

Granting Personality to a Virtual Identity

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Abstract—For ages we were used to have automatons, based on instructions. Now we are near to the moment that we have lesser control over the consequences of actions of software powered actors. The autonomous intelligent software agent with social learning skills creates itself soon. Watching the development of the mixed reality technology the virtual and physical worlds will mix seamlessly to a hybrid human environment, called interreality and it will be sure that the current ideas and rules, if any, about virtual identity have to be changed. The phenomenon of fictitious virtual identities, potentially in fully fictitious environments, is highly exploited in e.g. data transactions and games. Society has to deal with multiple identities and autonomous agents like we did before with technology novelties as result of the implementation of the telegraph and telephone. New regulation around any accountability “behind the bot” should be developed. This paper presents some guidelines.

Keywords—Cyber, Cybernetic, Legal, Personality, Virtual, Identity, Reality, Pseudonymity, Intelligent, Artificial, Agents, Alias, Mixed Reality, Virtual Reality, Virtual Worlds.

I. INTRODUCTION

IN document is a template for *Word (doc)* versions. In 1940 the Argentinean writer and poet Jorge Luis Borges wrote ‘*Tlön, Uqbar, Orbis Tertius*’ [1]. In this short story Borges stretches the thin boundaries between reality and unreality to the point where they cease to exist – ... if they ever really existed. The idea of “imaginary identity” and “Interreality” was presented.

Imaginary or virtual identities are not a novelty, neither words such as “cyberian” or “Interreality” are neologisms. Almost 2.500 years ago people used pseudonyms to be anonymous, and were discussed imaginary worlds and the jurisdiction of law. In the past only artists, criminals and some peers created and used pseudonyms for their actions. Today, children and adults can be Superman in real action and performance. Now space and time have fallen away, all traditional connections and identities are suppressed on the Internet, both the individual and the collective ones. For more than 150 years there was an internet, with chat rooms, virtual affairs and online identities. Going back in history, discussions were also held about shameless youth which handily used technology, about rude colonists who made their own rules in the conquered territories, and about floating people who were hopping between imaginary and realistic societies. New forms of anonymity, gender and identity switches are cultivated on the World Wide Web, thus superseding the idea of a global

village. Watching the development of the mixed reality – both the virtual and physical worlds are seamlessly mixed to a hybrid human environment, called “interreality” – it will be sure that the current ideas and rules, if any, about virtual identity have to be changed, step by step [2]. New forms of anonymity and dissociation (assuming multiple personalities) are cultivated in this virtual society, leading to different behaviour patterns. Much attention is paid to this phenomenon from a sociological viewpoint in the academic world but less from other single and multidisciplinary research programmes. Something has really changed: the automatic generated and operated software agents.

As Internet based activities become more extensive and pervasive, as the mixed reality finds its way in the online game industry, and people explore online identities as new age personages, other legal issues are beginning to arise. In many virtual environments, such as Second Life, individuals can invest significant amounts of time and, sometimes, real money in developing their virtual personalities and environment. The key issue which will have to be confronted concerns the extent to which personality rights might be recognised as existing in the virtual world. For some individuals their virtual persona is at least as important as their real life image. It is perhaps not too difficult to suggest that concepts such as defamation can be applicable in the on line environment. More difficult is the question whether a virtual personality can be the subject of an assault.

II. THE ORIGIN OF A VIRTUAL IDENTITY

A virtual identity is a persona that is implied when communicating online. It is a perceived view of who you are when online. The online identity changes due to the fact that it is a visual medium with relatively small levels of truth, actually being described. Virtual identities are the online users published personality, physical description and the ability to improvise whoever you want to be.

The online identity is one that is usually (in most cases) embellished to make the physical person appear more intelligent, sexier, skinnier or bolder. The personality chosen usually embellishes what the person already has or aspires to be. It encases what the person finds attractive in the other sex, particularly in online dating and also what their ambitions are. To facilitate the online identity in communication systems a ‘virtual identity’ has to be created to execute the specific online identity. It can be temporary (for the period the online contributor is online with that specific identity) or permanent (when the virtual identity stays active or mute in the online network).

The used 'nickname' often represents habits and characteristics of the online user, Bechar-Israeli states after research [3]. A lot of traceable plays and rituals are use in Internet Relay Chats, as Danet also finds[4]. Communication in Internet chat spaces allows participants to communicate so freely in the relative safety of anonymity, that they forget their privacy. Analysing the behaviour, Scheidt concluded that adolescent females also advertise their true selves by utilising nicknames that advertise their age, actual name, self character traits, and by showing their originality by utilizing innovative typography in their nicknames [5]. Kimmelmann researched how individuals are personally extended through their virtual activities [6]. Just as handwriting is inherently an extension of the person, the portrait inevitably a meditation in the form of a painter's skill, he explored the possibilities of authenticity in electronic media.

Identities need to be presented and to be recognised as a unique form. Otherwise a person won't recognise the specific identity. For ease of distinction and execution a virtual identity needs to have a textual, graphical or other representation, because the technology processing in the computers and networks requires it to be identified as a unique form. This essential requirement results in the naming of each to be identified object. Basically it is done by means of choosing or generating a hexadecimal code, consisting of characters such as a-z, A-Z, 0-9, - _ and. This kind of nomenclature is internationally regulated by all kinds of standards and protocols in the executing technology. In a more advanced or specialised way the presentation of the identification also can take place by means of an icon-sized graphic image or a specific sound. Essential is that all identity appearances can be recorded, stored and reproduced to interact with human beings. An unidentified alien has to be recognised in an electronic system in order to be ignored or deleted automatically.

