Taxonomy of Computer and Information Ethics

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INTRODUCTION

Computer ethics, information ethics, personal information ethics, privacy ethics, and many other terms that juxtapose the terms "ethics," "privacy," and "information" call for a uniform treatment to understand the topography of these topics. This article presents the taxonomy of the ethical landscape in terms of categories that serve to differentiate among privacy-related discourses in ordinary ethics, information ethics, and personal information ethics. The taxonomy is applied to distinguish between different forms of privacy intrusion on personal information.

THE ETHICAL LANDSCAPE

Our objective is to present a taxonomy of the ethical landscape. Such a venture is first motivated by a more modest problem. Al-Fedaghi (2007) claims that there are several types of privacy intrusion in personal information ethics (PIE). Also, it is claimed that there is a difference between the act of intruding on a person and intruding on that person's personal information. Al-Fedaghi (2007) investigated these types of privacy intrusion in the context of Floridi's case of "the husband who reads the diary of his wife without her permission" (Floridi, 1998). Still, it is not clear how these types of intrusions are related to ordinary ethics, information ethics (IE), and PIE. Even if the wife's dairy is blank, there is a sense of privacy intrusion. If we are to accept the PIE thesis that such an intrusion is non-PIE intrusion, how does it relate to privacy? In general, we may ask: what is the nature of privacy that does not involve personal information? To answer such a question, we have to look at the topology of different ethics and then position each ethical setting accordingly. Upon surveying the ethical landscape, we find a disarray of terms that do not suit our purpose.

There are many assertions regarding the domain of different ethics. Computer ethics (CE) is said to be unique in terms of providing answers to new ethical situations, since traditional ethics does not apply to these cyber-situations (Moor, 1985). Information ethics means different things, such as computer ethics, business ethics, medical ethics, and so forth (Floridi, 2005). Floridi (1998) proposed to base IE on the concept of information, as its basic phenomenon is recognized to have an intrinsic moral value. Floridi and Sanders (2004) extended the ethical discourse of IE to include the analysis of the artificial agent's morality "in order to understand a range of new moral problems not only in computer ethics but also in ethics in general, especially in the case of distributed morality." Al-Fedaghi (2007) proposed to adapt Floridi's notion of the moral value of information to personal information such that personal information ethics recognizes personal information itself as having an intrinsic moral value.

Other types of ethics that are related to information and privacy may be referred to as "privacy ethics," "ethics of privacy," "ethics of information," "ethics of information privacy," "ethics of informational privacy," "privacy-based ethics," and so forth. According to Duncan (1994): "We need to be (1) guided by an *ethics of information*, and (2) cognizant of special problems raised by computer and communications technology.… lack of relevant ethical guidance suggests the need for a new framework for consideration of privacy and information issues." This terminology that juxtaposes the terms "ethics," "privacy," and "information" raises the issue of the connection among these terms.

To deal with this problem, Al-Fedaghi (2007) proposed an agent-patient model as a foundation for the taxonomy of ethics. Different types of agents and patients are identified, utilizing the notions of person/non-person, identifiability, informational ontology, and privacy-relatedness. Accordingly, the taxonomy reveals 70 kinds of ethical categories.

TAXONOMY OF ETHICS

The taxonomy of ethical landscape is built utilizing categories that juxtapose humans, human-based systems, machines, hybrid systems formed by digital agents, artificial agents, and so forth. It answers the question: "What discourses are possible for certain types of (moral) ethical agents and patients?" It is a system that formalizes knowledge in the domain of ethics and provides a better understanding of the rationality of ethics, taking into consideration the informational/non-informational ontology of the participants and the privacy-relatedness of the category. The resultant ethical categories can facilitate the making of ethical decisions. In ethics as in law, "better understanding of the law depends upon a sound taxonomy of the law" (Geoffrey, 2004).

The Al-Fedaghi classification of types of ethics uses a model that includes the basic elements of ethical categories: agent, patient. An "ethical category" is a discerned ethical situation that includes a "typified" moral agent and a patient, according to the following: person, human-based entity, or non-human entity. Furthermore, patients are segregated according to informational and normal ontologies and according to the privacy-relatedness of the category. The types (e.g., person) and property (identifiable) of agents and patients, and their ontology (e.g., informational) and the privacy-relatedness of the discourse (e.g., anonymity) are factors that determine what we call an *ethical category.*

Building on this classification, we categorize person agenthood into identifiable persons (e.g., *John ought to tell the truth*) and non-identifiable persons (e.g., *A person should not murder another person*). The latter type is in contrast to non-identifiable human-based agents, as in *The government ought to protect the environment,* or identifiable human-based agents, as in *The USA ought to join the Kyoto accord*. The person-patients also are divided into identifiable and non-identifiable patients.

Additionally, patients are further classified according to their ontology: ordinary or informational. Ordinary ontology refers to the usual physical and

Table 1. Taxonomy of ethics according to agents and patients

					AGENT				
					Person		Human-Based		Non-Human
			Ontology of Patient	Privacy-Related	Identifiable	Non-Identifiable	Identifiable	Non-Identifiable	
PATIENT	Person	Identifiable	Ordinary	P	1	2	3	4	5
				N	6	7	8	9	10
			Information	P	11	12	13	14	15
				N	16	17	18	19	20
		Non-Identifiable	Ordinary	P	21	22	23	24	25
				N	26	27	28	29	30
			Information	P	31	32	33	34	35
				N	36	37	38	39	40
	Human- Based		Ordinary	-	41	42	43	44	45
			Information	-	46	47	48	49	50
	Non-Human		Ordinary	-	51	52	53	54	55
			Information	-	56	57	58	59	60
	Personal Information		Information	P	61	62	63	64	65
				N	66	67	68	69	70

P: Privacy-related situation with respect to the patient
N: Non-privacy-related situation with respect to the patient

"-": Indicates irrelevancy, since privacy is defined to be applied only to humans