COMMUNITY AGGREGATION IN VIRTUAL WORLDS –CASE STUDY 2 *STARWAKE*–[1]

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ABSTRACT. The paper aims to study social aggregation in virtual spaces determined by digital communities where action is no longer action per se, but transforms into concept and thought, and the environment is created solely from the interaction between the individuals. Besides studying the communities in the informational society there is the need to delve for a better understanding of the virtual society phenomenon from the perspective of the individual as a part of the system. In this respect, there is a lot to explore on the offline social aspects of the online "addicted".

Keywords: *Social network analysis, communication, digital anthropology, graphs*

I. Introduction

At first, there was shouting and acoustic signals, then cam smoke and other visual signals, communication between human beings became possible over larger distances, than couriers and early mail.

> Then came the churches then came the schools
> Then came the lawyers then came the rules
> Then came the trains and the trucks with their load
> And the dirty old track was the telegraph road (Knopfler, 1982)

And then came the Internet. Moreover, if until that point in time research models, that would be valid for years on end, could be used to research social interaction, the social dynamics picked up so much speed that scholars are literally unable to keep up the pace in adapting research methods

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[1] Note: This is one of many studies on the same community, some fragments e.g. description of environment and whole world statistics may be repeated.

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to match the ongoing evolution of these phenomena. Of course, Usenet was a challenge in social networking studies, but not such a tough nut to crack, the Bulletin Board System allowed a new type of interaction between users that completely disregarded geographical location for the first time, Turoff's, Electronic Information Exchange System introduced the server-based concept, but still these were highly structured informational environments, approachable by most researchers. Many sociologists and anthropologists must have sighed at the demise of SixDegrees.com, the first social networking service that implemented many the features encompassed in the contemporary definition of such a system (for example indirect links between members). Years later, all these options would make the key to success for the most popular social networking services, but the time had not come for such leaps in introducing the computer in the personal life.

The "boom" of social networking services after 2004 has given a new meaning to digital anthropology and ethnography complicating matters in a significant way. Phenomena such as micro blogging made it possible for new communicational models to be used in online interaction, and the original ideas of linking information, the digital society has evolved to linking persons, and furthermore, creating along the boundaries of these digital communities entire virtual worlds. This paper will cover some ideas on how computer mediated communication has not only created virtual space(s) encompassing various virtual communities but has also gone beyond any classic definition of location and even identity and understanding these worlds requires an interdisciplinary approach, that should include not only sociology and anthropology, but also mathematics, software development, media studies and, why not, marketing.

II. Case Study 2 – Starwake

A. Description

Starwake is developed and maintained by the company OGN (Online Gaming Network), specialized on browser based, and text oriented games. Actually, Starwake is not the most popular product of the company, it is Dark Warriors, but Starwake has a more comprehensive player structure making it easier for data mining. A peculiar, yet not so uncommon strategy is designed for this particular type of game, in order to succeed in efficiently developing the character, the use must try to level up as slowly as possible, because as

the player gets stronger, the challenges and tasks become harder to fulfill. This is opposed to the regular RPG (Role-Play Game) theory in which the player has to become stronger as fast as possible. Since the game does not have an active graphical interface (as can be seen in the picture above) a pseudo-turn based system is implemented. This means that the persistent world "resets" on an hourly basis, allowing the user to perform a certain number of actions at no cost in the economy of the game.

The game in itself is within the Sci-fi genre and is small sized in terms of user pool. At the time this paper was written there were 42,248 registered users, which stands for a small community as compared to the very large ones that have been taken into consideration earlier. Gameplay is based more on interaction between player and long-term strategy and less on the structure of the game itself. It does not have a pre-defined story but the diverse forms of interaction between players shape the virtual universe.