III. MAKEABILITY

The 'makeability' of people, initially in the form of adornment using clothing, colour, and ornaments, followed in the 20th century by the use of cosmetics, all kinds of lenses, plastic surgery, orthodontics, and photomontages, has boomed in the (multi) media and computer technologies. Voices are adapted to people's wishes using Digital Sound Processing and sample technologies. Musical compositions are turned into popular 'easy listening' with notation programs in the computer. Faces are made uniform and attractive to the public using morphing technologies. Images of people captured by means of digital cameras are fashioned into the personalities that at that time get the highest ratings. With a computer someone can be made into an idol and with the aid of a simple image manipulation program you can transform yourself into this idol's clone in order to increase your acceptance in cyberworld. These technologies are within reach of the general public and particularly the youngest generation is increasingly using them to 'position' their actual and/or desired image of

themselves. Now space and time have fallen away all traditional connections and identities are suppressed on the Internet, both the individual and the collective ones. New forms of anonymity, gender and identity switches are cultivated on the World Wide Web, thus superseding the idea of a global village. Own managed identities are becoming popular and common[7].

When a user creates an identity, it can be a conscious construction, it can evolve subconsciously over a period of time, or it could simply be a reflection of the user in real life. Users can create an identity that is totally different from their real selves in any number of ways. They can choose gender, race, age; all the traditional delineators of real life are malleable. The identity is a pure construct of the individual and may or may not reflect reality. The ability to assume an alias, a new identity and masquerade as something that you are not, is a liberating experience. It enables you to experience life from the other side, to experience first hand prejudices and assumptions that are made by any number of social groups or otherwise.

There are two primary mediums on the Internet where virtual identities really come into play. The first is online chat (a textual medium), and the second is online gaming (a spatial medium). As games have a limited chat function, chats have a limited action function. Both serve the same purpose, to provide an alternative to the main purpose of the medium. Both functions can be used to enhance or correspond with the chat or action at hand, both can be used for comic relief, and both help establish identity.

Tubella [8] stated with concerns that while traditional media, in particular television, play an enormous role in the construction of collective identity, Internet influences the construction of individual identity, as individuals increasingly rely on their own resources to construct a coherent identity for themselves in an open process of self formation as a symbolic project through the utilisation of symbolic materials available to them. He argued that this is an open process that will change overtime as people adopt new symbolic materials. This is a relatively easy process for individuals but much more difficult for collectivists who have the tendency to stick to their traditional values. Presenting a case about building a Catalan identity in the network society Tubella considered what role Internet does play in building Catalan identity.

An example of identity construct is social engineering, a concept in political science that refers to (debatable) efforts to influence popular attitudes and social behaviour on a large scale, whether by governments or private groups. In the political arena the counterpart of social engineering is political engineering. Social engineering is also a collection of techniques used to manipulate people into performing actions or divulging confidential information. Popular terms for these methods are 'Pretexting', 'Phishing', 'Gimmes' and (almost the same) Trojan Horse [9]. 'Quid pro Quo' is also a form of identity construct. The attacker acts as the familiar IT-helpdesk assistant and 'helps' solve a problem. In the process he obtains

the user type commands that give the attacker access and/or launch malware.

IV. IDENTITY GENERATOR

All kinds of online and offline virtual identities of software agents are generated by a computer. The term 'computer-generated' is not defined further. However in the case of *Express Newspapers v Liverpool Daily Post & Echo* the work under consideration was seen to fall within the scope of being computer-generated [10]. The case seems to suggest that 'a work is computer-generated when the computer is in sense acting on its own to produce the actual works; i.e. in this case an algorithm was used to select each of the five letter sequences rather than a human making any decision or creative act in each case. Most relevantly the ruling seems to interpret 'arrangements necessary for the creation of the work' as the use of a computer program, as opposed to the creation of that program. So, one can argue that the user is part of the 'circuit'.

If we accept the statement that a computer enabled agent with virtual identity can execute autonomous both human and machine related actions it is self-evident that the legal aspects of these actions are related to both human and machine. In the concrete the actions generated by a virtual identity always are related to an origin, such as a trigger of a software program or a key press of a keyboard by a human being.

Virtual identities are generated by the software in a machine (computer). So, the fundamental question is about the autonomic executing machine, about the designer of that machine, and about the human who wrote the software code to let process that machine.

In the industrial century, when machines overwhelmed people, there was a broad discussion of scientist about the consequences of the automation. In 1947, the scientist Norbert Wiener wrote a manuscript on the unifying character of this part of applied mathematics, which is found in the study of Brownian motion and in telecommunication engineering. Wiener decided to introduce the neologism cybernetics into his scientific theory. In the UK this became the focus for the Ratio Club, a small informal dining club of young psychologists, physiologists, engineers, and mathematicians who met to discuss issues in cybernetics. Wiener points out in 1948 the parallel history of the automaton and the human body as 'automata whether in metal or in flesh' [11]. He states in his theory that animals (including humans) and machines are controlled by:

- message,
- noise,
- coding,
- information amount *and*
- feedback.

