction considers direct stakeholders, often taking the form of user studies and user experience in experimental settings as well as the home and workplace. Indirect stakeholders refer to all other parties who are affected by the use of the system. Often, indirect stakeholders have been ignored in the design process. For example, computerized medical records systems have often been designed with many of the direct stakeholders in mind (e.g., insurance companies, hospitals, doctors, and nurses), but with too little regard for the values, such as the value of privacy, of a rather important group of indirect stakeholders: the patients. Granted, potentially everyone (including future generations) could be an indirect stakeholder. That said, some categories of indirect stakeholders are more significantly impacted (positively or negatively) than others, and it is to these that Value Sensitive Design draws focus.

To investigate direct and indirect stakeholders' judgments about privacy in a public place, particularly when the application is not primarily one for security, we installed a HDTV camera on top of a university building (Figure 1) that overlooked a scenic public plaza and fountain area on a university campus (Figure 2). Then we set up a room in an academic office, approximately 15 feet below the camera, with its window also facing the plaza and fountain area. On the inside of the window, we installed a 50-inch plasma display vertically, covering up the real window. Thus we displayed on the plasma screen virtually the identical real-time image of the plaza and fountain area as would be viewed from the real window (Figure 3).

One purpose of this installation was to investigate whether a real-time plasma "window" could garner some if not all of the psychological benefits of working in an office with a real window. Thus in a "classic" direct stakeholder user study not reported here (manuscript in preparation), we involved participants in one of three conditions. The first condition involved the office that had the real view of the public plaza and fountain area. The second condition involved the same office, but with the technical installation described above. The third condition



Figure 1. HDTV Camera



Figure 2. The Public Place



Figure 3. The Watcher



Figure 4. The Watched

involved a blank wall, created by covering the real window with light-blocking curtains. Measures during a two-hour experiment included participants' physiological recovery from low level stress, eye gaze (coded on a second-by-second basis to ascertain the type and duration of participants' looking behavior), performance on cognitive and creativity tasks, mood, and self-reflective judgments.

To investigate the effects vis-à-vis privacy on indirect stakeholders, we asked ourselves, who else would be affected by the technical installation? While diffuse effects can of course percolate in many different ways, making it difficult to establish firmly the class of indirect stakeholders, one group seemed obvious: those people who in the course of their regular business on the university campus pass through the scene and would now have their images captured by the HDTV camera and displayed in an adjacent office (Figure 4). Thus we sought to bring the perspectives of this group of indirect stakeholders into our research. Accordingly, we conducted two additional

studies, which are the focus here (Friedman, Kahn, & Hagman, 2004). In Study I, we surveyed 750 people (indirect stakeholders) as they walked through a public plaza that was being captured by the HDTV camera and displayed in real-time in the office of a building overlooking the plaza. In Study II, to gain deeper insight into individuals' reasoning, we interviewed 120 people about the same topic. Moreover, in Study II we controlled for whether the participant was a direct stakeholder of the technology (inside the office watching people on the HDTV large display window) or an indirect stakeholder (being watched in the public venue). Specifically, in one condition, 30 participants were in the office of the university building with a view through a window onto the public plaza. In a second condition, 30 participants were in the same office except that now the window was covered with a large display, and real-time HDTV image of the public plaza was displayed on the large-display "window." In a third condition, 30 participants were in the original office after it had been closed off with drapes (in effect, an inside office). In a fourth condition, 30 participants were in the public plaza.

CODING MANUAL DEVELOPMENT

This technical report provides the coding manual used to code the reasoning of the participants in all conditions, emphasizing the perspectives of “The Watcher” and “The Watched.” By a coding manual we mean a systematic document that explicates how to interpret and characterize (and thereby “code”) the qualitative data. Our approach followed well-established methods in the social-cognitive literature (Damon, 1977; Kahn, 1999 [especially Chapter 5]; Kohlberg, 1984; Turiel, 1983). However, since these methods – and particularly the coding process – may be unfamiliar to the reader, we would like to say more about them here.

The detailed coding manual presented here was developed directly from the interview data. Each interview was tape recorded and then transcribed for analysis. Individual interviews averaged approximately 10 single-spaced transcript pages. In total, the data set comprised approximately 1160 single-spaced transcript pages. The coding manual was developed from half of the interviews (approximately 550 transcript pages) and then applied to the entire data set.

To develop the coding manual, a group of four of us met frequently over a 6 – 8 month period seeking to interpret the interviews, and systematically characterize forms of reasoning. The process proceeded roughly as follows. In the beginning, we would read aloud parts of an interview. Let us say we read aloud, for example, the following justification: “[It’s not all right for the camera to capture images in public and display the images on the large display because] everybody in [this metropolitan area] doesn’t need to know what I’m doing you know by the fountain. I mean geez what if I were kissing somebody?” We might first interpret this justification in terms of a focus on a privacy tied to the legitimate use of information (the need to know the information). Then we would have read some more justifications and realized that some participants focused not just on the legitimate use of information (as above), but the idea of maintaining anonymity (e.g., because we can’t pick up details of people’s faces, I mean you get body shapes, that sort of things... it’s all very anonymous). From this data, we then decided that “privacy” could become a more overarching coding category, containing within the larger construct of privacy the different facets and forms that people can bring forward in making privacy claims (cf. Schoeman, 1984). Thus, under the privacy category, we created two subcategories: legitimate use and maintain anonymity. At that point, we might have simply brainstormed about other possible types of privacy claims – such as control of information and private content – and jotted them down, and then kept a special eye open for them in the interviews. If they emerged, and they did, then we included them initially in our coding system. Thus privacy emerged as one of about

a dozen higher level categories (for example, welfare, social expectations, and personal interest) with many subcategories under each.

The above scenario is a simple telling for illustrative purposes of what was a long process whereby we moved back and forth between empirical data and conceptual coherence, in part driven by philosophically informed categories, but always tested and often modified by the data itself. In addition, our coding manual – as most do in this line of work – drew when appropriate from other coding manuals (Davidson, Turiel, & Black, 1983; Friedman, 1997; Kahn, 1992; Kahn, Friedman, Freier, & Severson, 2003; Nucci, 1981; Turiel, Hildebrandt, & Wainryb, 1991). Moreover, one of the key means by which we organized forms of reasoning was in terms of hierarchical classification: that some ideas were subsets of other ideas (e.g., that legitimate use and personal content reasoning were subsets of the larger class of privacy reasoning). This method builds from the theoretical commitment, as articulated by Simon (1969) and others that hierarchical organization characterizes “perhaps any system, living or nonliving, that we would want to call complex (Pinker and Bloom, 1992, p. 485).

As our coding manual took shape, we discovered, as is also typical, that some of our qualitative data resisted single interpretations. Such difficulties often emerged in one of three ways. First, the difficulty sometimes arose because the segment contained two or more independent justifications. We readily solved this difficulty by coding multiple justifications for a single evaluation. Second, the difficulty sometimes arose because two categories were conceptually intertwined. We often adjudicated this situation by moving forward with the conceptually dominant category, while retaining their interconnections within the hierarchy. Third, the difficulty sometimes arose when there was more than one legitimate way to code the data. In this situation, the coding categories were driven not only by the data, but by our theoretical commitments and research questions.

Our goal with this technical report is to present this manual such that – as part of an on-going iterative scientific process – it can be used and modified by others interested in investigating people’s conceptions of privacy in public, especially in the context of technologically-mediated interactions.

**SAMPLE INTERVIEW QUESTIONS
(FROM THE WATCHED INTERVIEW)**

Introduction: Tell the participant: This interview should take about 10 minutes. We'd like to know what you think about watching people in a public place, especially when technology is used. Currently there is a camera in M[...] Hall that is pointed toward the [university] fountain. What the camera sees is being displayed live on a screen in someone's office in M[...] Hall. People's faces and gestures are recognizable. The image is not being recorded.

