ICTs and the engineering of encounters

A case study of the development of a mobile game based on the geolocation of terminals

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1. Introduction

For a long time, spatial mobility was just a means to an end. Even in the eyes of such a keen observer of cities such as Simmel, industrial life led to a lengthening of distances, "which makes of every useless wait or travel an irretrievable time loss" (Simmel, 1989). Recently, social science studies of mobility have taken a different turn, arguing that mobility patterns should be understood with respect to an actor with motives, skills and instrumental resources pertaining to mobility, moving in an environment that "affords" mobility in many ways. In this "paradigm of mobility" (Sheller and Urry, 2005), places cannot be considered independently from the people that inhabit them, however fleetingly, and urban movement may be a creative experience by itself.

This "mobility turn" in social sciences is particularly relevant to the current development of mobile technologies for handheld devices based on geolocation. Most of these technologies augment the urban environment of their users with geolocated informational resources that can be retrieved from the handheld device (supposedly equipped with the adequate software) when its user is close to them. Geolocated technologies are therefore designed to reshape the experience of mobility in urban settings. Some of these systems are also endowed with capacities for mapping the geolocated entities, both virtual resources and persons (through the mediation of their handheld devices), and making such continuously evolving maps available to users. In that case, the screens of the mobile devices become a kind of public space in

which connected users are, under certain conditions, mutually aware of their positions and movements. One can say that mediated mobility patterns become public, which is an instance of how "physical and cyberspace come together" (Castells, 2001), with consequences we will discuss later.

While there have been some account of the development of such technologies in university settings (Griswold et al., 2003) and gaming contexts (Benford et al., 2003), those were only experimental. This chapter presents a case study of the development of a game aiming to use geolocation technologies to build a location-aware community of players[1], which actually went beyond the experimental, and was marketed by a Japanese telecommunication operator (telco). We conducted several waves of interviews between 2001 and 2003 in the startup firm in Paris which was developing the game. On two occasions, one of us (R.G.), who had software development process expertise, engaged in participative observations for several weeks, by taking part in some parts of the design process.

Such designers are trying to develop a complex and innovative technology, bearing on many types of user behaviour (mobility, play, communication) in a rapidly changing industrial landscape. What is important to them is to give an orientation to their design, that is to stabilize a configuration that weaves together the definition and classification of a given technology, the criteria and methods to assess what constitutes proper tests and how to interpret their results, and a cognitive frame mapping the relevance of the rules, routines, algorithms, functions, modules and affordances that may be incorporated in its design. We propose to extend the notion of paradigm that Thomas Kuhn propose to describe the functioning of "normal" science (Kuhn, 1962) and to call such a cognitive, practical and normative configuration a design paradigm.

An important feature of the design paradigm is the identification of possible effects of the technology that may be amplified with proper design. Engineers usually rely on simple deterministic models where the "force" of the technology has an impact on some forms of user behaviour. When no particular model of force imposes itself, engineers have to interpret their technology, working back from available observable data on its use, much in line with some social science research which has stated that technology is like a text, whose interpretation is emergent and depends on the particular organization of the situations in which it is used (Grint and Woolgar, 1997). It therefore does not have force by itself, but it

may be apprehended as such in situations organized in a way that makes technology accountable as something endowed with a particular pattern of force and efficiency.

In the course of the design trajectory, three models would be invoked to define the technology, its effects, and the corresponding design paradigm. The first is founded on mobility. It measures the effects of the geolocated game technology with respect to the movements players make for the sake of the game. Proper design aims to stimulate these game-induced displacements. The second is founded on the commitment of the player to the game experience, whose consequences are measured with respect to what the player will pay for and how much he will pay. The third and last is founded on communication, whose importance was in a sense rediscovered by the engineers, who, much like many of their predecessors which had underestimated the importance of interpersonal electronic communication in Web services, had not anticipated it.

The communication paradigm rely on the idea that interpersonal communication technologies are considered as enabling generic possibilities for meeting, making contact, mingling, interacting and exchanging.[2] Society appears as a gigantic reservoir of potential interaction, which information and communication technologies (ICTs) will have the capacity to tap. The observable multiplication of mediated interactions in turn lends substance to the notion that there is a particular virtue or force proper to any communication device, which will get people to mingle, chat, write to one another and exchange viewpoints by their means. This particular approach, which relates the definition and use of mediating devices with the actual exchanges they support, stands out from other social science description of artefacts and action, which usually also deal with different kinds of technologies. In these other cases the object may incorporate memory data into the environment (Norman, 1988), materialise an algorithm which guides its appropriation (Norman, 2003), triggers routines, be described as an agent that translates an injunction or a program for action (Latour, 1993) or as a conversationalist itself, within an ethnomethodological frame (Suchman, 1987). A proper design of communication technologies will involve "communication affordances" (Hutchby, 2000), whose effects will be indirectly measured in the observable stimulation of mediated intercourse which can be related to them.

In the communication paradigm, fhe effects of ICTs are measured with respect to the electronic traces that mediated exchanges have left in various databases. This technology-

mediated effervescence in social exchange is taken to testify to a kind of energy internal to social structure, a potential energy for interactions that ICTs are supposedly able to capture, materialise, liberate or stimulate. The debate over the effects of ICTs therefore closely crosses the discussion of the force of social links and the vitality of solidarity. ICTs are assessed according to the manner in which electronic exchanges appear to support virtual communities (Rheingold, 2000) and specific forms of network sociability (Wittel, 2001), or to preserve social capital, understood in this case as the sum of the resources that an individual can mobilise through his interpersonal contacts (Lin, 2001). Within such a communication paradigm, social intercourse is by principle laden with positive value, much like mobility was in case of the mobility paradigm.

Our case study will retrace the design trajectory from its initial stages, where the innovators were assessing the geolocated multiplayer game within the mobility paradigm (the game was a bit like MMORPG, but it would be played on handheld devices rather than PCs, and people would have to move to play), through many trials, leading to a simplified game with a very loose reference to Internet games, called Nido. Nido was eventually developed within a hybrid paradigm, combining features from the mobility paradigm and the communication paradigm, and which we will call the interactional mobility paradigm. For the designers realized the importance for players of being mutually aware of their position, and therefore of the public character of their mobility. The evidence for that could be found in the text messages the players sent to one another, in two different ways. First because they oriented they talk about mobility towards the fact that their position and movements were available to others. Mobility patterns were not individual but addressed to actual or fictitious known and unknown players and made accountable to those. Mobility could not be separated from the web of electronic talk which handled the problems, embarrassments and innovative behaviour associated to its public character. Second because some situations characteristic of the way the game provided artefact-mediated mutual awareness of mobility patterns were seen to matter greatly to players and to elicit many text messages, namely onscreen encounters. Improving design could be seen at the time as a way of engineering such encounters. Because they are not only specific to such a kind of game but also crucial to the development of geolocated technologies we eventually discuss the questions public mobilities and onscreen encounters raise from an interactional point of view (with respect to interaction in public spaces and civil inattention), a moral point of view (the issue of electronic stalking) and urban behaviour (a management of encounters based on technology-mediated mutual

awareness of proximity, which may have more to do with environment-adapted flexible opportunism than long term planning).