So, following Wiener's theory – that was broadly accepted by scientists and led to the cybernetic science – a machine never can be autonomic, because there is always a control, e.g. by message, noise, coding, information amount and feedback. Just as the cyber Walhalla is dependent on the power cord, we

can conclude that an autonomic executing machine is somewhere subject to a kind of control. Designing, building and managing machines is done (and controlled) by human beings, even when it is a self developing machine or self generating software. Switch off (=controlling) the electricity and the machine stops.

V. VALUE AND IMPORTANCE OF VID FOR SOCIETY

The subjectivity of digital interactive communication in a social like environment is constructed by three psychosocial roots:

- networked reality,
- virtual conversation, and
- identity construction.

Within virtual communities you can position your identity in two ways. At first you assign yourself 'attributes'. These attributes have to do with your choice of a name, gender, age and characteristics such as haircut, physical appearance, strength, intelligence, and so on. These attributes do not have to correspond with those of the person sitting in front of the computer. Subsequently you start 'writing' to others in that virtual room and are thus engaged in a continuous process of constructing your identity via social interaction. These virtual rooms provide a simple opportunity to play with identities (and outward appearances) and try them out. The person who can create different identities in various rooms does not only decentralise his own personality, but can also multiply it infinitely.

After all, at least, there is no limit to the virtual rooms, in which you can manifest yourself. In this respect electronic contact platforms and chat rooms are experimental environments in which you can discover who you are and who you want to be. Research showed that in chat rooms children succeed in manifesting several identities next to and apart from each other [12].

The key feature of cyberspace is the interaction through which a new sense of self and control can be constructed. The result of these new senses of self is a new sense of presence that fills the space with fluid forms of network/community. The basis of the community of people interacting in a technological environment is shifting from culture-defining mass media to a proliferation of media as alternative sources of mediated experience. We must look carefully not only at the social impact but also, and more importantly, at the technology design implications of what actually happens in networked interaction in virtual communicative environments.

Riva and Mantovani state that the psychosocial dimension of interlocutor individuation has become increasingly important [13]. In communication the 'sender' and 'receiver' – both of which are abstract, mono-functional entities – have been replaced by interlocutors endowed with thoughts, emotions, affects, and a psychosocial identity which expresses their positioning within families, groups, organisations and institutions. They also noted the increasing dematerialisation

of interlocutors, or rather, the increasing irrelevance of their physical presence.

In his book about virtual politics Holmes focused on how virtual realities effectively extend space, time, and the body, showing how technologies such as the automobile and environments such as the movie theatre and the shopping mall prefigure cyberspace [14]. He also examines the loss of political identity and agency in cyberspace and identifies a disembodied consumer in anonymous control of a simulated reality. The interactive networks and technologies that are said to make possible virtual communities share with broadcasting in general, and television in particular, a reach and potential for the same kinds of imperialism of representation. Holmes' conclusion is that a virtual identity enables the rise of both Communities of Broadcast (as a mode of social integration) and Communities of Interactivity (as a mode of social participation).

Giese analysed several Mainland Chinese Bulletin Boards on issues of love, marriage, and sexuality and shows how the Internet allows its users to discuss, venture, and form opinions [15]. Presenting the case of 'Jin Yong's Inn' - a Bulletin Board System (BBS) for aficionados of Chinese martial arts novels - his study also shows how virtual groups replicate the process of real or offline groups, where inclusionary and exclusionary devices are practised, hierarchies formed and collective identities evolve out of long-term active participation.

VI. FROM PSEUDONYMITY TO CYBER ENTITY

Usually you start your journey into cyberspace as an individual. In front of a computer screen, reading the characters that transform to words, you confront your singularity before building a sense of others in the electronic world. There is a double sense of individuality here. Your computer screen acts as a window to your second home and you simply connect to cyberspace by logging in by entering your individual online name and secret, personal password. Then you are rewarded with your little home in cyberspace, usually consisting of such elements as your email and your list of favourite portals and websites. Nearly everyone spends his or her first moment in cyberspace in individualised places.

When you move from your little home to other virtual spaces this usually involves further moments of self-definition, for example, in choosing an online name for entering a chat room, in choosing a self-description at a profile site, or in outlining a biography in a dating environment. The experience of logging on occurs not only when entering cyberspace. Like passing borders and showing your passport it is repeated as we enter name and password again and again across cyberspace.

The use of virtual identities may frequently be linked with the desire to preserve the anonymity of the real person. Whilst anonymity (or pseudonymity) may be sought for legitimate goals, it may also be pursued for less desirable motives. Much is written of the dangers to which children may be exposed through adults presenting the persona of younger persons in forums such as Internet chat rooms with the intent of luring

victims to real life meetings and abuse. Again, electronic communications may be used to facilitate the planning of terrorist or criminal acts with the use of encryption techniques facilitating the maintenance of anonymity.

None of these forms of activities are new and again and again the question arises how well traditional laws apply in the modern Internet world. Just as nature abhors a vacuum, so it seems that few forms of human society can exist without some form of regulation. Today we have largely moved on from notions of self regulation and an important issue to be addressed concerns the extent to which legal provisions in fields such as data protection and retention provide appropriate balances between society's interest in law enforcement and the individuals quest for anonymity.