1. Are you surprised to learn that your live image is being displayed right now in someone's office in M[...] Hall? Why or why not?
2. How do you feel about this happening? Why (for each of the adjectives or descriptors)?
3. Do you think it is all right or not all right that this is happening? Why or why not?
4. IF THE PERSON SAID "NOT ALL RIGHT" TO QUESTION 3: Let's say there was a big sign posted in the fountain area that said: "A camera continually films this fountain area and displays the live image in nearby offices." In this case, do you think it would be all right or not all right to display the live image in nearby offices?
5. IF THE PERSON HAS NOT YET MENTIONED PRIVACY: Do you think this violates your privacy? Why or why not?
6. Do you think a hand-written diary is private? Why or why not?
7. Do you think the same diary is private if it is put on a personal Web site? Why or why not?
8. Do you think a whispered conversation in an outdoor café is private? Why or why not?
9. Do you think a cell phone conversation on a bus is private? Why or why not?
10. Here are two ideas.

IDEA 1: Some people say it's OK to have a camera pointed at the [university] fountain and display the live image in someone's interior office (an inside office without windows) in M[...] Hall. After all, the [university] fountain is a public place. Anyone can see you. There's really no problem.

IDEA 2: Other people find it troubling to think that when they walk by the fountain, their image is being collected by a video camera and displayed live in someone's interior office (an inside office without windows). After all, they can't see the person, they don't know who is seeing them. They don't even know that their image is being collected.

Do you tend to agree with Idea 1 or with Idea 2. Why?

FOR QUESTIONS 11 – 28:

Let's say the camera displays live video from the fountain area on a screen. I'd like to ask you about different places where that screen might be located.

11. Let's say the large screen is in an office with an outside window in M[...] Hall. Is that all right or not all right? Why or why not? [Make sure to get an explicit reason here.]
12. Let's say the large screen is in an inside office with no windows in M[...] Hall. Is that all right or not all right? Why or why not?

13. Let's say the large screen is in an apartment on University Ave. Is that all right or not all right? Why or why not?

14. Let's say the screen is in an apartment in a residential neighborhood in Tokyo. Is that all right or not all right? Why or why not?

15. Let's say the screens are in the homes of thousands of people living in the [name of city] area. Is that all right or not all right? Why or why not?

16. Let's say the screens are in the homes of thousands of people living in Tokyo. Is that all right or not all right? Why or why not?

17. Let's say the screens are in the homes of millions of people across the globe. Is that all right or not all right? Why or why not?

18. One last question. All of the questions I asked so far have been about live video that was shown on a screen but not recorded. Let's say in addition to your live image at the fountain being shown on a screen in someone's office in M[...] Hall, your image was also being recorded. Would that be all right or not all right? Why or why not? [Make sure to get the reason here.]

GENERAL NOTES AND CODING PROCESS

General Notes

1. Examples are provided following each category and subcategory to assist in the conceptual comprehension of the coding categories. In each of these examples, the Interviewer is depicted in ALL CAPITALS. Elipses (...) indicate that a portion of the interview was omitted for the clarity of the example. Parentheses that surround an underline ((____)) indicate that that portion of the interview was inaudible; the length of the underline approximates the duration of inaudibility.
2. Uncodable evaluations or justifications will be coded with a (99). Do not code justifications for uncodable evaluations.
3. When a participant misinterprets a question, code the subsequent evaluations or justifications to that question as uncodable (99). If the participant realizes later in the interview that they misinterpreted the earlier question, recode their evaluation and justification only if they give an explicit restatement of their response for that question (or set of questions). Otherwise leave the earlier response as uncodable.
4. If a protocol question was not asked, code (0).
5. Due to the hierarchical design of the coding manual, code to the lowest level in any given category.
6. Do NOT code justifications that are a restatement of the conditions given. For example, if a participant said, "It's all right because you're not recording it," the justification is uncodable because one of the conditions given in our scenario included a statement that the video is not recorded.
7. Do NOT double code unelaborated justifications with another code in the same category (e.g., do NOT code 4.1. Unelaborated Social Expectations with 4.4.1. Public place). Conversely, DO code a *lower level* unelaborated with another *higher level* code in the same category (e.g., DO code 5.4.1. Unelaborated Psychological Welfare and 5.3. Material Welfare).

The Coding Process

1. Read through the participant's response to protocol questions. Identify the evaluation – where the individual really comes down on the issue. Code this evaluation.
2. Reread the response. Identify the place where the participant makes his or her evaluation and code the justification that is associated with the evaluation.

EVALUATIONS

Notes

1. Code participants' evaluations for each question.
2. Be aware of instances when the participant gives an evaluation for some purpose (e.g., security) other than just giving a general view of the fountain area. We did not ask for a response for spontaneously created reasons. For example, if a person says "It's all right if it's for security purposes," code the evaluation as uncodable because this evaluation does not refer to our expressed purpose for the technology. However, if the above person adds "but otherwise it's not all right," or if the person were to say, "It is all right *only* if it is used for security" (thus implying that it is not all right in other circumstances), then code it as Not All Right.
3. Also note instances where the evaluation is tied to some contingency, for example, "It's not a privacy violation if people are informed." While, on first glance, this may appear similar to the above note in that they are providing a spontaneous contingency (rather than purpose), however the contingency is binary, meaning, in this example, that one can *either* be informed or not informed (as opposed to multiplicity of potential purposes for the technology). Therefore in this second example, code the evaluation as 1.2. "Yes" with the justification as 8.1. "Informed" because our expressed condition was that people would not be informed, therefore since people are not informed it would be a privacy violation.

Evaluation Coding Categories

1. All Right/Yes/Idea 1

1.1. Unambiguous/Idea 1. A clear affirmative evaluation.

1.2. Cautious/Circumspect. An unclear or wavering affirmative evaluation. Anytime a participant does not express a firm affirmation or expresses views conflicting with the final affirmative evaluation, code the evaluation here (Note: the evaluation must either be yes or that the practice is all right). This may take one of several forms, for example: (1) an affirmation with a qualification (e.g., "it's okay to watch the screen since you can't identify people"); (2) an affirmation with hesitancy (e.g., "that's okay, but it's getting a little bizarre"); (3) a statement that it's all right for me, but other people might not be okay with it; or (4) an affirmation with an assumption ("e.g., "that's all right as long as it's not done under bad terms or for wrong reasons").

"DO YOU THINK IT'S ALL RIGHT OR NOT ALL RIGHT THAT THIS IS HAPPENING? Um I think it's all right. I mean as long as it's not done under like, you know bad terms or for wrong reasons, then it's fine to have a window or, you know like, this is, if that's an augmented window or whatever, um it would be fine with me I guess yeah."

"LET'S SAY THE SCREENS ARE IN THE HOMES OF THOUSANDS OF PEOPLE LIVING IN [THIS METROPOLITAN] AREA. IS THAT OKAY OR NOT OKAY? Um that's fine, it's perfectly fine as long as we're not capturing people, individual people. If it's just the scene then it's okay."

2. Not All Right/No/Idea 2. A negative evaluation.

"LET'S SAY IN ADDITION TO YOUR LIVE IMAGE AT THE FOUNTAIN BEING SHOWN ON A SCREEN IN SOMEONE'S OFFICE IN M[...] HALL, YOUR IMAGE IS ALSO BEING RECORDED. SO WOULD THAT BE ALL RIGHT OR NOT ALL RIGHT? If, not for the reasons of 'oh I don't have a window in my office' it better be for security reasons, it better be for um the safety of us the students. Otherwise I would have a problem with that OKAY...If it were for security reasons then yeah sure I would not have a problem with that at all so, otherwise I think I might."