2. The game and its context

Jindeo is a game that takes part of its inspiration from massive multi-player online role playing games (MMORPG). In Jindeo, the players are supposed to set up teams that are to accumulate resources to construct ever more powerful artificial intelligences (IA), by means of quests and interaction with other players. The major originality of Jindeo[3] is to try to move MMORPGs from the connected computer screen universe to that of mobile phones. Not only because players may log on to Jindeo either from a computer connected to the Internet or via a mobile terminal (phone or PDA) but also because the gameplay is based on the new possibilities offered by mobile terminal location tracking. The position of the player in the game space map representation is closely related to the position occupied by his body in geographic space via the geolocation of his terminal in the mobile network. The common distinction in online games between a game space that is "simulated" electronically onscreen and in which the player projects himself through avatars, and a "real" space where the embodied player moves around, becomes blurred with Jindeo. The purpose of this game is in fact to construct a game universe that maps the space of ordinary embodied experience: "The originality of the game stems from the use of mobile phones to immerse the player in the most perfect virtual universe: reality".[4]

Jindeo then adopts certain characteristics of "lifesize" roleplays – where players are gathered to interact in conventional places (town, hotel, forest, etc.).[5] Jindeo moves away from this, however, as regards the scale of the game universe. Here it is not a question of people meeting in a closed place that they take over for the duration of a weekend, but of making the entire town a game universe. Players are expected to be engrossed enough by the evocative powers of the cityscape, as translated in the gameplay[6], to meet in places where they would not have any reason to go and to move when and where they would not have moved without the game. In addition, the designers of the game claim that the game's major feature is that it can be played simultaneously by players using computers connected to the Internet network and by players using mobile terminals. This requirement has played a significant role in their choosing to base their *gameplay* on the progress of teams rather than individual players (the latter being the standard convention in most MMORPG). It was in their opinion the only way

of ensuring effective forms of gaming co-operation between players using PCs and players using mobiles.[7]

To understand how Jindeo's designers imagined game situations, it is interesting to go back to the fictitious narrative with which their large game presentation document started. Here goes a significant extract, *"Friday, 5.27 pm Rue du Caire, Priss undoes her bike to return home ... Going home on her bike did her good since she avoided the harsh, closed-in atmosphere of the underground. She put her large Sony earphones on her ears and prepared to ride across Paris all the way to the 13th district. She plugged her player into her mobile phone. Better to answer straight away than be swamped with ten messages ... She slows down and stops to look at her mobile terminal on the corner of Rue des Ecoles. She glances at the contextual mapping module which indicates over twenty-five players from the same team roaming in her current cell area! She had set the alarm to twenty and it had been a long time since it had last gone off. She hesitates a moment and then attaches her bike because it's better to be unencumbered for proximity action.*

She tinkers a bit with the screen to see which of her co-team members are hanging around. She had been so happy to get accepted in this team, because they were reactive rather than aggressive, keen to thwart the moves of much more belligerent teams ...The music kept pulsating in her ears. She decides to review the situation more thoroughly and to find a suitable, more private corner to avoid being caught stupidly now she has got into a sensitive area. She looks carefully around her checking for any suspicious movements and moves away from Boulevard Saint Germain until she finds an open building. Twenty "T+s" ("Turing positives") remaining now in her current cell, the others must have moved to another cell. Twelve "U-Labs" and five cops ("IABasta police"). No "Mtraders", though they own that particular area ... The only nearby exchange zone was dedicated to the trade of protection modules. Priss decides to load three defence modules and two spy mechanisms: this is the maximum she can pack in any case"

The Priss narrative[8] weaves together most of the elements that make up Jindeo into a tightly integrated game situation description, focussed on complex game-mediated encounters and coordinations in a public urban space. In its core, we have a player whose displacements in the city are continually alternating, split between two roles and two participation formats, that of the ordinary embodied passer-by (Priss, who is returning home by her normal route,

crossing quarters populated with city-dwellers to whom she is politely inattentive) and that of the equipped player (Priss who moves through "cells" belonging to identified teams, populated by both city-dwellers and players that she has to differentiate between, and which are revealed by her mobile screen). This participation format switching is different from what may occur in many computer games, where actors connected for hours and hours on their computer may switch their attention and commitment continuously between professional activities and game activities by moving between active windows on their PC screen. Priss' urban space experience is different. It hybridizes action performed within the game frame and the urban context: there are no separate windows to switch between, they make up a single mediated reality she moves in and she lives in, even if her gaze may alternate between the street and the mobile phone screen.

Figure 1 : The radar interface shows the local map of the game around the connected player (his icon appears at the center of the screen). The square is about 1km wide. Other connected players and geolocated virtual resources present within that distance appear on the screen. The nearest player in the buddy list is indicated at the bottom of the screen, with its current distance from the player, even if he is farther than one km. This functionality has been added by the designers to stimulate "screen-based" encounters, as discussed below.

Switching the attention between the mobile phone screen and the cityscape involves very distinct engagements into the situation. The player's perspective alternates between a subjective, embodied view of the town and an intangible, almost omniscient perspective. On the screen, he can see himself located on a stylised cartographic representation, which includes nearby members of other teams, material and virtual resources to be retrieved or exchanged in this sector, and fictitious obstacles to be circumvented. This permanent fluctuation of her attention between the mobile terminal and the urban scene allows Priss to

differentiate between passers-by and players, between ordinary mobile phone users and players (themselves differentiated according to the teams they belong to), and adjust her actions accordingly. This particularly equipped situation is somehow reminiscent of that of an aircraft passenger who can alternately see the landscape passing beneath him and follow the progress of the plane on the maps displayed on the small television screens that surround him. But, in a plane, everything is done to ensure that the passenger with divided attention remains passive. On the other hand, in the game, the switches of perspective and attention of the actor engaged in urban activities are designed and exploited to empower the player to develop coordinated actions, meaningful from both perspectives.