As Internet based activities become more extensive and pervasive, other legal issues are beginning to arise. In many virtual environments, such as Second Life, individuals can invest significant amounts of time and, sometimes, real money in developing their virtual personalities and environment. The key issue which will have to be confronted concerns the extent to which property rights might be recognised as existing in the virtual world. In the situation where real money has been paid for the acquisition of virtual property it is perhaps not too great a leap to suggest that legal notions such as theft might be applicable in the event that third parties take unauthorised possession of the 'goods'. For some individuals their virtual persona is at least as important as their real life image (like identity theft). More difficult is the question whether a virtual personality can be the subject of an assault (destruction). In some respects the latter issues have already been confronted by participants in virtual world. It seems to be a feature of all new frontiers that after an initial out of lawlessness, mechanisms and principles are derived for regulating conduct.

As suggested above, society needs laws almost as much as oxygen. Systems of self regulation might have a role to play in limited circumstances, whilst more formal controls are required in an era where the Internet has moved far beyond any comparison to a members' club. So, we have to consider methods of law making for cyberspace. One notion which deserves some consideration is that control mechanisms might be built into the structure or code of the Internet itself to make it difficult if not always impossible for individuals to behave in socially unacceptable ways.

VII. COMPARE THE PHYSICAL TO THE VIRTUAL

Jordan [16] distinguished three key areas in which being an individual in cyberspace allows actions to be taken that are different from those in offline life can be called *identity fluidity*, *renovated hierarchies*, and *informational space*. These areas are briefly explored below. Identity fluidity is the process through which online identities are constructed. It remains true that in all sorts of online forums, an individual's offline identity cannot be known with any certainty. Some well-documented cases of 'Joan' [17] and 'Julie' [18] show the schizophrenia as 'commodity fetish'. However, Jordan argues

it would be a misconception to conclude that identity disappears online. Identities that constrain, define, and categorise us exist online, but these identities are made with different resources than are used for offline identity. Broadly speaking, online identities are constructed out of two types of indicators: identifiers and style. Neither of these mandates that someone's offline identity must reappear within their online identity, although there are many ways in which a repressed offline identity may return in the midst of online fantasy.

But which reality are we talking about when we compare the physical to the virtual? The (general) reality is something that according to philosophers (such as Spinoza and Heidegger) is fundamentally hidden in man, so that the only thing he needs to do is to develop insight into himself. Acquiring insight is a unique human ability based on the all-encompassing entity of reality. As a consequence he can work out what reality is and the more he succeeds the more balanced he becomes. Virtuality is always related to, and interacts with real, actual phenomena. Virtual identity seems to be the switch point in between the physical and virtual realities.

VIII. DEVELOPMENT OF THE DIGITAL IDENTITY

An identity is viewed as a set of self-relevant meanings – applied to the self in a social role or in a situation defining who one is – held as standards for the identity in question [19]. Identity is related to environments and relations, argues Cameron [20]. People may have varieties of different identities in different groups – even groups can have an identity [21] –, however Capurro et al differentiate two kinds of (basic) identity: metaphysical and ontological [22]. Who you are is based primarily on a description of your body and some unique registered information about the date and place of your birth, your relations and the home address. This registration gives you a formal identity that can be (re)presented by a unique official document such as a passport. This situation is totally different to the Internet, where everyone connected can acquire as many identities he or she want, e.g. at passport.com, and where everyone's data can be online collected, matched and processed – by action groups, companies and governments [23].

But there is more going on between personality and identity. We can see that the younger generation (< 25 year) builds and maintains relatively confidential online relationships with members of their circle of friends, hobby club or soccer society. They read and have chat conversations which shows that tribe and group oriented (community) contacts are a replacement for the relationships one used to maintain within the family, church, bar or club. Compared by contrast with the past the zeitgeist now is more individual driven.

In his theory about personal identity Goffman states that personal identity comes into being by social interaction [24]. We socialise with others and in that contact we send out specific signals that express how we want others to see us. We also unwittingly send out signals to others. All these signals represent an image who we really are. Other people react to

that presentation. Personal identity is partly shaped by oneself and partly by the interaction with others. In face-to-face contact facts as gender, race, clothes and non-verbal aspects play an important role. Ruesch and Bateson point out that in communication these aspects determine how others see us [25].

Davis discusses in 'Identity Ambivalence' several intriguing theories about the social and psychological significance of fashion in modern culture [26]. What makes clothes fashion; how fashion choices express social status, gender identity, sexuality, and conformity; and how fashion is (or is not) accepted are all discussed. Regardless the ambivalence fashion seeks constantly to get those attuned to its symbolic movements to alter their virtual identities [27], to relinquish one image of self in favour of another, to cause what was until then thought ugly to be seen as beautiful and *vice versa*.

IX. THE EMERGENCE OF MODERN VIRTUAL IDENTITIES

Online worlds, also called 'Virtual World', 'Synthetic World' or 'Multi users virtual environment' (MUVE), let you create a character, a home, a pet, and a new personality if you wish. You can take on jobs, be part of a community, and have fun hanging out with others in an online world. Online worlds have a focus on social interaction. 'Active Worlds' has over 1000 unique worlds to immerse yourself in. Shop, play games, and hang out with others. Rick's Café, Pollen World, and Castles World are samples of worlds you can be a part of. 'SecondLife' has a complex social and economic structure. You can fully customize your home and appearance, and all surplus can be sold. The so-called virtual 'Linden dollars' can be exchanged into real money, and reverse. "Moove" is a 3D online world. Decorate your home, invite others to come over, or explore the world by visiting your neighbours. Online worlds are not only a play ground and training wheel for adolescents, but will soon become training grounds for artificial intelligences.