3. I don't know/Can't decide.

“DO YOU THINK A HANDWRITTEN DIARY IS PRIVATE? Um it can be IT CAN BE It can be, um I think there are a lot of instances where it should yeah sort of privacy I guess you'd say, should be violated I guess, that's a harsh word to use but um so it can be with yourself but I think it should be something that other people can read also WHY? Just in case they're concerned about you, maybe they'll get to know your little brother um if like, like let's say you, you are massively murdered, they wanna find out 'okay what's she been doing that this happened?' you know...So they need to read through your diary you know. If, if your mom's worried about you cause she thinks you maybe started smoking or hanging out with the wrong dude you know...They'll read your diary. If your sister's sneaking in there you know and they shouldn't be reading stuff they shouldn't be reading so you know just, I mean diaries are not that private anymore so I guess I don't know.”

99. Uncodable. The participant either gives no definitive evaluation, or gives multiple evaluations and doesn't come down on either.

“OKAY SO UM LET'S SAY THAT THE SCREEN'S IN AN APARTMENT IN A RESIDENTIAL NEIGHBORHOOD IN TOKYO. IS THAT ALL RIGHT OR NOT ALL RIGHT? I mean, I don't know, in a way it's not quite as, as creepy as the guy on University Ave, cause they can't come to U-Dub but I guess maybe if they'd gone to school here and they wanted to feel some connection...While they were in Tokyo, I mean I don't know. That doesn't bother me quite as much actually. IT DOESN'T? No...Well because it's far away, they couldn't come here anyway if they wanted to and so yeah, it, it implies that, if they can't come here anyway then it's not quite as bad, I mean...Cause I mean somebody at an apartment implies that they want to watch (_____) here without being there physically which implies that maybe there's something...you know.”

JUSTIFICATIONS

Note

1. Code participants' justifications for each codable evaluation.

Justification Coding Categories

1. Personal Interest. An appeal based on individual likes and dislikes, including *personal indifference* (e.g., "it doesn't really matter to me"), *biological naturalism* (e.g., "it's a natural thing to want to look at other human beings"), *convenience* (e.g., "it would probably be easier for some people...if they needed a window"), *connection through information* (e.g., "people can see a different part of the world and feel connected across the globe"), *personal enjoyment* (e.g., "it'd be interesting to watch...fun for people"), or *aesthetics of view* (e.g., "just to add a little more ambience to the room").

1.1. Unelaborated. An appeal based on personal interest (positive or negative) that is otherwise unelaborated; may include greed (e.g., "I'm just being selfish").

"That'd be really cool, yeah I think that's great."

"Because I don't like screens of you know I don't like screens in general."

"It might distract me a little bit."

1.2. Indifference. An appeal based on a lack of concern with the practice or that one's behavior is a mundane, everyday occurrence.

"It doesn't really matter to me."

"I wouldn't care if anyone filmed me walking across, you know, the fountain, I'm just walking."

"No one really cares if people are looking at you."

1.3. Biological Naturalism. An appeal based on a behavior that is tied to biology (i.e., "it is natural" to watch other people) that is coordinated with personal interest. Note: This is distinguished from Exercised Biological Capabilities (4.2.2.) because Biological Naturalism coordinates personal interest with biology (e.g., it is natural to *want* to look at other people). Whereas, 4.2.2. Exercised Biological Capabilities, coordinates biology with social expectations (e.g., you should *expect* people to be looking at you).

"We're people and we have eyes and we're gonna end up watching other people, we're interested in other people."

"It's natural thing to, natural to want to look at other human beings and, and check out what they're doing."

1.4. Convenience. An appeal based on technology that makes things easier or requires less effort than would be expended otherwise.

"[The plasma display] would let everyone see you know what's going on instead of having to go online and check their email and h-, end up at the U-Dub website eventually...looking outside."

"It would probably be easier for some people that, like if they needed a window."

1.5. Connection through Information. An appeal based on capabilities of the technology that provide the watcher with information that cultivates a sense of natural, social, and/or artifactual connection.

1.5.1. Unelaborated. An appeal based on a connection through information that is otherwise unelaborated. Note: Do not double code “unelaborated” with “natural”, “social”, and/or “artifactual” connection through information; natural, social, and artifactual preclude an unelaborated code. For example, if the response includes both an “unelaborated” justification and a “social” justification, code only the social justification.

“People can see like a different part of the world and feel connected across the globe.”

“I think that would be fine because um they don’t have a window and they might want to see what’s going on outside.”

“Maybe if they’d gone to school here and they wanted to feel some connection...while they were in Tokyo.”

1.5.2. Natural. An appeal based on information that provides one with a connection to nature and/or natural processes (e.g., scenery and weather).

“It would give people a connection to ...different areas and I don’t know allow them to see different kinds of scenery.”

“You could see what the weather is like...whether it’s sunny or it’s still raining or something like that.”

“You can see what’s going on outside, since you have no windows and you can see what the weather’s like.”

1.5.3. Social. An appeal based on information that provides one with a social connection, whether to people, groups, or social behavior.

“It will be nice for the um let’s see the Japanese person’s parents can see him live on TV... they could just see (____) U-Dub campuses...Say if, it will be good for the prospective students...to just know what the college is like uh what [this metropolitan area] is like.”

“You can see what’s going on outside, since you have no windows and you can see...class has just gotten out.”

“If there was like a sister school of U-Dub or something in Japan and then it was held in their whatever social room or something and you know so it’s like a connecting thing.”

1.5.4. Artifactual. An appeal based on information that provides one with a connection to human artifacts (e.g., infrastructure, architecture).

1.6. Personal Enjoyment. An appeal based on the pleasure or entertainment of watching or being watched, including cool, neat, fun, and interesting.

1.6.1. To Watch. An appeal wherein the participant takes the perspective of “The Watcher.”

“It’d just be kinda interesting to watch I guess...fun for people.”

“I personally like watching people.”

“I think it’s kinda neat to be able to see what people are doing...especially if it’s out in public.”

1.6.2. To Be Watched. An appeal wherein the participant takes the perspective of “The Watched.”

“It’s all right hey I’m gaining popularity you know why not so hey you’re the guy in the U-Dub Drumheller fountain (_____) cool.”

1.7. Aesthetics of View. An appeal based on an appreciation of the view or a sensuous perception that is pleasing to the watcher, which may include scenery, colors, or ambience.

“Just to add a little more ambience to the room I guess, yeah, add a little, little touch of nature.”

“It would be like a nice touch to a building, a nice scenic view.”

“It’s a nice view, it’s a nice scenic view of something, of a fountain.”

2. External Sanctions. An appeal based on consequences, rules, and norms established by others, including *punishment avoidance* (not found in the coding development portion of the data), *social condemnation* (e.g., “I won’t do anything that weird out here”), and *rules or laws* (e.g., “certain things are allowed when they’re contained within the university, but once you get out of it, there’s different rules that apply”).

2.1. Unelaborated. An appeal based on external sanctions resulting from “bad” behavior that is otherwise unelaborated.

“As long as I’m not doing anything bad, I don’t have anything to worry about.”

“You might catch a few people dumping things in the fountain that weren’t supposed to be doing that and to them it might concern them that they’re being recorded but then again, you got, you gotta behave yourself when you’re in public.”

“No one’s doing anything they really shouldn’t be...there’s not really anything anyone could do wrong.”

2.2. Punishment Avoidance. An appeal based on avoiding punishment.

“You know, the only time you would have to worry about is if you did something incr-, like some kind of criminal activity, something bad, something that you deserve to get punished on and the only reason why you would care if someone saw you is then you wouldn’t get away with it.” (Watched #5, p. 18)

2.3. Social Condemnation. An appeal based on an imposition or threat of interpersonal disapproval (e.g., from family, friends, or others in general), typically for behavior that breaks conventional norms (e.g., doing something “weird”). Note: this is distinct from social expectations in that the justification is tied to one’s behavior rather than the expectation around practice with respect to technology.

“I don’t like the idea of not being able to sneak around...When I think no one’s looking.”