B. Gameplay

The game structure is turn-based, thus enhancing its main trait which is user interaction, not particular gaming skills. This means that any given user has a limited number of actions that can be performed in a certain period of time. Because of this it has an intricate system of alliances and rankings allowing the user to play various roles, be it in an alliance, or in the general social hierarchy of the game. Also as it is based on continuous communication between players, not only it has a forum, mailing lists and a chatroom, but the interface in itself is designed with a sidebar chat viewer on the right column, as can be seen below. The interface per se is efficient enough, but rather cluttered with information and not necessarily the most intuitive one. Taking on a website model, as opposed to the contemporary HUD (heads-up-display) the main screen is divided into three columns with a navigational menu on the left, contextual menu in the middle and chatroom on the right.

The chatroom is defined as a bar on a distant space station where pilots who roam the galaxy go to drink and have fun. In almost four years of direct observation, the bar has not changed its tradition, players take turns at being barkeeps, obviously serving drinks that are no more than colored words, talk to customers encourage them to play dice or cards, or anything that would promote interaction.

Communication, coordinated moves and reciprocity are the keywords in building a good strategy for this this game. Taking all this into consideration

one can state that it is more of a social networking service based on a game platform. In this respect, users can and must communicate via numerous channels in order to achieve the goals of the game and to progress efficiently.
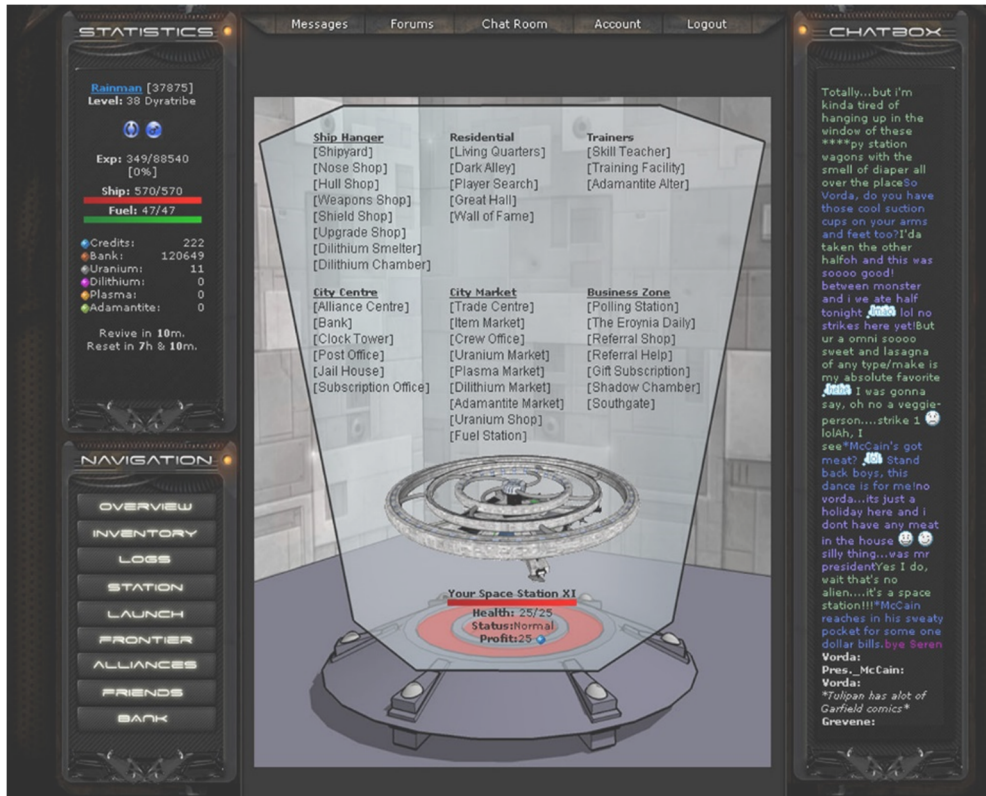
Without the use of complex graphic interfaces, players must interact a lot in order to succeed in becoming better either as solo-player or as a group. Yet there is another particularity to this game, a certain parameter called spectra which allows other users to define the main characteristics of one's avatar Although the social networking traits of the system are quite visible, a particular feature changes a bit the avatar building paradigm: user profiles are less customizable by the user itself, instead the other users can evaluate the player and "grade" it according to the actions performed. This means that a certain character will be perceived by others not by what the user wants to say and do, but actually by what the user does (e.g. being aggressive, helpful, insightful, etc.).