People have different identities associated with multiple roles in specific or various contexts. These roles are generally played out within differing physical or temporal spaces, leaving the choice of how much to reveal about the other identity to the individual who inhabits it. Within cyberspace, self-presentation is to some extent controlled by the individual. However, as Suler [28] notes, aspects of personality which are not consciously presented 'leak' due to the intimacy of the medium. Suler [29] also notes that cyberspace is perceived by teenagers as a safe environment to explore issues with their identity and self-perception; however, it is noted both that there are many areas of the Web which are unsafe and unsettling, and that there is a tendency for deviant behaviour to manifest itself in cyberspace. The illusion of anonymity which it affords may encourage this, particularly in adolescents who are exploring identity issues [30].

The behavior of intelligent agents (the tasks that they perform and when and how the tasks are performed) can be modified dynamically, due to learning or influence of other agents - a selling agent that just lost several rounds of sales

would certainly modify its behavior in the next round by calling on other agents to help out. It is envisaged, that an intelligent agent will e.g. be able to find the best possible deal for a customer and then to perform the deal autonomously in the name of the customer. In most situations the customer is unknown with the dealing menu of the agents but having signed the end user agreement in advance the customer is obliged to the act. WebBots (also called automatic avatars) are virtual assistants that guide the user through the Internet, similar to software assistants, and, like these, WebBots are versatile tools with 'personality'. Integrated search engines change into characters that interact with users. Bots allow you to create an engaging virtual personality that can perform many tasks - from assisting with common computer tasks, to serving as a virtual assistant that can help you get organised, to acting as a teacher that can play games or administer tests. A bot even can be a politician in the 2006 Dutch party campaign, answering questions about the party manifesto [31]. Whatever you do with your bot, the possibilities are endless, even in love, hate and crime.

Thus, agents – build by Artificial Intelligence software – are not novel, but computer programs that perform legal acts autonomously are uncommon, and they are not yet legally supported [32]. For example, the legal status of contracts closed by intelligent agents is not yet clear developed and there could be a need to adapt law to commercial transactions by way of intelligent agents when customary law (offer+acceptation=agreement) is not adequate.

X. LEGAL PERSONALITY OF VIRTUAL IDENTITY

Identities in virtual worlds such as World of Warcraft are created by a computer programme and seem to act like a legal person. However, normally they are instruments of human users. This raises the entirely legal question of whether "contract" entered into by such identities should be legally enforceable when there is no human being 'in control'.

It looks a revolution in traditional legal thinking when virtual identities should have legal personality. This issue emerges when there is a form of autonomy. Looking at questions such as: 'Should intelligent agents be granted legal personality?' and 'What is the legal validity of contracts that have been closed by intelligent agents?' it can be argued that these agents are not significantly divergent from legal persons like a foundation, a partnership or a company [33]. Lastowka and Hunter discussed whether avatars have enforceable legal and moral rights [34]. Avatars, the user-controlled entities that interact with virtual worlds, are a persistent extension of their human users, and users identify with them so closely that the human-avatar being can be thought of as a cyborg. If the avatar of an autonomous intelligent agent or an intelligent agent shaped as an avatar is granted legal personality, should it have specific rights of the creators of personal likenesses? Because of the continuing autonomous use the issue of cyborg rights within virtual worlds, and whether they may have physical world significance, is important too.

Should intelligent agents be granted legal personality? Al-Majid [35] states that as long as intelligent agents have no assets (of 'real worlds' economic value), the idea to grant them legal personality would not solve the issue of accountability and/or liability and therefore is not of benefit. If the issue of asset could be solved, intelligent agents could be granted legal personality. But what when the intelligent agent obtains assets by hacking an account or cracking a credit card, and there is no trace to the developer or user of that programme? The issue of whether their limited autonomy deserves personality is potentially a matter of time as the autonomy, mobility, and intelligence of intelligent agents increase. Nonetheless, this does not mean we have to sit back and wait. Finally, as result of having to use intelligent agents in digital economy, we must pay the price, concludes Al-Majid.

Wettig & Zehendner [36] discussed how the actions of electronic agents in this respect have to be classified under German law. They described the distinction of electronic agents to conventional software programs by different characteristics of the electronic agents. The most important characteristics of electronic agents are:

- reactivity: the ability to perceive an environment and respond to changes that occur with it;
- proactivity: the ability to initiate goal-directed behaviour;
- autonomy: the ability to operate without the direct intervention of humans or others, and have some kind of control over their action and internal state;
- social ability: the capacity to interact with other software agents or with human beings through a shared value;
- adaptive behaviour: the ability to adjust to the habits, working methods and preferences of a user;
- mobility: the ability to move around an electronic environment [37].

With the "mobile agents" a new problem appears. While the current legal systematic attributes an action of a computer to the operator, the program of a mobile agent resides not on the computer system of the agent owner, but on another computer. This represents a new quality, since the virtualized agent's owner usually does not have influence on the foreign computer system. A manipulation thus would be outside his control. Due to larger independence compared with the computer and the spatial distance of the user, the parallel to the material representative and thus the acknowledgment of its own legal personality seem thus more obvious with mobile agents. But it showed up, that this is a kind of tightrope walk between a technical, legal and philosophical/ethical interpretation of the used terms. The creation of an agent register could be a possibility to eliminate existing ambiguity over the legal status of electronic agents, conclude Wettig & Zehendner.