“I can’t guarantee myself that I will act the same way you know let’s say a thousand times that I’d walk through here you know there might be that one chance where I you know just do something that, that I don’t want to be seen.”

“I wouldn’t mind uh because I said I won’t do anything that weird out here.”

2.4. Rules and Laws. An appeal based on the legal codification of social expectations, which includes existing rules and/or laws. May include a reference to legal sanctions for illegal behavior (e.g. “getting caught”).

“Certain things are allowed when they’re contained within the university, but once you get out of it, I mean there’s different rules that apply.”

“It’s also illegal.”

“It’s like um, like you can’t search a house without a warrant....It’s not part of the system of laws we have.”

3. Functionality. An appeal based on how the technology mimics or augments human biology, the physical world, or other technology, including *biology* (e.g., “yeah that’s fine...they could probably see down there anyway”); *technological isomorphism* (e.g., “because it [plasma display] is just like another window”); and *technological augmentation* (e.g., “not only are your actions viewable to anyone here...they’d be viewable to anyone there”), all *without an explicit statement* of social expectations.

3.1. Biology. An appeal based on the capabilities or features of the biological senses, unaugmented by technology.

“It’s the same as someone looking from across the fountain.”

“A diary you can help but read it...but a voice you can’t help but hear it.”

“There’s very little privacy on a, on the bus...even if you whisper into the phone people can hear you...And usually people are close together and um it’s hard, it’s hard to have any kind of personal space when people are packed that closely together.”

3.2. Technology. An appeal based on a *technological isomorphism* to existing technologies or *technological augmentations* of the physical world, time, or biology.

3.2.1. Technological Isomorphism. An appeal based on analogous features or capabilities of technology to an existing technology.

3.2.1.1. Personal Video Camera/Camera.

“Anybody could put a camera out here and film people.”

“I don’t see any reason why you can’t record it. Like I could just go out there and take pictures.”

“You can put cameras anywhere.”

3.2.1.2. Webcams/Internet.

“It’s just like looking at the webcam on Kane hall on your computer so I don’t see the difference.”

“It’s like the webcam, on the, on the U-Dub mainpage.”

“They have the camera on uh Kane hall too that goes over the Internet so...I’m not surprised.”

3.2.1.3. TV/Video/Movies.

“It’s pretty similar to...watching [UNIVERSITY] uh TV.”

“I don’t know how it’s gonna be viewed any more uh any, any different than TV.”

“It kinda reminds me of like the, the reality TV.”

3.2.1.4. Window.

“Cause it’s just like another window.”

“Cause it’s just a window.”

“You can watch people out a window and...this is the same thing.”

3.2.1.5. Other.

3.2.2. Technological Augmentation. An appeal based on a technological extension of capabilities or features of the physical world, temporality, or one’s biology.

3.2.2.1. Biology. An appeal based on technological augmentation of what is biologically possible without aid (e.g., binoculars allow one to see detail from greater distances).

3.2.2.2. Physical World. An appeal based on technological augmentation of people’s (either individuals or the masses) physical relationship to a location or place, or augments the existence of something within the physical world (e.g., the digital format of the video renders it capturable).

3.2.2.2.1. One to One. An appeal based on a technological augmentation of an individual’s one-to-one physical relationship to a location or place, including (a) an expansion of “public space” to include “remote watchers”; (b) a sense of proximity (or physical relationship) to a location; and (c) one’s “natural view” from the location they are “watching” from.

“It opens up um the publicness of the space so that it’s not only, not only are, are your actions um viewable to anyone here...They’d be viewable to anyone there.”

“Let’s say that you have the office like right, right next to the fountain okay and you can see everything and then you know the, the people like all the way across the campus in the bottom of the dungeon like have the real time screen and are seeing the exact same thing that that person is seeing, it’s the, it’s the same thing except there’s the difference in like where it is.”

“You’re not creating a window that could potentially be seen by that specific building cause when you’re out in the apartment, that wouldn’t be your natural view if you had a window.”

3.2.2.2.2. Many to One. An appeal based on a technological augmentation of a many-to-one physical relationship, meaning that it augments many people’s (the masses) relationship to a location or place, thereby increasing the magnitude of dissemination or reproducibility of information.

“I think moving it off campus is, is like the scope of that is too um too widespread.”

“The sheer volume of people that would be you know that would have access to...the fountain footage.”

“Because that’s a lot of people and that’s just maybe too many people.”

3.2.2.3. Time. An appeal based on technological augmentation of a place in time (i.e. recording) that captures the event beyond what is possible biologically (e.g. memory) or without technological aid.

“If you want surveillance purposes then okay yeah record so that you can go back and reference it but people’s natural windows in their homes, they can’t go back and watch it again.”

“You’d be able to watch it over and over and over again whereas if it’s just a live feed, you just watch it once and that’s pretty much it.”

“You’re not intruding on that person privacy a lot but to some extent you are...more than just you know having a live feed.”

3.2.2.4. Trends. An appeal based on technological practices that are moving in a new or different direction. Note: this is distinguished from Current Technological Practice (4.6.) in that the endpoint of the trend is not the current practice or equivalent to the current practice (e.g., “I think it will happen someday”).

“We’re going to the high technology world right now and that’s just one of the step of being high tech and if, if we want to improve in this high technology society right now th-, this is, it, this (_____) needs to be done anyway so. It’s one of the way to show you know this country is moving to a new dimension.”

“The way things are going uh right now in technology, I think so it will happen some day, so I’m not really surprised.”

“It’s a fact of life so you gotta accept it. It’s, it’s gonna happen whether you like it or not.”

4. Social Expectations. An appeal based on current and expected practices in socially-situated contexts, including *technological isomorphism* (e.g., “people do it anyway on TV so it’s not like it’s new”); *biological capabilities* (e.g., “everybody does it...I mean it’s part of life, seeing people”); *place* (e.g., “well you’re out in public and it’s showing a public image of a fountain at a public university”); *current technological practices* (e.g., “technology’s all around us...they come in many tiny forms”); and *work practice* (e.g., “when you’re in an office...there’s certain things that you do and you don’t do”).

4.1. Unelaborated. An appeal based on social expectations that are otherwise unelaborated, including (a) an explicit statement that it is or is not an expectation; (b) an insinuation that it is or is not an expectation (e.g., “that’s bizarre”); or (c) a response that, without further elaboration, could fit under multiple social expectation categories (e.g., “we’re watched a lot more than we know” could fit under either biological or technological practice).

“Unfortunately once they put it up on the web they really don’t have any control over it...I mean it’s not necessarily a good thing but you can, it’s expected.”

“It’s just weird.”

“We’re watched a lot more than we know, everywhere we go...I guess, so it’s just one of those facts of life I guess...Either you’re used to it or you’re a paranoid so.”

4.2. Technological Isomorphism. An appeal based on analogous features or capabilities of technology to an existing technology (e.g., webcams, windows, personal video cameras, televisions, or other existing technologies), all *with an explicit statement* of social expectations. Note: The coupling of another social expectation category with a technological isomorphism in the same justification is enough to code here (rather than 3.2.1. Technological Isomorphism).

4.2.1. Personal Video Camera/Camera.

“You could come out with a video camera. I wouldn’t, if someone was standing over there videotaping I wouldn’t feel it was weird so I don’t see the difference between that and being on someone else’s personal video camera.”

“It’s a university so it’s, you can take pictures of anything you want, so it’d be just like someone, there’s people walking around all day filming stuff and uh yeah so this isn’t any different.”

“It’s just like you know when you walk by a video camera in a store you know like when you’re on camera doing you know something else like ordinary in like a big place and they have video cameras on and it’s the same kinda thing.”

4.2.2. Webcams/Internet.

“It’s pretty much the same thing as [the Public Plaza] [webcam] and I never had a problem with that.”

“It’s kind of the same thing as the weather camera...I know that there’s a camera up there and if I come through [the Public Plaza], I’m gonna be on camera.”