C. Methodology

In order to better understand virtual worlds, a new scientific approach is required, a sociology of the virtual. Ben Agger (2004) states that this type of sociology will more or less de-professionalize the sociologist as we commonly perceive it, transforming the statistician into practician thus shifting the focus from statistical analysis to the individual as an active member of the community. This particular approach would allow a more profound study of the impact the web has on society and culture, but also on the concepts of self and community, that are constantly redefining themselves in such a context.

Obviously, such a change does not mean marginalizing traditional quantitative and qualitative methods, but rather broadening the field of study to adjacent areas in order to provide adapted and in-depth analyses of contemporary social phenomena.

Agger's (2004) vision on a sociology of the virtual is comprised of three aspects: 1. The impact of the virtual on the self, society and culture – that are basically in a state of flux as communication speed increases, the importance of any kinds of borders and limitations decreases and the limits between the public and the private fade away; 2. The importance of individual discourse, the message sent by one individual, increasing visibly with the development of social media – an aspect supported by the importance of influencers in various types of social media and online audiences becoming an economic model; 3. A less standardized scientific approach on research – allowing the use of many tools and combined methodologies to research virtual space, with the downside of blurring the limits between the amateur and expert and the addition of a postmodern aspect to sciences in terms of movement from the boundaries towards the center.

As easy as it may seem to navigate virtual worlds, charting them from a sociological and anthropological point of view is by no means a trivial task. One of the main reasons is that classical research methods employed by sociology rarely work due to the very same state of flux in which the structure of virtual space is. Not only does the digital landscape change continuously but the very set of rules that define it.

Another issue is that the data sets used for statistical purposes are extremely large and hard to mine. Even though data mining techniques have progressed significantly by the time the huge data sets are processed, they are already outdated, and a continuous update is close to impossible, taking into consideration the amount of resources required to perform such a task.

There are no representative groups, because the individuals have no common background and in many cases, their background cannot be determined. All these together make a statistical approach valid only for trendsetting and general overview input, but nothing more.

In this particular case, the methodology used is taken from the broader field of social network analysis and consists of a few stages. The first one is to collect the raw data, in terms of scraping various datasets out of user profiles, friends, alliances and ranks in order to accurately map the network. Basically, the whole population has been mapped according to their profiles and declared friendships and allegiances using text scrapers.

III. Results

A. The Social Map of the Community

Normally, in any role-playing game, a user's profile content is mainly up to the user. Each fills in details that best characterize the avatar. In this case, each individual is defined by his/hers actions and the other members contribute to this endeavor awarding a certain trait to that character. In order for the players not to abuse this function, each individual ca cast a vote maximum 6 times a day, at two hours intervals and never two consecutive ones for the same player. In this respect the spectra parameter looks a lot like Richard Bartle's typology of players, but with some differences. There are 6 different types of traits that define the player: Aggressive, Helpful, Funny, Insightful, Creative and Spammer.

Basically, these parameters allow the community, the other players to define one individual and is one of the hot topics on the game forum. In this respect we can safely state that it is the closest it gets to a form of social norm within this particular community, as it is a measure of what each player does and says perceived by others.

In a previous study, based on the same population the importance of these parameters was detailed. The main issue of this paper is, however somewhat different and it concerns the links that form between the individuals within this virtual society.

In order to better outline the community structure and the links within this virtual environment a whole population assessment was necessary. This was achieved by using the Helium Scraper software, produced by Juan Luis Soldi. The process resulted in 7620 individual profiles being extracted with 1644

profiles having at least one friendship link with another member of the virtual world, a relative small number considering the nature of the game, or at least what the developers intended for.

One potential explanation is surprisingly, geographical. Because of different time zones, many members help each other but do not necessarily become friends for lack of direct contact given the time difference. Also, many participants consider the solo game as being more of a challenge so they take up this method.