For this purpose, the designers introduce numerous features into the design of the game, the use of which requires refined discrimination and co-ordination between the two perspectives. “The wall” is one of them. It is an obstacle that only appears on the screens and has no referent in "real life". When the “real” position of a player corresponds to the co-ordinates of the wall in the “virtual” game map, and if the wall has been activated by a hostile nearby player, he gets "frozen" on the map, until he has made a "real life" displacement in the street, which is equivalent to a “circumventing” of the wall on the screen. If a player thus has to walk publicly around an imperceptible and fictitious object only visible on the screen, he still has encountered it in some sense, and it has acquired a form of presence in the space of ordinary experience. From this example, we can see the extent of the hybridisation of the embodied experience of the player and its meaning with respect to the game. Designers judiciously call situations of this kind "game-related proximity engagements”.

In this particular interpretation of their game, the engagement of the player in the game and the pleasure he derives from it are reflected by the movements the player makes in relation to the game. The force of the game is determined by the scale, the difficulty or the number of such moves in actual space, that can retrospectively be read as "induced" by the game. The farther those displacements, the more they seem to vindicate the game design in the eyes of its architects: “We can envision gameplays in which a team is attempting to link Marseille and Paris by conquering squares in between; just think of the guy that gets on a train and stops at all stations to do so, or another which does the same thing from his car with his GPS, just for the sake of building up a chain belonging to his team between Paris and Marseille! Just think about it, it’s amazing! It’s absolutely crazy” (Michel, designer). The design is then oriented towards stimulating many types of movements in the city, co-ordinated with the gameplay,

either by inventing rules in the game scenario or by designing innovative interface affordances that would make such finely adjusted movements more compelling. Characteristically, when they were operating within this mobility paradigm, the designers thought of themselves as urban geographers and city planners, trying to incorporate the relevant abstract knowledge into the conception of their game: “We’re in the urban game, aren’t we. We are almost urban planners. The problem is that we know nothing about it! If we knew more about pendular mobility, etc. it would have been really helpful”.(Michel, designer).

The initial position of the designers was therefore to translate many features and values of internet-based multiplayer games into the real world of actual cities and mobile players. The specific force of the new game was initially conceived as its capacity to elicit game-mediated displacements because of the motivations (gameplay) and “affordances” (localized virtual resources accessible locally with mobile terminals) which the designers made available to players. Conversely, such game-induced displacements could be used as evidence for the force of the game, thus providing specific criteria guiding successful design. At that time the game was therefore assessed within the “paradigm of mobility” (Sheller and Urry, 2005), in which displacements are less a means to a distinct end than a creative experience by itself, attuned to environmental resources. This is where the Jindeo concept was supposed to make a significant and even dramatic difference with respect to existing Internet MMORPG, where players almost never have to move physically to be able to play.

3. The development of a geolocated multiplayer game (2001-2003)

3.1 The team

For the designers of Jindeo, the most evocative city is undoubtedly Tokyo, revisited by the aesthetics of the film "Blade Runner", to which they often refer.[9] According to the "bible", the basic game description document prepared by them, the idea for the game initially came to Michel R., already a MMORPG fan, when he was staying in Tokyo in early 2000, and still envisaging taking a job in the finance sector. He used his relations in Japanese banks to try the relevance of the Jindeo concept, first gathering opinions and then developing a business plan. A few months later, by mid-2001, these preliminary business discussions were useful for him to obtain funding to develop his mobile game concept from the Mobilfone mobile phone operator incubator, InnovaCell. The latter also provided the small Jindeo structure with

premises in the Paris Sentier district. This was the time when the New Economy craze was starting to fade, though the district was still being promoted by media coverage as being the Paris "Silicon Alley".

The incubator imposed very strict constraints on the composition of the team, refusing them to hire people on full employment contracts, and only authorising them temporary hiring and various forms of outsourcing. This flexibility of employment systems caused the team to alternate between the passionate, focussed commitment of young professionals in creating from scratch a permanent and fully blown firm, and the more flexible and revisable type of commitment usually associated with "project-based tasks. The shared passion for games interweaving actual playing and designing practices gave a distinct flavour to the motivation all participants who felt committed to a project in which their professional skills and their cultural engagements were alined. Nevertheless, the exclusiveness of their attachment to the Jindeo project might be called into question at any time.

The nebulous organisation that designs Jindeo revolves around ten people on the average. The designers that invented the original concept, and now in charge of the evolutions in the scenario and game rules are Michel, who is the entrepreneurial soul of the whole thing, and Paul, who got his share of fame when he developed in the eighties a well-known “space opera”-like roleplay game, before it was swamped by products derived from the worldwide fad for the Star Wars trilogy and its various derivative outputs in the game sector. On the technical front, the central characters are Pascal, theCTO, who heads the team of developers and Philippe, a later arrival, who was to take on growing responsibility at design level. There is a duality between the designers who acts as the guardians of the founding spirit of the game, on one hand, and the “technicians” on the other, who constantly draw attention to the recalcitrance of the software systems to yield to the designers’ impractical ideas (according to them). This duality shapes the organisation of the office space. Besides a conference room reserved for meetings, everybody works in a single room, arranged in open space fashion, and divided into two groups of four desks set up in a petal shape. The creative designers are on one side and the developers on the other.

The difference between the two main modes of expression of the different actors, bursting, inspired, expansive creativity in the case of the designers, and stubborn, mute realism in that

of the developers, is also obvious in the very different ways in which they set up dialogues within each groups. Discussions between the designers looks very much like oral jousting, each coming up with a new idea about the gameplay to resolve a previous objection. As the CTO mischievously puts it, "fortunately, the storms and thunder of the creative designers have not contaminated the developers!" Quite the opposite, just next to them, the developers often absorb themselves into their screens. They even develop original methods of communicating with one another, annotating the bits of code they exchange in a coordinated software development workflow. Though in the same room, they rarely speak to one another. They exchange written comments through this silent and invisible electronic channel.

However the roles and postures of the various actors were to evolve considerably with the various trials encountered in the course of the design process.