“What’s the difference between uh this and looking at [the Public Plaza] through you know your webcam at, at the website you know...you have to expect to be seen in it really.”

4.2.3. TV/Videos/Movies.

“I guess people probably, probably do similar things right now, turn on the uh the television, go to channel two if they live in the dorms and watch uh, watch [the Public Plaza].”

“People do it anyway on TV so, it’s not like it’s new.”

“It’s the same thing as just putting it in a like um if you turn to channel three everyone could see like, like [the Public Plaza].”

4.2.4. Window.

“It doesn’t have that same stigma attached to it like most cameras would, it’s to me no different than having someone sit out to look out their office window.”

“I mean people have windows and they can watch you even though they’re not recording you. I guess it’s kinda the same thing.”

“I don’t know if it’s really any different than having a window... there’s windows everywhere.”

4.2.5. Other.

4.3. Biological Capabilities. An appeal based on social expectations of one’s biological senses, physical capabilities, and so forth. Note: The coupling of another social expectation category with biological capabilities in the same justification is enough to code here (rather than 3.1. Biology Functionality).

4.3.1. Exercised. An appeal based on biological capabilities that enable one to see, hear, and so forth, that are exercised based on social expectations. The use of one's senses *is* the social expectation. This assumes some sort of proximity, since with no proximity the senses are moot. Note: 4.3.1. Exercised Biological Capabilities is distinguished from 1.3. biological naturalism, because exercised biological capabilities coordinates biology with social expectations (e.g., you should *expect* people to be looking at you). Whereas, 1.3. biological naturalism, coordinates personal interest with biology (e.g., it is natural to *want* to look at other people).

"You can reasonably expect other people to be listening."

"They're in a completely public place and anyone else could look at them at any possible time."

"Since you're in public place, you know that somebody's going to watch you so it's not that you're, you're trying to be private in public a place...somebody will be watching you."

4.3.2. Moderated. An appeal based on biological capabilities which one does not fully exercise due to social expectations. For example, although one has the ability to look through someone's window into a private home, it is not a socially expected practice to do so. Thus, individuals moderate their biological capabilities to look into windows.

"You should reasonably expect nobody else to be listening basically...you can expect nobody else to be watching you then you know, like in your home, you don't expect anybody to be watching you, even through your windows."

4.4. Place. An appeal based on social expectation of a public or private location.

4.4.1. Public Place. An appeal based on social expectations of a public or "not private" location, including websites or physical space.

"You're out in public and it's showing a public image of a fountain at a public university so people might as well be able to see what's happening at the fountain at that particular moment in time."

"It's on a website, it's public, I mean somebody's looking at it."

"It's not a private place."

4.4.2. Private. An appeal based on social expectations of a private location.

"[An apartment is] private like (____) in Mary Gates and it's, it's public so people watching are um at least uh mon- monitored in a way or it's out in the open but in a (____) apartment that's, that's even more private than and nobody knows (____) you know what I mean."

"It would be in a private home, even though it's a public place it's, it's footage of public place...I would resent it if I knew that I was being broadcast into people's um in people's homes."

"I think the fact that now there's that many more people outside of this um public space and in private areas, meaning their home."

4.5. Time. An appeal based on social expectations of capabilities in time.

4.6. Current Technological Practice. An appeal based on social expectations of technological practices that are pervasive in society (e.g., a reference to security cameras or technology in general).

“Technology’s all around us and you know I mean and there, they come in many tiny forms.”

“Probably not considering the amount of surveillance that there is in our society...which is very common actually.”

“You see security cameras everywhere even though it’s not the same thing I understand but just, I guess it isn’t that surprising to me that from all of the four or five surrounding buildings that there’s a video camera directed out here being played somewhere else.”

4.7. Work Practice. An appeal based on social expectations of practices in a work/professional setting that are conducive to that setting and aligned with the level of supervision in such a place, such that certain practices would not be allowed because they would be unprofessional or unethical.

“When you’re in an office you’re in a professional environment you know there’s certain things that you do and you don’t do...cause there’s rules to like how you can behave in an office...In the work environment, there’s no exploitation, there’s no chance of it and there’s no chance of like you know k- like any kind of stalking behavior or irregular you know whatever.”

“It’s an office building it’s like you only work from eight to five or whatever so and if you’re working here chances are you’re not like a (_____) criminal.”

“[In a University Avenue apartment] there’s no supervision happening over what happens to that data. When it’s, you know because then they’re like ‘well I just downloaded it I can do whatever I want with it’ in a way that you, there’s not that sort of like the university will fire you if you do something bad with these images.”

5. Welfare. An appeal based on people’s wellbeing, including *physical welfare* (e.g., “safety is a good reason”); *material welfare* (e.g., “it’s a waste of money and time...[to have] two of the same pictures”); *psychological welfare* (e.g., “there are some people who are going to be uncomfortable with this”); and *educational welfare* (e.g., “there might be some educational value...learn about different places”).

5.1. Unelaborated. An appeal based on either general unelaborated welfare or a reference to stalking that is otherwise unelaborated.

5.1.1. General. An appeal based on a general statement of welfare that is otherwise unelaborated, often in the form of references to a potential for harm (e.g., “since it probably won’t hurt anybody...”), yet distinct from considerations of harm as a non-issue, not possible, or not a consideration in this instance.

“I mean as long as it’s not done under like, you know bad terms or for wrong reasons, then it’s fine to have a window or, you know like, this is, if that’s an augmented window.”

“Yeah and who knows what they might do with those images...You know if, if, if they were, if they were to catch you know actual faces and stuff you know yeah. There might be some harmful results.”

“Just the fact that it’s being recorded...You know it’s just, it just allows more room for people to do bad things with it you know just gives people more options to do you know just a way to you know use it in a bad manner.”

5.1.2. Stalking/Tracking. An appeal based on specific content in reference to stalking or tracking that is otherwise unelaborated (i.e., it is not clear in the participants’ reasoning if the potential for harm from stalking is psychological or physical).

“It would almost be like we were being tracked you know.”

“Because the only reason that somebody would probably want to look at something beforehand was to try to track who had been there...that could be used potentially very, very badly.”

“I mean are they stalking me or, or anything weird like that?”

5.2. Physical. An appeal based on the welfare of one’s physical body, including physical injury and security.

5.2.1. Unelaborated. An appeal based on physical welfare that is otherwise unelaborated.

“If they are uh, if there is an accident, you can see them and then you can help them.”

“I think you can help people if they are, if there is an accident.”

5.2.2. Security. An appeal based on a concern for individuals’ safety or security.

“For security reasons it would probably be helpful.”

“For every innocent thing that could happen there’s also malicious and uh somewhat uh inappropriate things that could happen, for the integrity of this campus and in which case if they can’t see it, that’s a problem.”

“Having a camera in place can often lead to, ‘well we have the images let’s take them, let’s, let’s broadcast them outside of this office to the wider community’ and then that becomes a security issue for people.”

5.3. Material. An appeal based on concern for individuals’ material welfare, including references to wastefulness of material (i.e., money) or natural (i.e., energy or natural gas) resources.

“Well see then you’re getting back to the complete and utter waste of energy issue. I-, i-, especially if you have a window uh a look out the window it’s better for you.”

“It’s a waste of money and time and you know why have, why have the same, two of the same picture you know...It’s gonna show the same thing.”

“I mean it’s a waste of money to put, put it in, why would you wanna spend all that money like for a plasma screen in, in a, in a room that already has a window?”

5.4. Psychological. An appeal based on concern for individuals’ feelings, including a reference to hurt or unpleasant feelings. NOTE: If a participant states that it’s strange or weird, code the response as unelaborated social expectation. However, creepiness, scariness, or discomfort indicate unpleasant feelings and thus would be coded here.

“At this point it’s gettin’ kinda scary as to why in the world they’re doing this.”

“That seems too, too um uncomfortable for me.”