Considering their numbers, which would have cluttered extensively the graphical representation severely, these solo players were excluded. The software used to create the social map is NodeXL, developed by Microsoft via The Social Media Research foundation, an add-on for the Microsoft Excel software from the Microsoft Office suite. This particular piece of software is capable of automatically generating a graphic representation of the social network that is non directional and is based on the Fruchterman –Reingold algorithm. The latter is a force directed algorithm which means it simulates a physical system where the edges are springs that act according to Hooke's law, exerting force on every participant, and the nodes are electrically charged particles acting accordingly to Coulomb's law. All these forces are simultaneously applied to the whole system until it reaches a state of equilibrium. To put it another way the graphical representation is the sum of all vectorial forces that affect the system with the final result being the equilibrium state (Fruchterman & Reingold, 1990).

This is a non-clustered graphical representation of the Starwake community. As one ca easily notice, it is a community with a rather dense and close-knit set of connections. The ones who do have friends, have a lot of common friends. However, there are some smaller groups represented on the right side of the graph. Actually there are 63 smaller groups and a massive 1512 member giant group. Obviously, this is a non-directional representation, with no other constraints or parameters taken into consideration.

This is one type of social network that is particularly dense, one that facilitates the exchange of ideas and information and at the same time attributing a strong sense of social identity to its members. Actually, this is one phenomenon that is visible in direct observation as well. Most of the members have a certain pride in being part of this social structure and the closer they are to the center in the network the more communicative and open they are, because they have a larger audience willing to listen to their opinions at any given time.
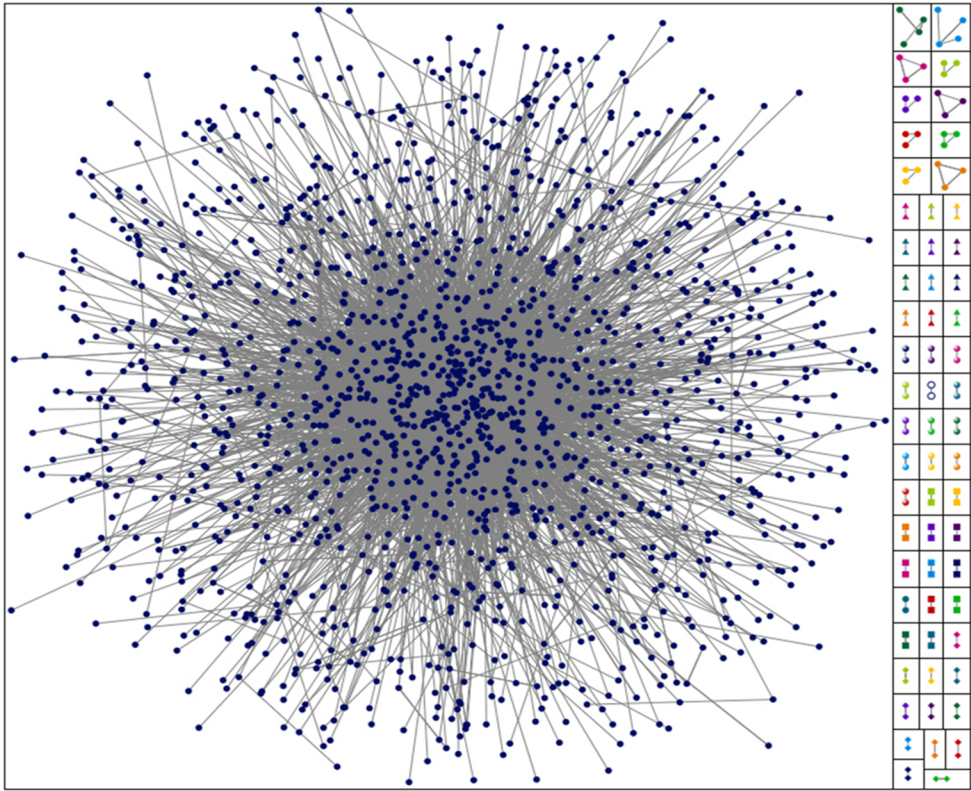
In order to further delve into the structural details of this social network, a new parameter will be added. It is quite common in social network analysis and it is called modularity. It defines how the bigger network is divided into smaller modules also called clusters. High modularity networks have numerous connections between the members of the same module, but few inter cluster connections (Fruchterman & Reingold, 1990). As a general parameter it excellently outlines the structure of vast social networks and it is often used when such research algorithms are conceived.