3.2 Going for Japan and GPS-based geolocalization (2001-2002)

The contract with the mobile incubator covered 10 months' development, ending in July 2002. During this period, Mobilfone allowed an experimental access to its cell-based location tracking server, to which requests could be performed through the WAP (Wireless Application Protocol) protocol. At the start of the contract, in the Autumn of 2001, Michel R. was invited by InnovaCell to show his project in Japan, within the framework of a meeting of the WIVA (Wireless Venture Association). He took advantage of the opportunity to meet firms close to the Japanese operator, KDDI, which had announced it wanted to quickly launch services founded upon the location tracking of mobile terminals based on GPS (Global Positioning System). This location technique is much more accurate than those based on mobile phone network cell geometry.[10] In the context of a Japanese market well ahead as regards mobile phones with screens and Java graphic interfaces (much more user-friendly than the WAP interfaces available at the time in Europe), the Japanese also wanted services that would be accessible through such interfaces.

On this occasion, Michel met with the people from Tomen Telecom, a KDDI sub-contractor, which was looking for opportunities to supply KDDI with new, innovative services. They set up a meeting with KDDI management who confirmed the launch of GPS terminals in Japan and indicated their wish to develop game content based on the geolocation principle. KDDI showed a marked interest in Jindeo. After a few meetings, Tomen Telecom agreed to sign a

partnership to manage the relationship with KDDI and take charge of the development of the Java interfaces for Jindeo, in exchange for an exclusive right to license the service in Japan and a share in future revenue. The meeting with KDDI constituted a significant event in the development of Jindeo, imposing new constraints and leading to major evolutions of the initial concept.

First, KDDI required that the service provided by Jindeo should be accessible with national coverage, through graphic Java-based interfaces, as all the mobile data services they commercialised. Leibsoft, who greatly needed a partnership with a major telecoms operator to boost its credibility, had to comply. This meant a radical evolution of the gameplay, for it had been designed with a focus on a particular situation, that of mobile players playing around in the centre of dense towns.

Second, KDDI offered the possibility to develop the game with more precise GPS-based geolocalization while the initial partnership with InnovaCell only gave the designers access to geolocation technology based on GSM cells, where the precision of this system was limited by the size of the GSM wireless network cells, i.e. a few hundred metres in cities. The enthusiasm was immediate. "It's a dream come true, we can do Quake with that!" Indeed, within the mobility paradigm, in the mind of designers assessing the force of their game with the variety and subtlety with which players would achieve gameplay-mediated displacements, the precision offered by GPS-geolocalization (1-3 meters) seemed to open the door to a wide variety of playful proximity engagements, such as “physically” taking shelter behind a “real” building to avoid being directly in the “virtual” line of sight of another player

Third, the meeting was also the occasion of an experimental trial, for the designers had also set up a demo in Japan to convince KDDI. It served to dampen the enthusiasm elicited by the move to GPS terminals, by making the designers aware that localization was not all. A real setback lay elsewhere, in the time delays that went with each server request. In this trial, server responses required more than a minute each time. With such server response times, a given player may have walked or ridden around for at least one minute without his position having being updated on the screen. Even with a very precise location tracking system (such as GPS), the delays in server updates lead to irredeemable inconsistencies between the urban context and the onscreen context. These preclude preclude many types of fine-grained coordinated movements, and put bounds to the force the game may attain within the mobility paradigm. That this was the case with Jindeo

became obvious during the demos in Japan. Although the developers made a considerable effort in mid-2002 to optimise delay times and to rework their network architecture, the problem remains unsolved to this day.

The partnership with Tomen Telecom nevertheless gave the designers a welcome break. But the financial pressure kept on growing during the summer of 2002. The development contract with InnovaCell, with which relations had become strained, was supposed to come to an end. Leibsoft had sufficiently spread its investments to be able to maintain cash flow for several months, yet the need to find other forms of financing was more and more pressing. Under these accumulating clouds, Leibsoft approached a major video game publisher, Ubisoft, in September 2002.

3.3 The Ubisoft trial and its outcome (2002-2003)

In October, a presentation of the Jindeo project lasting several hours was arranged on Ubisoft's premises. This evaluation with demos was carefully prepared by the designers who attached great importance to that trial of their concept and architecture. Ubisoft is a major publisher, very well known in the secto, and had just won a contract with Sony for administration of the Everquest MMORPG game in Europe, acquiring still more prestige in French video game circles. The Jindeo designers were to meet with Ubisoft's marketing and game design specialists, including the new Everquest Europe Project Manager. According to the designers, it went as a complete disaster, following after previous negative comments from Wanadoo and Goa.

Though very cordial, the assessment of the Ubisoft game designers and marketing experts was focussed on the market value of the game. How could the force with which a geolocalizes game committed and engaged its players have market value ? Why would players pay, how much would they pay, and to whom ? The mobility paradigm was irrelevant in that respect. The game-induced displacements of players could not easily be distinguished from usual mobility patterns and accounted for. Even then, game editors and telecommunication service providers which were the majors actors of the game value chains could not conceive they could make money out of physical mobility itself. Once mobility issues were put aside, Jindeo was just another kind of electronic multiplayer game, to be compared to MMORPG web-based games, which were precisely the main field of expertise of Ubisoft. Two differences

were then obvious. Rankings and reputation in the Jindeo game was attributed to teams and not individual players. Players directly accessed the full range of resources in the gaming universe, whether they were newcomers or individual players.

But Web-based multiplayer games individualism and gradual entry into the game's virtual world are precisely the key to their economic value. Online players focus on increasing the skills, resources and score points of their own character or avatar. Such games are devised so that the player has to undergo a long individual learning process during the first levels of the game, a "tutorial This long learning process is carefully organized around the progressive unveiling of increasingly sophisticated universe. The length of such a tutorial also has the commercial function of developing the individual player's loyalty to the game due to the investments he has made to progress through its first levels. This is the point where the force of the game is applied, with the result of attaching the player to the game. It translates user behaviour into value for it gets the player thus committed to the game ready to pay for further game-related features. Cooperation may however occur, but later, and with a lesser impact on marketing issues. Higher game levels usually foster some amount of cooperation, mostly in two different ways. In the game play itself, with a scenario and rules that link progression in the advanced levels to the trade of resources and skills. It also occurs through direct communication between players, in the galaxy of media dedicated to the game, whether official or amateur Internet sites. Forums and chats there are venues for intense interpersonal game sociability where people swap info (tips and solution tricks), download software to change or personalize the game ("add-on"), meet and organize with other players sharing the same values or the same ethos ("guilds").[11] But such games promote as a whole an individualistic and egoistic figure of a player, focussed in the development of his character.