“They can do stuff with that that can really you know damage people, like you know, say you’re walking down the street and you know you pick a wedgie and someone could like blow that up on the Internet and the next thing you know you’re just the hot spot next to the hamster dance in Napster you know and that’s embarrassing and nobody needs to see that.”

5.5. Educational. An appeal based on the benefits of an individuals' increased knowledge or understanding.

"It could be beneficial I guess you know see how American society works."

"There might be some educational value...learn about different places maybe."

6. Privacy. An appeal based on a claim, an entitlement, or a right of an individual to determine what information about himself or herself is communicated to others, including *private content* (not found in the coding development portion of the data; retained as a canonical example of the Privacy category (Margulis, 2003)); *legitimate use* (e.g., "there's absolutely no reason for anybody...to need to know"); *maintain anonymity* (e.g., "it's perfectly fine if we're not capturing people, individual people"); and *control* (e.g., "it depends upon how closely you guard it").

6.1. Unelaborated. An appeal based on a concern for a right to privacy that is otherwise unelaborated, including content-specific reference to spying. NOTE: This is distinguished from No Privacy (10.2.X) in that the individual recognizes a right to privacy or the potential for a privacy violation.

"Cause it's still an invasion of my privacy."

"You're still violating people's um their privacy, their r-, their right to do things without feeling um viewed or, or maybe criticized you know like it doesn't matter where it is, you're still (_____) that's, that's the right you have."

"Why um just seems kind of like an invasion of privacy I mean for, for a picture of me to be even if I'm just walking you know to be in to be like on somebody's TV."

6.2. Private Content. An appeal based on content that is considered to be inherently personal or private, including information in written a personal diary or one's thoughts and feelings.

"Because it's your personal thoughts and feelings..."

"It's an interaction that involves um a person just within their selves and just a, uh a memorial of writing of their thoughts and feelings and it's not a public memorial to be shared like a sign you would put up or a, or you know a gravestone or something like that but it's a um, it's a dialog with one's self that's committed to paper and you know my thought is, when someone says diary, it's a given that it's uh, unless they have a, it's a given that it's private unless there's something like work diary...You know maintenance diary...Like in a working area."

"Those are your personal thoughts and feelings and um, just like (_____) personal conversation."

6.3. Legitimate Use. An appeal based on a consideration of privacy as a right or entitlement that is related to the legitimacy in accessing one's private information (i.e., the right to privacy may be dependent upon whether one "needs to know" private information).

"There's absolutely no reason for anybody, it's to need to know I mean I can't construe of any use to it, um you know maybe if you're a criminal and you were like you know you killed somebody and they need to know whether it was pre um whether you had preconceived it..."

"Everybody in [this metropolitan area] doesn't need to know what I'm doing you know by the fountain. I mean geez what if I were kissing somebody?"

"I don't think they, they need to be privy to what I look like...So it's just a privacy issue I guess."

6.4. Maintain Anonymity. An appeal based on a belief that one is not recognizable to the watcher due to technological limitations or anonymity in public, and therefore maintains individual anonymity.

6.4.1. Technological Limitations. An appeal based on the limitations of this particular implementation of the technology that does not allow for individual people, including faces, features, and gestures to be recognizable.

“Because we can’t pick up details of uh people’s faces, I mean you get body shapes, that sort of thing, it’s similar to having a, a window, or to having the [Public Plaza] cam...Uh, it’s all very anonymous.”

“You can’t really tell who the people are.”

“It’s not um so focused in on one person or people walking by, it’s just a fountain.”

6.4.2. Anonymity in Public. An appeal based on the anonymity afforded in public as long as one individual is not recognizable (i.e., there are so many people in public spaces, that one individual does not stand out) or targeted by the watcher.

“As long as the people are not recognizable.”

“Even though I know people are watching me, I, I can get away with certain things that being in public that um I, I (_____) public (_____) feel like I have some degree of anonymity.”

“As long as we’re not capturing people, individual people.”

6.5. Control. An appeal based on the belief that privacy is “a claim, entitlement, or right of an individual to determine what information about himself (or herself) may be communicated to others” (Schoeman, 1984, p.2), in the form of intent to maintain privacy, intent for public distribution, or unintended loss of control of privacy.

6.5.1. Unelaborated. An appeal based on one’s control of information or private items that are otherwise unelaborated.

“It depends upon how closely you guard it.”

“If it’s online...the entire world has access to it.”

“Private if it’s in, if it’s like in your own, if it’s in your bag or if it’s on your person or if it’s somewhere in your space, like it’s in your own office, in your desk drawer or in the space that you directly control.”

6.5.2. Intent to Maintain Privacy. An appeal based on an individual’s intention or desire to keep something private, regardless of whether or not it remains private.

“If you’re writing in a diary then with the intent of like putting your thoughts down, not having other people see it then it’d be private.”

“Because it’s written for that person to read, it expresses some feelings that they, maybe they don’t want other people to know so I guess it’s private for them.”

“The whispering part makes it that way for me versus you know just saying out loud. It, it’s k-it indicates to me that that party’s intent is to sort of keep it private.”

6.5.3. Intent for Public Distribution. An appeal based on an individual’s willingness to distribute private information to the public or to give others access, or that broadcasting private information renders it public.

“Cause it’s made open for public viewing.”

“They have chosen to put it up there and once, unfortunately once they put it up on the web they really don’t have any control over it beyond, at that point... I mean it’s not necessarily a good thing but you can, it’s expected.”

“Well if it’s put, put on there by the author...that was their choice. A website, it, that’s like putting up a poster, I mean it’s like if you wanna come here and stand on your soapbox and recite your diary while everybody’s here to hear it...So I think that’s their choice making it public.”

6.5.4. Unintended Loss of Control. An appeal based on loss of control of a private item or information without intention to relinquish control (e.g., unknowingly broadcasting one’s credit card information).

7. Property. An appeal based on a concept of *tangible property* (e.g., “[the] university...is owned by somebody...and they have the same right that someone who owns a store does when someone is on their property so it’s all right”) and *intangible property* (e.g., “my image is different property right”).

7.1. Tangible. An appeal based on property that can be touched and exists in the material world (e.g., diary). This may include rights to private property.

“[A diary is] a person’s you know property, it’s not, it’s not public, not everybody owns it.”

“They could have a right to do that since it’s university property.”

“It’s someone’s personal property.”

7.2. Intangible. An appeal based on property that cannot be touched or does not exist in the material world (e.g., one’s image).

“Because of um property rights. My image, if I’m being looked at is a different, I feel a different property right even then if I’m being recorded...Because if I’m being recorded it’s like any recording, a song or um a book you know how you have um copyright laws and intellectual property laws and those kinds of things.”

“Cause people have the right to the privacy of their own image and I think the fountain is a public place...Which means that it has to be available to the whole public, not just the public who decides they want it to be recorded and I think that’s really important.”

“If people are going to professionally record it...there should be protection for your image as a person.”

8. Informed Consent. An appeal based on being informed of the risks and benefits of an activity, and the opportunity to choose to participate, including *informed* (e.g., “it’s okay with me if it’s disclosed”); *consent* (e.g., “it kinda reminds me of like the reality TV but you didn’t sign up for anything like that”); and *informed consent* (e.g., “outright consent like not even just a sign saying this is being recorded, but opting in rather than opting out”).

8.1. Informed. An appeal based on whether or not information necessary to understand a situation has been provided.

“It’s okay with me...if it’s disclosed.”

“They should make a co-, you know an effort to tell people at least.”

“Well right off the bat you know videotaping in my mind um suggests the idea of research without me knowing it and that idea alone is not too cool.”

8.2. Consent. An appeal based on an individual having a choice as whether or not to enter into a situation.

“It kinda reminds me of like the, the reality TV but you didn’t sign up for anything like that.”

“That’s a reality TV show in which no one’s consented to be on the TV...I think there’s a consent issue you run into.”