There are numerous algorithms that can clustered a network according to modularity. The most frequent two are Clauset-Newman-Moore (Clauset, Newman, Moore 2004) and Wakita-Tsurumi (Wakita & Tsurumi 2007). The firs one provides a more general representation of the clusters using the increase in modularity as a criterion for group cohesion. The second one, somewhat newer, adds a system of data consolidation that allows a more balanced representation of the clusters. In this particular case the Wakita-Tsurumi algorithm is better suited for the graph.
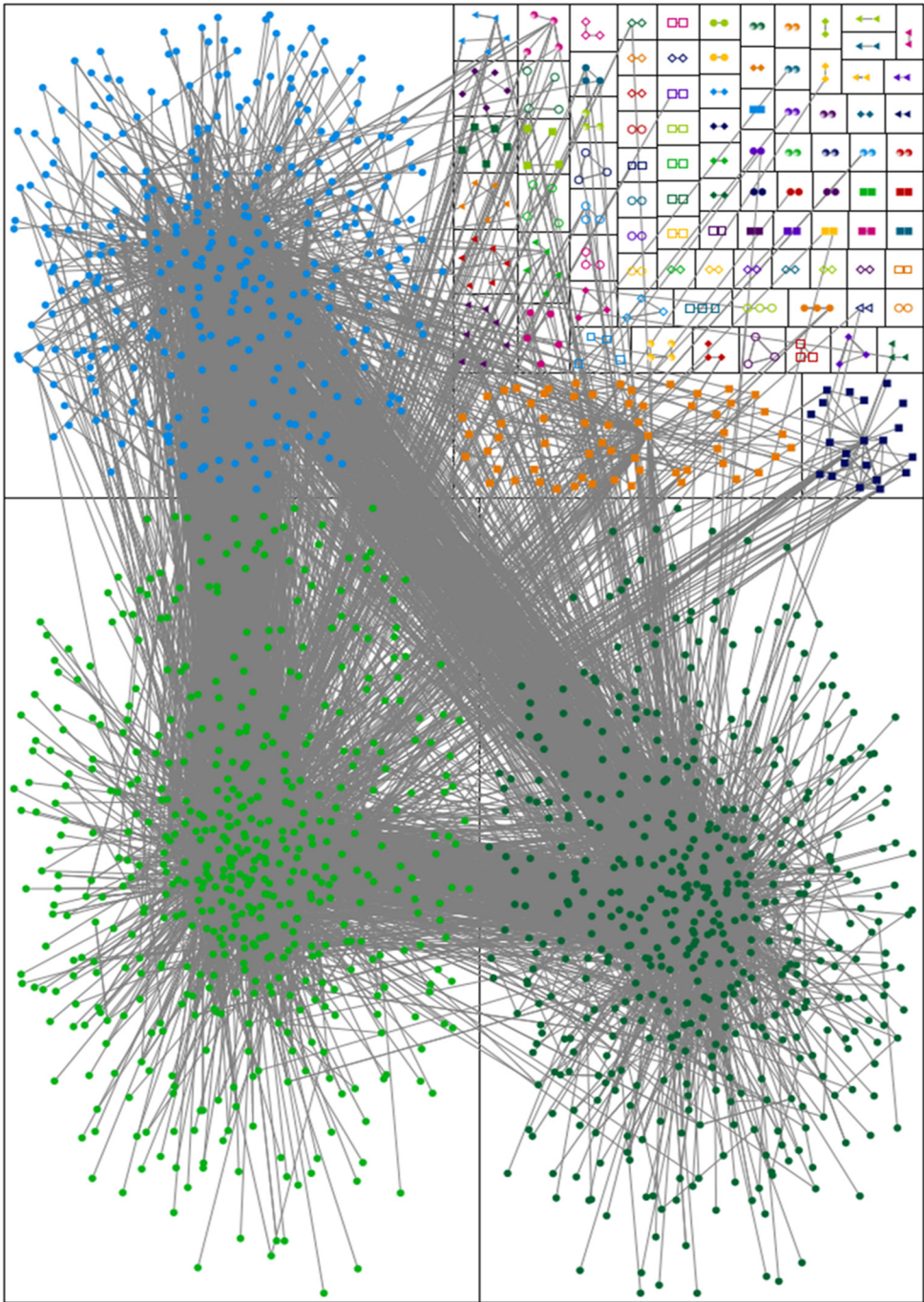
Following the process of clustering this community according to its modularity there are 99 groups out of which the first 5 have 527, 491, 306, 60, respectively 21 members. The rest are organized in smaller clusters with a number of maximum 7 members that are closer to each other and 61 pairs.