A virtual identity is seen as something separate; it is a fiction, a fantasy, states David [38]. If virtual identities are fictions and fantasies (like David states) and if their fantasy world SecondLife is pure fantasy than the legal problems can be dismissed as themselves fantasies (or as best as matters to be resolved by contract with the internet service provider). But

if not, the legal problems themselves are real and require solutions in the physical world. The reality is that the virtual world depends on the real, physical world. Cyberworld is, and Virtual Worlds are an extension of our physical world. They depend on the real world (by electricity and connection) so they are part of the real world. Even with a virtual global network, there are physical national or local storage and access points. The 'cyber world' is a human created extension to the 'real world' so law should be extended too, like the law developed around new land in extraterritorial waters (building terrain to be raised with a sand-in-water slurry), the satellites in space that reach us with communication signals, the possessory action after the moon landing, et cetera. Despite the ideas of independence (Barlow) and intertation (Castronova) law will enforce in the cyber environments.

XI. FUTURE THOUGHTS ABOUT VIRTUAL IDENTITY

Usually new technology is regulated by old law (accept e.g. E-commerce, e-signature, etc.). Equally most elements of the Internet usage and service content were regulated in some form or fashion – prior to the arrival of the Internet. Other specific regulation (cybercrime, provider responsibility, data protection, database) was politically and/or commercial driven. Despite the calls by some for the development of Internet-specific law, or cyberspace law – similar concept as the Law of the Sea – the information technology is changing so rapidly for any 'sui' generic body of law that developing, implementing and maintaining is a lost race against the 24/7 Internet clock.

Despite also the technology feed idea that the Internet culture is the same for all contributors, there are and will be local and cultural differentiations in compliance with the law. The 'ad hoc' way of gradual adaptations of the tried and tested fundamental legal principles, as we have seen in free speech, economics, and in privacy and intellectual property protection, is likely to be more successful. Andersen argues that mediation and arbitration can solve cyber conflicts as it does with high technology disputes [39]. A code of conduct for legal mediation can be helpful.

Kesan and Shah point out that one of the most significant theoretical advancements in the legal academy is the recognition that law is not the only method of social regulation [40]. Other methods of social control include social norms and architecture. They argue that this has led researchers in a variety of disciplines to document how the architecture of information technologies affects our online experiences and activities. The recognition of the role of architecture has led policymakers to consider architectural as well as legal solutions to societal problems. Architectural solutions utilizing information technologies have been proposed for issues such as crime, competition, free speech, privacy, protection of intellectual property, and revitalizing democratic discourse, they say.

For centuries ways are examined in which laws can be used to create positive ethical models in individuals and groups. It is well known by policymakers and lawmakers that the form of

societal control by passing a law which restricts the undesirable behaviour is very important. If the law becomes more widely accepted, people begin to reduce misbehaviour on the principle that it is 'wrong' to do so.

However, the makers of policy and law are seldom aware of the societal structure of 'cyberspace', and for this reason there is the danger that laws they make will not create the desired ethical model, but will instead create a backlash or revolutionary movement against the society. By observing the human behaviour in virtual communities and by continuing to take time to develop realistic policies and effective laws, it is possible to avoid such a backlash.

XII. CONCLUSION

Anonymous identity in the cyberworld is – sooner or later – always legally tangible. Even an autonomic looking virtual identity (such as the bot in the software) is related to – at least one – human action. But – in legal view – being the perpetrator, supervisor or owner of a computer (-system, -network) is not the same as being accountable, responsible, culpable, and/or liable. Dependent to the law in force and to the specific situation a proof of evil intent or malice aforethought is necessary to be judged as guilty of something. The development of new investigation methods and tactics should be more multidiscipline oriented and be open for behavioural lead.

Virtual identities, created by a coincident of facts and autonomous executing, can not be ruled. Normally – same as robots – they have more benefits than disadvantage. As with nature disasters as a result of human interfere (like mud-slide after deforestation) we can't rule everything after it seems to be out of control. As Rustad argues: 'In contrast to a traditional crime scene, online intruders or forgers leave few digital footprints. DNA evidence, fingerprints, or other information routinely tracked in law enforcement databases are useless for investigating cyber crimes. In addition, computer records are easier to alter than paper and pencil records. Electronic robbers and forgers leave fewer clues than white-collar criminals who alter checks or intercept promissory notes.' [41]. Life is fun and risk, virtual life too. We accept that a chess computer is an interesting opponent to train your mind in move and countermove, but there could be a moment that we are checkmated by the computer generated chess mate.

Virtual worlds and illusory behaviour are of all time. The significant difference is the used medium, in combination with of the free elements of time and location. Upholding the law needs some adaptation by investigators and judges; however some hands-on experience (and using the power of the information technology) will surely help to understand the case. Many disputes in cases concerning a virtual topic can be solved by extrapolation to an equivalent in our regular physical world. Reason logically, by analogue or *a contrario* with cases in past, and learn from the past that order without law can satisfy too in particular situations.