Jindeo was initially designed to stand out from MMORPGs for reasons that were ideological in nature but also related to the specificities of a geolocated mobile multiplayer game. Jindeo developers were from the start quite critical of the individualistic nature of MMORPGs. Its developers definitely wanted it to be something different: "it is really different from other games inasmuch as there are no xp points [experience points]; it is much more community-oriented than current games, where everyone is more or less in it for himself. It is really team and community driven". What is special about Jindeo is that the "player does not progress in Jindeo, only the team progresses".[12] The player does not accumulate, "every victory or defeat is necessarily temporary and quickly no longer has any meaning because it is diluted over

time. Just as in real life", and “the one who wins the stake enjoys himself as much as the one who loses".[13] The team progresses, through the number of players that affiliate with it, through the number of cells that have been claimed in its name and that the team controls (game cells represent a "real space" segment of town) and the amount of software resources accumulated by its members, and which are used to increase the power of the collectively owned team artificial intelligence (AI), which it is the aim of each team to make as powerful as possible. In addition, each team bears its own distinctive spirit, ethos, and set of values, that new players are expected to take on board and subsequently enrich.

The particular stance of the Jindeo designers stems from a judgement of value: they are seeking to counter what they perceive as a wrong individualistic streak in multi-player games.[14] But the choice of giving preference to team progression rather than individual player progression in the gameplays has other roots, besides criticizing the pervasive individualism of MMORPGs. It also provides an elegant solution to the problem of attracting and interesting newbies to the game. In online games, the newcomer only accesses the game universe one step at a time according to his accumulated skills and experience points. The purely virtual, immersive game universe can be split up in several distinct sub-universes only accessible once the player has reached a certain stage, and performed all the relevant quests at lower levels. Here the game universe is largely "real", for it is the city itself. It is therefore unique and difficult to split up in distinct sub-spaces with differential access. Players will be able to move in all of it, because they are part of it, and it makes up their whole environment. You might restrict access to virtual resources, or the possibility of performing certain actions or encountering certain players onscreen. That would however reduce drastically the interest of the game itself, which lies in the multiplication of possible coordination between onscreen actions and "real space" actions. So to maximize the attractiveness, all players, whatever their actual personal skills or the technical resources of the terminal they use[15], should be allowed as many encounters and actions as possible. If progress only occurs at team level, the issue is nicely settled. Any player that gets close to a useful resource, may capture it for the team and help the team to increase its power. Participation is made to depend more on location than on skill and experience.

The marketing people at Ubisoft were to criticise most severely this emphasis on team progression. They did not believe that such an incentive was enough to motivate players and make them loyal to the Jindeo universe. Based on their own experience of online games, they

considered that if newbies were to have access to full player capacities in a single game universe, without going through a long and tedious individual tutorial, players would not become lastingly attached to the game. They would enter it, exit it, get back to it on a simple whim, unlike MMORPG universes where the tens of hours spent to learn the ropes, and get through the first levels were quite instrumental in building players loyalty.

What was at stake in the meeting with Ubisoft was not only the assessment of its economic potential but the very definition and categorisation of Jindeo, and more generally of similar games based on the geolocation principle, where the game world is not virtual, but some kind of augmented real space. Because game-induced displacements were deemed to have no economic potential for a game editor (thus rejecting the mobility paradigm as irrelevant) Jindeo could only be compared to existing web games, on the basis of criteria built within the web game industry and experience. Ubisoft criticism therefore amounted to saying that Jindeo was a new type of game that could not be assimilated to MMORPGs, at least as long as it worked that way. Moreover, it could not interest a web game editor, because the very differences that made Jindeo special were running against the design features that made MMORPGs profitable.

That encounter with Ubisoft dealt Jindeo designers a severe blow at a time when they were too pressed to try to answer Ubisoft's criticisms and invent new rules and new scenarios that might do the job. Because they were at that point quite short of cash, they absolutely had to get something out fast, using only the working bits and pieces, software and architecture that already worked. This switch was both practical and conceptual, for it meant renouncing the initial project. This was stressed by the departure of Paul, the designer who had reached fame with a multiplayer role playing game in the eighties and whose values could not be incorporated in the new design. The transition from a complex role playing game towards a simple collection game was not easy either on the remaining designers. The move to Nido seemed both radical and final. The designers did not even believe they might be able to get Nido to look more like Jindeo by enriching it with yet undeveloped modules and functions. There seemed to be an unbridgeable gap between an individualistic accumulation game such as Nido and an altruistic team-based game such as Jindeo. And part of the excitement seemed to have faded. In the first tests, its designers (immersed as they were in the massively multiplayer online game culture) found Nido rather boring. Designing Nido actually meant redefining the user value of the game and the exchange value that could be attached to it. We

will try to show how it entailed a new design paradigm which paid attention to the interactional and social dimensions of mobility.

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4 The switch to Nido and the move towards an "interactional mobility" paradigm

4.1 The pivotal role of text messages in the redefinition of design paradigms

After the meeting with Ubisoft, the design space contracted to the existing and working modules, which were the Radar module, the collection module and the communication module. The Radar module tracked and mapped the location of the players and the resources present in a given cell\, while the collection module enabled the player to collect available resources in the cell. The communication module allowed text messaging between players. Based on these three modules only, the simplest and possibly the only thing to do was to design a collection game, slightly inspired from successful image card collection games for children ("*Panini*"). The principle of this new game, Nido, was therefore to complete collections of virtual objects picked up with the mobile phones by clicking on the icon of such objects when they appeared to be close enough to the player in the onscreen electronic map. Some were collections of everyday objects, such as precious stones or fruit, and others did not have any real world equivalents, such as moments of time. To collect those, one had to pick them at the right location and at the right time (you could only pick morning in the morning, etc.). The Nido onscreen map also featured the other players present in the cell. Finally, players could communicate with one another when their icons were apparent and active onscreen, via the text messaging module.

The "*bricolage"* to which the designers turned to was to become the Nido game, developed for KDDI and commercialized in late spring, 2003. Because of the simplicity of its gameplay, and the availability of several modules, the development of Nido got only one month behind schedule. The game was launched in Japan in early April, with limited visibility and almost no advertising. It was a moderate but reasonable success: 700 visitors to the site the first week, 50 subscribers and then stabilisation at an average of around 200 players.