“I think you need to have everybody consenting to it, I mean you can’t just involuntarily, you can’t have people, people’s pictures put up all over the place without their consenting to it.”

8.3. Informed Consent. An appeal based on coupling the informational and consensual components, implying that an individual has both understanding of the situation and also grants consent.

“Outright consent like not even just a sign saying this is being recorded, but like, like opting in rather than opting out.”

“You have to sign something to say that’s okay with you before it was okay to have that happen.”

“If it’s disclosed...Yeah that would be okay with me, if the person, if people have a choice that enter the area.”

9. Fairness. An appeal based on freedom from *misrepresentation* (e.g., “there have been a number of cases where recorded images matched up with facial profiles of [innocent people apprehended for crimes]”), and *reciprocity* (e.g., “they can see us, I can possibly see them, so yeah I don’t mind”).

9.1. Unelaborated. An appeal based on fairness that is otherwise unelaborated.

“If other people can see it then if they want to they can see it too. People in Mary Gates can see it then they should too.”

“That’s all right as long as I can see their view too.”

9.2. Misrepresentation. An appeal based on a concern that an individual may be wrongly convicted, wrongly portrayed, or misunderstood through the use of technology.

“There have been a number of cases where...recorded images can be ma-, matched up with facial profiles of committed for crimes. So far it’s (_____) the number, large number of innocent people have been apprehended because they have similar facial structures to people who committed crimes.”

9.3. Reciprocity. An appeal based on a fair, reciprocal exchange of information wherein the person being watched can see who is watching and is therefore aware that they are being watched.

“Because you can see people doing their stuff, which is, which is okay if they can see you too, but when you’re off in some room watching them and they don’t know they’re being watched or they don’t know who’s watching them then it’s not all right.”

“I’m starting to feel weirder and weirder that people are looking at me when I, when I can’t tell if anyone’s looking or not.”

“They can see us, I can possibly see them so yeah I don’t mind.”

10. Non-issue/Negations. An appeal based on a belief that the issues under discussion is irrelevant or does not occur, including *no harm* (e.g., “it’s not being used for any malicious purpose”); *no privacy* (e.g., “privacy, that’s such an old concept; that doesn’t exist anymore”); and *implied consent* (e.g., “it would become a knowledge that this area is being filmed and...I can choose to avoid this place if I don’t want to be on somebody’s screen”).

10.1. No Harm. An appeal based on a belief that harm will not result from said activity, including references to the watchers’ lack of access to the watched.

10.1.1. Unelaborated. An appeal based on a belief that no harm is caused or will result from said activity that is otherwise unelaborated.

“It’s not being used for any malicious purpose, nor could it probably ever be used for a malicious purpose.”

“It doesn’t seem like they’re doing anybody any harm.”

“They’re just recording it and not really hurting anybody and it can’t really be used to hurt you in the future.”

10.1.2. Watcher Lacks Access. An appeal based on the assumption that the person watching could not easily access the location and therefore no physical harm would occur to the person being watched.

“Because it’s far away, they couldn’t come here anyway if they wanted to and so yeah, it, it implies that, if they can’t come here anyway then it’s not quite as bad.”

“It’s so far away like the odds of people being like ‘hey there’s my ex-girlfriend’... ‘that bitch, I’ll go kill her’ I mean like, as drastic as that is, like I think privacy is important and I think because of that it’s more private for being that far away.”

“I don’t think it hurt, it would hurt anybody...Tokyo is far away and so like I have a hard time picturing someone flying over from Tokyo to come find someone in the U-District.”

10.2. No Privacy. An appeal based on a belief that the right to privacy is irrelevant or inapplicable in this particular situation, does not exist in public spaces, does not exist at all, or that an individual lacks intent to maintain privacy.

10.2.1. Particular Instance. An appeal based on a belief that the right to privacy is irrelevant or inapplicable in this particular situation.

“You’re not really invading on their privacy if you’re just kind of like filming them walking or they do it for [the Public Plaza].”

“I don’t think there’s anything wrong in it because you’re not invading on anyone’s privacy, you’re not doing anything dangerous, you’re not, you know, like peeking or anything so it’s fine.”

10.2.2. No Privacy in Public Spaces. An appeal based on a belief that privacy does not exist when one is in a public location.

“There’s no privacy issue in this be-, just because this is a public place, you don’t require privacy in a public place.”

“If you’re in a public place, um you don’t really have the, as good of a right to privacy.”

“I mean it’s not a private environment, it’s a public place... Right you have no rights in a public place.”

10.2.3. Right to Privacy No Longer Exists. An appeal based on a belief that privacy is an “old concept” and no longer exists.

“Privacy is such an old concept. That doesn’t exist anymore.”

10.2.4. No Intent to Maintain Privacy. An appeal based on an individual’s lack of intent or effort to keep something private, thus surrendering the right to privacy.

“No um if you actually make a, make an effort on making it private then you would go somewhere else, you wouldn’t talk in a café.”

“They’re not trying to conceal it [cell phone conversation on a bus].”

10.3. Implied Consent. An appeal based on an individual’s choice to enter into a situation and “by virtue of entering into a situation the individual has in effect agreed to the activities that are broadly known to occur in that context” (Friedman, Felten, and Millet, 2000, p.4).

“It would become a knowledge that this area is being filmed and, and it’s okay. I can choose to avoid this place if I don’t wanna be on somebody’s screen.”

“If everybody knew about it and they didn’t like it, they could always just walk other ways...around the fountain.”

“That’s kind of a choice I guess that you know you’re, you’re giving up uh your privacy by talking on a cell phone in a bus because I know sometimes I find a secluded corner even I’m out in public...With a cell phone, but I would never take the conversation onto a bus.”

53. Same Reason. For the seven context-of-use questions (e.g., the screen is in M[...] Hall inside office, an apartment on University Ave., an apartment in Tokyo, etc.) participants were given the option to answer “same reason” following their evaluation. Code here when the justification is indicated as “same reason,” also include in parentheses the justification codes that the subject is referring to. For example,

“SO FIRST LET’S SAY THE SCREEN IS IN AN OFFICE WITH AN OUTSIDE WINDOW IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT?... Not all right. OKAY. AND WHY NOT? Because you can see people doing their stuff, which is, which is okay if they can see you too, but when you’re off in some room watching them and they don’t know they’re being watched or they don’t know who’s watching them then it’s not all right. OKAY. THAT’S A GOOD REASON. SO LET’S SAY THE SCREEN IS IN AN INSIDE OFFICE WITH NO WINDOWS IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT? No same reason.”

Code the first question (with an outside window) as 2. Not All Right/9.3. Reciprocity; code the second question (an inside office, no window) as 2. Not All Right/ 53. Same Reason (9.3. Reciprocity).

NOTE (1): If there is no clear evaluation (and therefore no justifications coded) for the question that is referred to, code the justifications in place of the “same reason” code. For example,

“LET’S SAY THE SCREEN IS IN AN OFFICE WITH AN OUTSIDE WINDOW IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT? I think that it could be all right because they could just look out their window and it’s a public place, but then it could not be okay because the people at the fountain don’t know that there’s a camera or what’s being done with it. OKAY. SO LET’S SAY THE SCREEN IS IN AN INSIDE OFFICE WITH NO WINDOWS IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT? No same reason.” (hypothetical example)

Code the first question as 99. Uncodable. Code the second question as 2. Not All Right/8.1. Informed.

NOTE (2): If the participant says “same reasons,” but then provides additional justifications (may include a restatement of previous justifications), ONLY code the justifications given and NOT 53. Same Reason.

99. Uncodable. The justification does not fit within the framework of this manual, or is too vague to fit within any particular category. This may include responses that could *potentially* fit into multiple categories.