REFERENCES

- [1] Jorge Luis Borges wrote *Tlön, Uqbar, Orbis Tertius* around 1940 and it appeared in the Argentine journal *Sur*, May 1940. The story has a postscript dated 1941: 'Tlön, Uqbar, Orbis Tertius'. *Ficciones*. (Ed. *Sur*, Bs.As. 1944) Translated in: JL Borges, *Book of Imaginary Beings*. Rodriguez Monegal reports (in: Jorge Luis Borges, a Literary Biography. Dutton, New York 1978) that the idea of "interreality" was used by Borges in 1940 for the phenomenon of an imaginary world. AM Parker, *Drawing Borges: A Two-Part Invention on the Labyrinths of Jorge Luis Borges and M.C. Escher* (2001) <<http://rmmla.wsu.edu/ereview/55.2/pdfs/55-2-2001AParkerA.pdf>> accessed 22-01-07.
- [2] J van Kokswijk, Hum@n, *Telecoms & Internet as Interface to Interreality* (Bergboek, Zwolle 2003).
- [3] H Bechar-Israëli, 'From <Bonehead> to <LoNehEAd>: Nicknames, Play, and Identity of Internet Relay Chat' *Journal of Computer-Mediated Communication*, vol. 1, iss. 2 (1997).
- [4] B. Danet, 'Ritualised Play, Art and Communication on Internet Relay Chat' in Rothenbuhler & Coman, eds, *Media Anthropology*, (Sage 2005) pp 229-246. <<http://pluto.mscc.huji.ac.il/~msdanet/papers/ritplay.pdf>> accessed 17-11-2006.
- [5] LA Scheidt, *Avatars and Nicknames in Adolescent Chat Spaces* (2001) <http://loisscheidt.com/working_papers_archive/Avatars_and_Nicknames.pdf> accessed 17-11-2006.
- [6] B Kimmelman, *Retexting Experience: The Internet, Materiality, and the Self*, in: 'Virtual Identity: The Construction of Selves in Cyberspace', C Maun and L Corrunker, eds (EWUP, Spokane 2007).
- [7] JR Suler, 'Identity Management in Cyberspace' *Journal of Applied Psychoanalytic Studies*, 4 (2002) pp 455-460.
- [8] I Tubella, *Television and Internet in the Construction of Identity Proj Internet Catalunya UOC2001* <http://www.cies.iscte.pt/linhas/linha2/sociedade_rede/pr_htdocs_netw_ork/apps/immatubella.pdf> accessed 23-02-2007.
- [9] Pretexting is the act of creating and using an invented scenario to persuade a target to release information or perform an action and is usually done verbally or over the telephone. Phishing applies to email appearing to come from a legitimate business (a bank or credit card company) requesting "verification" of information. The request contains a hyperlink to a fraudulent web page that looks legitimate (with company logos and content) and copies personal information. Gimmes and Trojan Horse take advantage of curiosity or greed to deliver malware. It can arrive as an email attachment promising anything from a cool desktop or sexy picture to a handy system upgrade.
- [10] *Express Newspapers plc v Liverpool Daily Post & Echo plc* [1985] 1 WLR 1089. In this case a computer program was used to generate unique five letter sequences which were printed on 22 million cards as part of a competition called Millionaire of the Month. Council for the defence argues that as there was no human author copyright did not subsist – hence the defendant was free to publish the winning sequence in their newspaper. Whitford J Ruling defined the role of the computer as instrumental, saying 'The computer was no more than a tool' and rejected the defence argument stating 'it would be to suggest that, if you write your work with a pen, it is the pen which is the author of the work rather than the person who drives the pen.' In the ruling the author of the work was adjudged to be the programmer. The ruling is slightly ambiguous as the person adjudged to be the author was both the user of the program and the programmer.
- [11] N Wiener, *Cybernetics: Control and Communication in the Animal and the Machine* (MIT Press Cambridge 1948).
- [12] K Subrahmanyam, PM Greenfield, B Tynes, 'Constructing sexuality and identity in an online teen chat room' *Journal of Applied Developmental Psychology*, 25 (2004) pp 651-666. <<http://www.cdmc.ucla.edu/downloads/Constructing%20sexuality.pdf>> accessed 17-11-2006.
- [13] Riva and Mantovani, 'Computer-mediated communication: identity and social interaction in an electronic environment' in the journal *Genetic, Social and General Psychology Monographs*, (1998-2000) pp 124, 434-464. <http://www.vepsy.com/communication/book1/1CHAPT_02.PDF> accessed 03-11-2006.
- [14] D Holmes, *Virtual Politics: Identity and Community in Cyber space*. (Sage, London 1998)
- [15] K Giese, *Construction and Performance of Virtual Identity in the Chinese Internet*, in: Ho Kong Chong and Randolph Kluver (eds), 'Asia Encounters the Internet' Routledge Curzon, London 2003)
- [16] T Jordan, 'Cyberpower. The culture and politics of cyberspace and the internet' (London, 1999) <http://www.isoc.org/inet99/proceedings/3i/3i_1.htm> accessed 23-02-2007.
- [17] In 1985, *Ms. Magazine* reported on the case of 'Joan', a CompuServe user who spent a lot of time in the service's chat area. She developed close friendships with a number of other women on CompuServe. She was known for giving good advice and warm support, especially to other disabled women. In reality 'Joan' was the online presence of a conservative Jewish, teetotal, drug-fearing, low-key, sexually awkward, male, able psychiatrist, convincingly posing in the chat room as an atheistic, sexually predatory, dope-smoking, hard-drinking, flamboyant, female, disabled neuropsychologist, who lived in New York City. Reported also by: L Van Gelder 'The Strange Case of the Electronic Lover'. *Ms.* vol. 14, no. 4 (1991) pp. 199 <<http://www.sscnet.ucla.edu/soc/faculty/kollock/classes/cyberspace/resources/Van%20Gelder%201991%20-%20The%20Strange%20Case%20of%20the%20Electronic%20Lover.pdf>> accessed 18-10-06
- [18] AR Stone, *Sex and death among the disembodied: VR, cyberspace and the nature of academic discourse*. In: SL Star, (ed) 'The Cultures of Computing' (Blackwell, Cambridge 1995) pp 243-255. And: S Turkle, 'Constructions And Reconstructions of Self in Virtual Reality: Playing in the MUD'. *Mind, Culture and Activity*. 1, vol. 3, (1994):pp 158-167.
- [19] PJ Burke and J Tully, 'The Measurement of Role/Identity' *Social Forces* 1977, 55 pp 880-97.
- [20] K Cameron, Kim Cameron's Identity Weblog. 2005. <<http://www.identityblog.com/stories/2004/12/09/thelaws.html>> accessed 15-11-2006.
- [21] J. Surowiecki, *The Wisdom of Crowds. Why the many are smarter than the few.* (Abacus 2004).
- [22] R Capurro and C Pingel, *Ethical Issues of Online Communication Research* (2000) <http://www.nyu.edu/projects/nissenbaum/ethics_cap_full.html> accessed 11-11-2006.
- [23] US Law about collecting data enables the US National Security Agency to collect the phone call records. The NSA's domestic program is far more expansive than the White House has acknowledged before. Last year, President Bush said he had authorised the NSA to eavesdrop — without warrants — on international calls and international emails of people suspected of having links to terrorists when one party to the communication is in the USA.
- [24] E Goffman, *The presentation of self in everyday life* (Doubleday, Garden City, N.Y 1959).
- [25] J Ruesch and G Bateson, *Communication: The Social Matrix of Psychiatry*, [1951](1968) p 169.
- [26] F Davis, *Fashion, Culture, and Identity*. (University Of Chicago Press 1994).
- [27] E Goffman, *Stigma: Notes on the management of spoiled identity*. Prentice-Hall, Cliffs, NJ: 1993).
- [28] J Suler, 'Identity Management in Cyber space' (1996) in J Suler (ed) *The Psychology of Cyber space*. <<http://www.rider.edu/~suler/psyber/identitymanage.html>> accessed 15-11-2006.
- [29] J Suler, 'Adolescents in Cyber space' (1998) in J Suler (ed) *The Psychology of Cyber space*. <<http://www.rider.edu/~suler/psyber/adoles.html>> accessed 15-11-2006.
- [30] J Suler, and W Phillips, 'The Bad Boys of Cyber space: deviant behaviour in multimedia chat communities', *Cyber-Psychology and Behaviour*, 1(2) (1998) pp. 275-294. and: J Suler, 'The Online Disinhibition Effect', *Cyber-Psychology and Behaviour*, 7(3) (2004), pp. 321-326
- [31] Christian Democratic Appeal (November, 2006) accessed 14-11-2006 and (content changed a little) 22-04-2007. <http://verkiezingen.cda.nl/index.asp?id=73&utm_id=BAN0100&utm_source=msn>