The designers were rather surprised to observe the level of involvement of some Japanese players in a game they thought simplistic and spiritless. Because the game was now publicly available, user behaviour became the main criterion to assess the effects or the introduction of

particular design features. But user behaviour was mostly observed in one particular format. The innovators did not have enough money to conduct interviews with users. They could only rely on the electronic traces that user behaviour left in their databases. These traces could be either details of object collection for each user (number of objects, place and time of collection, etc.) or the text messages that users sent along through the game server as they moved through Tokyo and played Nido. Any significant modification of the game could be evaluated with respect to the number of messages it stimulated and the way it would be commented in the messages themselves. Since they based their representations of user behaviour on such traces, could mostly link intensity of use to the proliferation of electronic traces, either those left by data collection or text messaging. Their reasoning, shaped by the particular constraints of the experimental setting, was mostly structured by the interpretation that the more numerous those traces, the more intense player involvement, and the stronger the force of the game, and the more relevant its design. This line of reasoning was quite compelling, not only because it was attuned to the only kind of available empirical evidence, but also because it offered a long-awaited solution to the economic questions raised in the Ubisoft trial : who paid what to whom ? Text messages at least were paid for, to the telecommunication operator, for whom any way of increasing the mobile data traffic was an exciting perspective that would open doors, since it was part of their general strategy at the time. Designing the game in a way that players would play more and therefore send more text messages between them became very rational.

The first observations of user behaviour yielded two extreme behaviours, players interested mostly in accumulating virtual objects, and players oriented towards game-induced displacements and encounters. Some Japanese players thus developed a taste for pure accumulation, to the point of completing the same collection ten or fifteen times. Some of these seemed to enjoy the game so much that they found ways of “cheating”, even though the game play was so rudimentary.[16] Though Nido appeared so unsophisticated and unexciting a game, some Japanese users were thrilled enough to invest a considerable amount of effort into the accumulation of virtual Nido objects. This particular type of involvement opened up an "accumulation paradigm" for the design process. The design was oriented towards two directions. On the one hand the direct stimulation of *individual* accumulation by making objects and collections more attractive (a complete collection of a particular set of virtual objects might be rewarded with a free downloadable ringtone, or might compose in jigsaw puzzle fashion one of those starlet pictures the Japanese so much delight in[17], to be used as a

mobile screen saver). On the other hand it meant getting these fetishist compulsive players to behave collectively by making it more interesting for them to trade. The designers introduced for instance collections where objects were only regionally available, which forced distant players to trade. And trade meant players had to look actively for information from other players, which involved a lot of text messages.

In the second case, other players used the Nido collection game effect as a pretext for wandering around Tokyo. This provided another path for a type of design oriented towards mobility, though it did not mean any longer trying to enable subtle coordinated moves between screen and city. The designers could just spread enough the objects to be collected to allow many pleasant "hunting-gathering" trips throughout the Tokyo area. But their main discovery was that game-induced displacements featured heavily in the text messages. Players would comment directly on their displacements (all kinds of displacements, whether or not associated to the game) to other players, or orient messages towards the fact that some players might be aware of their positions. Text messages revealed the interactional importance of a feature of the game which the designers had underplayed, that of making mobility patterns public, that is accessible to some other players in some circumstances. What would now matter was not individual mobility patterns, but mobility patterns that were addressed to others, and for which actual displacements could not be separated from the web of words in which they were embedded. We propose to call this “interactional mobility”. It takes many forms such as players guiding one another by text messages, chatting and joking about where they go. One of these forms, on screen serendipitous encounters, would prove particularly important in the reorientation of the design process towards the interactional dimension of public mobilities, while being quite meaningful from a sociological perspective.

4.2 On screen encounters and the public character of mobility

One of the key features of the Jindeo concept, which made such mobile geolocalised games so different from online games was the possibility that players would meet face to face: "I feel like saying, it's not like a game any more! To my knowledge, there is no (video) game that brings players directly into contact" (Antonio, developer). But such "meetings" may occur in two distinct contexts, in real space (physical co-presence in the sense of being able to get mutual sight of one another) and on mobile screens (with the icons of both players being represented in the same cell map). What was still unclear in the initial stages, was the

importance of a particular configuration which we will call on screen encounters and which would stand out with the first Japanese users of Nido. On screen encounters describe a configuration where two Nido players get to “see” one another on the screens of their mobiles (without necessarily being co-present in the sense of a direct visual contact) and ratify this mutual perception on screen as a proper encounter by commenting on it by text messaging.

The occurrence of such on screen encounters contribute to the interpretation of the screen as a space of mutual awareness, where positions and movements are available to connected players whose identity cannot be determined in advance, which are present in the vicinity, and of whom the connected player will become reciprocally aware. In that sense the screen is also a public space where the publicity of mobility is tried with every connexion. In such an electronic public space, entities appear rather than reside on a permanent basis. Hannah Arendt described such spaces where “persons do not simply exist as other living or inanimate things, but are explicitly appearing” (Arendt, 1983). With the recurrent possibility of on screen encounters, actors reflexively construe their mobility as accountable to other players. Within that frame, mobility is not individual but social in nature, and as the designers were to discover in the case on screen encounters, it requires a lot of interactional work.

An abundant text messaging activity was observed that was associated in one way or another (initiated by, commenting on etc.) to mediated encounters. This allowed the designers to infer a relationship between the way their interfaces made players mutually aware of their positions and displacement and possible specific forms of mediated encounters, and the text messaging activity such encounters elicited. This would define a specific orientation for design, that is providing interface “affordances” promoting mediated encounters and shaping the way patterns of mobility were made public, with the beneficial consequence of stimulating the text messaging that went with such encounters. This is the essence of the “interactional mobility” design paradigm.

The Nido players could be broken in two distinct groups, thirty or so KDDI employees that were given the system to interest KDDI in it, and about 200 "normal" subscribers to the game. The particularity of the KDDI players was that they all worked in the same building. Therefore the concentration of connected players in these cells was rather high, and these users had many opportunities to "meet" several other players on their mobile screen, even if

they worked at different floors. They seemed to take so much pleasure in such mediated encounters that the number of relevant text messages explodes, highly exceeding the expectations of the designers. The emotion and pleasure they felt in these mediated encounters accounted to a large extent for the good reputation enjoyed by Nido in the Japanese firm. Such behaviour confirmed the initial idea of the designers that the attractiveness of such games would depend very much on the local density of connected players. However, the way interest in mediated encounters and subsequent exchanges superseded interest in the game play itself came as a surprise.

The 200 hundred "normal" subscribers were in a very different situation. They were randomly scattered in the whole Tokyo-Yokohama conurbation and beyond. Therefore they had very few opportunities for mobile phone mediated encounters, and they also communicated by text message much less than the KDDI group. This observation went a long way to confirm that there was a direct relationship between the number of game-related text messages and the number of game-mediated encounters. Mediated encounters could therefore be considered as a powerful lever to stimulate text-messaging practices.