Although the Starwake community is relatively united, when it comes to details its members are clearly divided into smaller groups or even isolated with closer, fewer friends. Given the structure of the system it is not an odd thing that is considering that more than two-thirds of the general population are loners. This would suggest that many have otherwise integrated into the narrative plot and would rather tackle the challenges alone or with fewer wingmen.

B. The Starwake universe in numbers

The research on this topic began in 2008, at the time 15322 players filled the ranks of Starwake pilots as active members. In January 2012, only 7620 were left as active members, though the total number of enrolled players had risen to 145626 from 37875 initially. Though a bit of a paradox, it shows that the general interest for browser based text only MMORPGs has dropped abruptly, in the sense that more people were willing to try it, but fewer and fewer were willing to actually play it in the long run.

The main reason for this phenomenon is the structure of the platform per se. Those who understand and are willing to make an effort to undertake the conventions of such a virtual world are interconnected and form a community with tight bonds. On the other hand the lazier ones detach from this nucleus and will soon leave this type of MMORPG.

Of course another visible problem is related to the technology of the platform in itself. It is of an old design and not yet fully compatible with mobile devices, nowadays a fatal flaw for any web development.

IV. Conclusions

Studying the interactions between digital worlds and physical society has already given birth to new sciences such as digital ethnography and digital anthropology. As technology develops at a galloping pace, the rhythm of human development is bound to grow exponentially in the timeline. Virtual

spaces and communities are a curious man made creation, we have easily found the means to create them, but yet lack the complete set of tools to understand them.

The Starwake virtual community is a type of a social system that is extremely relevant in the process of defining virtual worlds in a social perspective. The analysis of the data mined from the entire population of this community revealed a "tribe" centered on relationships formed after communicating in an electronic, computer mediated environment, often on more than one channel simultaneously. The study of this community taking into consideration the Spectra parameter reveled both informal leaders and a certain set of rules that aggregate into a form of a social norm of this group.

Another concluding statement is that browser based MMORPGs can be important social networking tool. Even though the more graphic intensive ones are more popular, the latter can be more effective. In theory, text interface is more efficient than graphics for community building because it allows the user to focus more on the interaction than on the surrounding environment.

The social dynamics of the game are similar to the fully immersive social interactive games even though it is combat based, and one may think that it is all about the action, but being a lot less graphical it is less distracting. The social hierarchy in the game allows diversity and domination on various levels giving the user numerous possibilities to evolve and integrate in that social structure that s/he chooses and believes to be more suitable.

As technology massively impacts everyday life social structures tend to undertake their own metamorphosis, virtual projections of real entities tend to be more and more complex and various forms of social media transform the way we relate to each other, and in some occurrences, as is the case of enhanced reality alter even the surrounding, tangible environment.

Virtual worlds and their study outline new forms of science in the social realm such as digital anthropology and ethnography, and their scientific rigurousity is increasing as exact sciences are combined with psychology, sociology and communication sciences. Moreover, this kind of study constitutes itself as a point of convergence between disciplines as we strive to understand more thoroughly this relationship between the individual and the virtual representation.

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