- [32] E.g. Intelligent Software Agent Bibliography 1995
<<http://ils.unc.edu/gants/agentbib.html>> accessed 15-03-2007.
- [33] Analysing Legal Implications and Agent Information Systems (ALIAS)
<http://www.iids.org/research/legal_aspects> accessed 12-04-2008.
- [34] FG Lastowka, and D Hunter, 'The Laws of the Virtual Worlds'.
California Law Review, (2003)
<http://a.parsons.edu/~imagined_realms/lastowka.hunter.laws_of_virtual_worlds.pdf> accessed 13-03-2007.
- [35] W Al-Majid, 'Electronic Agents and Legal Personality: Time to Treat
Them as Human Beings' 2007
<<http://www.bileta.ac.uk/Document%20Library/1/Electronic%20Agents%20and%20Legal%20Personality%20-%20Time%20to%20Treat%20Them%20as%20Human%20Beings.pdf>>
accessed 12-04-08.
- [36] S Wettig & E Zehendner, 'The Electronic Agent: A Legal Personality
under German Law?' 2003 <http://www.lea-online.net/publications/Paper_8_Wettig.pdf> accessed 12-04-2008.
- [37] Wettig & Zehendner refer to: Brenner/Zarnekow/Wittig, pp 25ff.;
Murch/Johnson, pp 29ff.; Weitzenboeck, pp 3ff.; van Haentjes, LEA
2002, p 81(82); Kerr, "Providing ...", pp 5ff.; Kerr "Spirits...", pp 188
(196ff.), in each case with further references.
- [38] L David, Virtual Identities and Quake (1997)
<<http://home.alphalink.com.au/~nevyn/quakee.html>> accessed 15-11-
2006.
- [39] B Andersen, 'Mediation and Arbitration of High Technology Disputes',
in: Lodder, Meijboom, and Oosterbaan (eds) 'IT Law - The Global
Future: Achievements, Plans and Ambitions'. Papers from the 20th
anniversary International IFCLA conf. Amsterdam, June 1-2, 2006,
(Elsevier, 2006).
- [40] JP Kesan, and RF Shah, 'Shaping code (social norms)'. Journal of
Internet Law 9.9 (March 2006): 3(11).
- [41] ML Rustad, 'Private Enforcement of Cybercrime on the Electronic
Frontier,' Southern California Inter-disciplinary Law Journal, 11(2001)
p 98 in pp 63-116.