The fact that users were scattered over a large area did not preclude two mediated encounters to take place, at least (others might have occurred without being mentioned in text messages). The first of these took place in the underground. In her train, a woman who used to play Nido but was not logged on at the time saw a man engrossed in his mobile phone, playing at Nido (or so she believed). She did not address him in any way, but got out of the train at her usual station. As soon as she was on the platform, she logged on to the game with her mobile phone. She checked that she could indeed see the icon of this active player on her screen. Then only she sent him a text message, thus ratifying the co-present encounter by this lateral and indirect communication. In the second mediated encounter, two connected players came across one another at night, in an otherwise deserted business district, while both were connected to the game. Their icons were mutually visible on their screens as they walked past each other. Since they were almost alone in the street, they both could not ignore that the other one was that connected player that had appeared on their mobile phone screen map. But they just walked past without acknowledging the fact, either openly or electronically. Later, one of them recounted this particular encounter to another player by text messaging.

These two mediated encounters are very peculiar instances of those encounters in public space that Goffman has studied in detail (Goffman, 1963). From the perspective of a bystander in the street, it might have looked like two unacquainted persons walking past, and granting each other some form of civil inattention. But, unseen from this hypothetical bystander, those two persons were meeting both as urban passers-by (to which the regime of civil inattention is relevant) and as Nido players. Their attention was prone to oscillate between the subjective and embodied viewpoint of the passer-by and the disincarnate, exterior perspective of the representation of the gaming plane on the mobile screen. Within that latter representation of the encounter, the mobile screens allowed them to recognize one another cognitively.[18] In these two particular instances, they chose not to make that simultaneous cognitive recognition mutual by failing to ratify it through direct social recognition.[19] In the first one however, social recognition occurred by the means of text messaging (a communication back channel), which turned the spurious co-presence into an encounter, in a way that could not be detected by a bystander. In the second case, social recognition was not proposed, but the SMS mention of that particular crossing to another party, meant that one of the participants at least interpreted that fleeting social gathering as a situation involving two "acquainted" persons. There is a sense in which one could say that the fact these Japanese users were equipped with Nido, and logged on to it, turned the chance meeting of two strangers in public spaces (which would normally be treated in the regime of civil inattention) into fully blown encounters between "acquainted" persons, with social recognition being accounted for and visible only in text messages. At least it was the interpretation of the designers, and we see that it makes even stronger the alleged correlation between the proliferation of text messages and the power of the game to subvert and transfigure urban social gatherings.

All these observations of user behaviour were discussed at length by the design team. They led towards the reorientation of the design trajectory in the summer of 2003. The innovation effort now aligned with the optimisation of a technology that could be seen as a game, but also as a geolocated mobile instant messaging service, in which mobility patterns were made public, and whose map interfaces allowed for spontaneous on screen encounters. The criteria for successful design became the ability of the interface functionalities to stimulate and regulate such “encounters” mediated by mobile location tracking to enrich the corresponding experience and elicit text messaging activity. This meant for example making easier the sending of text messages, or creating "buddy lists" that would allow friends and personal relationships to recognize one another on screen: “there are not enough places in the

application where I'm tempted to send a message, or where I have the possibility to do it, and we missed a bunch of functions in our initial versions of the design such as displaying the nearest players connected. Now we are creating a list of favourites, a basic Messenger thing … being able to see easily if my favourites are connected and close or not" (Michel, designer). A key feature to promote encounters was to ensure at least another player would be visible on the screen map. The innovators therefore added an additional feature, in which the icon of the nearest connected player in the buddy list appears together with his distance to the player, even if they are not in the same cell. This was thought, probably rightly so, to be a way to afford mediated encounters in contexts were there were too few players for their having a great chance of finding two connected ones in the same cell at a given time.

The design trajectory had therefore largely reoriented towards the conception and implementation of interface features that would promote and "afford" mediated meetings *in general.* The engineering of encounters is a key step in the move towards the interactional mobility design paradigm. Mobility patterns are not apprehended solely as a set of game-induced displacements, but as a public activity, of whom many known and unknown connected players might be aware through the game interfaces. It is an unavoidably social activity, in the sense that situations involving mutual awareness and recognition of others' position did elicit a lot of electronic talk.

5. Conclusion

On the analytical side, our case study has revealed two distinct representations which bore influence on design procedures and evaluation of technology. In the initial stages, the game was thought to provide motives for the player to move (through the gameplay), an urban environment augmented with geolocated resources (virtual objects and players' avatars), and software-laden mobile devices to act on them when in their vicinity. The force of the game was thought to materialize in game-induced displacements involving numerous coordinations between what the player could see around him and on the screen of his mobile device. Design was oriented towards providing geolocated features and software resources to enhance the capacity of the game to such displacements. This design paradigm was attuned to the "mobility paradigm".

In the later stages of the design trajectory, mobility was understood very differently. The designers had realized that a key feature of their game was to construct a space were connected players could often be aware of their mutual location. The game therefore provided a kind of public space, in which players reflexively oriented their behaviour towards the possibility that their displacements might be perceived and they might be called to account for them. Mobility could not be considered any more as an individual activity. The movements of connected players were always addressed directly or indirectly to the possibility of actual or imagined known and unknown players being aware of them. Mobility was therefore put into words, was discussed and commented in numerous text messages between players. A particularly significant feature of mobility patterns in such a mediated public space is the possibility of serendipitous onscreen encounters, in which a player discovered other players on his screen upon connexion. Players proved to be extremely sensitive to such encounters, which were marked with particularly intense text messaging activity. Within this paradigm of socialized or interactional mobility, the text-messaging and communicative activity of players became the measure of the impact of the game. Design strategies turned towards ways to stimulate exchange between players, among which the engineering of onscreen encounters. They tried to entrench interactional mobility in the very design and affordances of the geolocated game.

While these two design paradigms can be analytically distinguished, the path that led from one to another made for a complex and eventful history, marked by many trials. The technology and design were in a state of flux between the cash situation, technological and development constraints and market assessments. As most innovators, the game designers were trying to build a network of heterogeneous links that would stabilize their game, but several attempts at enrolling allies had dramatic consequences. One of the main steps in the move from one version of the game and design rationale to another was the attempt to enlist a big internet game editor as a partner. Controversial debates in the resulting confrontation with marketing experts showed that mobility in itself had no economic value for the main actors in the game value chain, that is game editors and telcos. Communication between players could be turned into profit, at least by telcos such as KDDI that were to market the simplified version of the game. Hence the importance of considering how game-induced mobility was an addressed and socialized activity, and could be made more so.