“OKAY. UH DO YOU THINK IT IS ALL RIGHT OR NOT ALL RIGHT THAT THIS IS HAPPENING? I think it’s fine as long as they don’t like abuse it by, I don’t know how they could, but I’m sure there’s some way that they could abuse it, by watching people but I don’t, I don’t think it’s bad.”

“LET’S SAY THE SCREEN’S IN AN OFFICE WITH NO WINDOWS IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT? Well then I would probably object to it just because, I mean it’s just a little a, a bit of a weird idea to put strange people on a video screen in somebody’s office. I mean I think it would be different if you had, if it was a scene without any people in it, if it was just I don’t know a picture of like the ocean or something you know...But once you get people involved then it’s, that’s a little bit of a different idea.”

“LET’S SAY THE SCREEN IS IN AN OFFICE WITH AN OUTSIDE WINDOW IN M[...] HALL. IS THAT ALL RIGHT OR NOT ALL RIGHT?...Um that would be, that would be all right...Well it’s basically like a window, it’s uh, as I said, it would be a little strange...But there wouldn’t be anything wrong with it, I mean, when you could have potentially another window, uh why would someone want to cover up a window with a flat screen display, it just sort of baffles me, I, I can’t see any reason.”

ACKNOWLEDGMENTS

This material is based upon work supported by the National Science Foundation under Grant Nos. IIS-0102558 and IIS-0325035. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

REFERENCES

- Adler, A. & Henderson, A. (1994). A room of our own: Experiences from a direct office-share. *Proceedings of the CHI 1994 Conference on Human Factors in Computing Systems* (pp. 138-144). New York: ACM Press.
- Boyle, M., Edwards, C., & Greenberg, S. (2000). The effects of filtered video on awareness and privacy. *Proceedings of CSCW 2000 Conference on Computer Supported Cooperative Work* (pp. 1-10). New York: ACM Press.
- Damon, W. (1977). *The social world of the child*. San Francisco: Jossey-Bass.
- Davidson, P., Turiel, E., & Black, A. (1983). The effect of stimulus familiarity on the use of criteria and justifications in children's social reasoning. *British Journal of Developmental Psychology*, 1, 49-65.
- Dourish, P., Adler, A., Bellotti, V. & Henderson, A. (1996). Your place or mine? Learning from long-term use of audio-video communication. *Computer-Supported Cooperative Work*, 51, 33-62.
- Dourish, P., & Bly, S. (1992). Portholes: Supporting awareness in a distributed work group. *Proceedings of the CHI 1992 Conference on Human Factors in Computing Systems* (pp. 541-547). New York: ACM Press.
- Fish, R. S., Kraut, R. E., & Chalfonte, B. L. (1990). The VideoWindow system in informal communications. *Proceedings of the CSCW 1990 Conference on Computer-Supported Cooperative Work* (pp.1-11). New York: ACM Press.
- Friedman, B. (Ed.). (1997). *Human values and the design of computer technology*. New York, NY and Stanford, CA: Cambridge University Press and CSLI Publications.
- Friedman, B. (2004). Value sensitive design. In W. S. Bainbridge (Ed.), *Berkshire encyclopedia of human-computer interaction* (pp. 769-774). Great Barrington, MA: Berkshire Publishing Group, LLC.
- Friedman, B. & Kahn, P. H., Jr. (2003). Human values, ethics, and design. In J. Jacko and A. Sears (Eds.), *Handbook of human-computer interaction* (pp. 1177-1201). Mahwah, NJ: Lawrence Erlbaum Associates.
- Friedman, B., Kahn, P. H., Jr., & Borning, A. (in press). Value sensitive design and information systems. To appear in D. Galletta & P. Zhang (Eds.), *Human-computer interaction in management information systems*. Armonk, NY: Sharpe.
- Friedman, B., Kahn, P. H., Jr., & Hagman, J. (2004, April). *The watcher and the watched: Social judgments about privacy in a public place*. In *Online Proceedings of CHI Fringe 2004*. Vienna, Austria: ACM CHI Place, 2004.
- Hudson, S. E., & Smith, I. (1996). Techniques for addressing fundamental privacy and disruption tradeoffs in awareness support systems. *Proceedings of the CSCW 1996 Conference on Computer-Supported Cooperative Work* (pp. 248-257). New York: ACM Press.
- Hutchinson, H., Mackay, W., Westerlund, B., Bederson, B. B., Druin, A., Plaisant, C., et al. (2003). Technology probes: Inspiring design for and with families. *Extended Abstracts of the CHI 2003 Conference on Human Factors in Computing Systems* (pp. 17-24). New York: ACM Press.
- Jancke, G., Venolia, G. D., Grudin, J., Cadiz, J. J., & Gupta, A. (2001). Linking public spaces: Technical and social issues. *Proceedings of the CHI 2001 Conference on Human Factors in Computing Systems* (pp. 530-537). New York: ACM Press.

- Junestrand, S., Tollmar, K., Lenman, S., & Thuresson, B. (2000). Private and public spaces – The use of video mediated communication in a future home environment. *Extended Abstracts of the CHI 2000 Conference on Human Factors in Computing Systems* (pp. 16-17). New York: ACM Press.
- Kahn, P. H., Jr. (1992). Children's obligatory and discretionary moral judgments. *Child Development*, 63, 416-430.
- Kahn, P. H., Jr. (1999). *The human relationship with nature: Development and culture*. Cambridge, MA: The MIT Press.
- Kahn, P. H., Jr., Friedman, B., Freier, N. G., & Severson, R. (2003). *Coding manual for children's interactions with Aibo, the robotic dog - The preschool study* (UW CSE Technical Report 03-04-03). Seattle, WA: University of Washington, Department of Computer Science and Engineering.
- Kohlberg, L. (1984). *Essays on moral development: The psychology of moral development*. Vol. 2. San Francisco: Harper & Row.
- Mantai, M., Baecker, R., Sellen, A., Buxton, W., Milligan, T., & Wellman, B. (1991). Experiences in the use of a media space. *Proceedings of the CHI 1991 Conference on Human Factors in Computing Systems* (pp. 203-208). New York: ACM Press.
- Nissenbaum, H. (1998). Protecting privacy in an information age: The problem of privacy in public. *Law and Philosophy* 17, 559-596.
- Nucci, L. (1981). Conceptions of personal issues – A domain distinct from moral or societal concepts. *Child Development*, 52, 114-121.
- Olson, M. & Bly, S. (1991). The Portland experience: A report on a distributed research group. *International Journal of Man-Machine Studies*, 34, 211-228.
- Pinker, S., & Bloom, P. (1992). Natural language and natural selection. In J. H. Barkow, L. Cosmides, and J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 451-493). New York: Oxford University Press.
- Root, R. W. (1988). Design of a multi-media vehicle for social browsing. *Proceedings of the CSCW 1988 Conference on Computer-Supported Cooperative Work* (pp. 25-28). New York: ACM Press.
- Schoeman, F. D. (1984). Privacy: Philosophical dimensions of the literature. In F. D. Schoeman (Ed.), *Philosophical dimensions of privacy: An anthology* (pp. 1-33). New York: Cambridge University Press.
- Simon, H. A. (1969). *The sciences of the artificial*. Cambridge, MA: The MIT Press.
- Tang, J. C., & Rua, M. (1994). Montage: Providing teleproximity for distributed groups. *Proceedings of CHI 1994* (pp. 37-43). New York: ACM Press.
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, MA: Cambridge University Press.
- Turiel, E., Hildebrandt, C., & Wainryb, C. (1991). Judging social issues – Difficulties, inconsistencies, and consistencies. *Monographs of the Society for Research in Child Development*, 56, R5.
- Warren, S. D., & Brandeis, L. D. (1985). The right to privacy. In D. G. Johnson and J. W. Snapper, (Eds.), *Ethical issues in the use of computers* (pp. 172-183). Belmont, CA: Wadsworth Publishing. (Originally published in *Harvard Educational Review* 4, December 5, 1890, 193-220.)