Within this new paradigm for mobility, onscreen encounters based on the public character of mobility patterns became one of the cornerstones of the game development. We think such features raise new and important questions with respect both to the future of geolocated applications and social science, and that their relevance go far beyond the particular case study discussed here. What kind of interactions are onscreen encounters ? What are the moral consequences of the fact that position and movements may be available to a group of players ? What kind of experience of urban environments is provided by systems that multiply the possibilities of onscreen encounters ?

With respect to the interactional order some key notions, such civil inattention are at stake. Describing the behaviour of strangers crossing in large cities, the concept of civil inattention proposed by Goffman was founded on a principle of equivalence, in which every passer-by was the absolute equivalent of any other[20] (Quéré et al., 1992). That very equivalence is called into question with location-based services such as Nido, for even if the Nido-connected passer-bys are not acquainted by name, some screen-based cognitive recognition relying on mutual placing of the other both as a Nido player and as the connected player they both can see in the street and onscreen is always a possibility. Is there still any such thing as socially insensitive civil inattention in a world where each actor is embedded in a personal environment saturated with Nido-like devices? The public space and the social order in such a world might be very different from the ones we inherited from modernity.

With respect to moral issues, a new set of questions appeared as the game evolved, dealing with the responsibility of the designers with respect to the morality of the encounters their technology mediated. This problem became more salient as the design rationale got focussed on building an architecture facilitating generic encounters and socialisation between any equipped user. Deviant encounters became possible, and likely. Indeed, one at least had already taken place. An adult Nido player had got into contact with a twelve-year old girl playing on her mobile phone. She revealed her age in the subsequent messages and he kept on flirting with her on a remote basis, at the same time following her movements in Tokyo from his PC.[21] This is quite unacceptable in Japan, where adolescent prostitution through the Internet is a matter of heated public debate. The designers realised that they had to take responsibilities for some of the risks involved in Nido-mediated mutual location-aware interactions, and particularly ill-intentioned forms of “tracking” or tailing. Characteristically, the designers were looking towards the conception of interfaces adapted to do the job. For

example, they were and still are exploring the possibility of providing users facilities for making up different lists, each involving different rights to mutual access and visibility, such as a list of onscreen mutually visible friends ("*buddy list*") and a black list that forbade such mutual visibility. This was only a start.

With respect to the urban experience, onscreen encounters extend possibilities of unplanned interaction to persons which do not meet face to face, but just happen to be close by and connected. In large cities were actual face to face encounters take a lot of planning beforehand, this could change the "structures of anticipation" of actors (Thrift, 2004). They could delegate to the mobile devices the burden of generating opportunities for encounters to happen, provided onscreen mediated encounters would happen often enough for them to be sure they would be able to arrange something at a convenient time. This situation is much akin to the experience of instant messaging users which rely on the state of an icon of their computer to determine if their correspondent are somehow "present" enough to make it worth it to test their availability for further interaction, thus turning a change of state in the icon into a full blown encounter. With respect to the organization of encounters in heavily mediated urban public spaces, a kind of flexible opportunism might therefore become more relevant than long term planning.

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[1] For a classification of location-aware community systems from a user-centred perspective, see (Jones et al., 2004).

[2] This is a recurrent feature in analyses of computer-mediated communication dealing with electronic mail, forums, chats, etc.

[3] All names here are fictitious

[4] Jindeo, Bible V0.3, p.10.

[5] "These multiplayer online games are, to some extent, inheriting several features of role plays on paper. Jindeo is in a way close to “lifesize” role plays, I think." (Gilles, developer)

[6] Ibid, p.2.

[7] One of the key references of the designers here was the first Matrix movie: they visualized players in front of their PCs being able to have a near-panoptical view of game situations (due to the power of the software and graphic interfaces on PCs) which would guide mobile players whose terminals have much less functionalities.

[8] This is a reference to the film Blade Runner, where Priss is the name of a pretty, dangerous replicant.

[9] The authors of Blade Runner were themselves avowedly basing their futuristic urban décor on today's Shinjuku district in Tokyo.

[10] GPS-assisted geolocation does not actually use the GSM network as such, but satellite-based localisation. Implementation of this technique requires the integration into each mobile phone of a GPS chip in addition to the classic SIM card. Because of the wavelengths used, a user cannot be located within a building or in a very dense urban area. This technology was available in Japan, and KDDI commercialised it. However, each localisation request with this system cost 5 yen and took around ten seconds to be completed.

It is very different to the various geolocation techniques based on the GSM cell grid. Cell identification (or Cell ID), for example, is the simplest of all location tracking techniques. When the user is in a zone covered by the network, a single cell enables the connection and carries the call. It is easy to identify this cell but the accuracy of this type of location tracking depends totally on the size of the cells (around a hundred metres or so in a city, up to several kilometres in a rural area).

[11] See the example of the game Diablo2 in (Largier, 2003).

[12] Jindeo Bible V0.3, p.7.

[13] Ibid., p.6.

[14] "In all games, there is a real temptation to boost your character, often to the detriment of the team, and there is always someone who does this, though here, everything is designed to counter that tendency. A player must play for his team. He may leave his team but all he can do then is join another team. He gets more experienced as a player, more familiar with the

rules, gets to know other players, but it is still his team that makes progress […] The reflex consisting in trying to build your own character and observable in almost all massively multiplayer games or paper roleplay games is usually a hindrance… I thought it a good idea to try to curb this tendency" (Gilles, developer)

[15] Another compelling reason for giving preference to teams over individual players is linked to an innovative requirement the designers are very proud of, that is the possibility of playing the Jindeo game either from a PC (with extended game functionalities) or from a mobile terminal.

[16] One Japanese lady player, interested in the collection of "moments of time" completed her collection in the following way. She collected several moments of time icons one morning, and when back at home, she found a way to put them back on her virtual onscreen environment. Then she waited at home for the proper time to pick them up, thus subverting the principle of the game (which required her to move to definite places at given times to complete her collection).

[17] There is a whole paper media industry dealing with this craze about starlet pictures, with fully dedicated tabloids.

[18] To Goffman, cognitive recognition involves either placing another individual with respect to some singular information that characterizes him only, or with respect to "some general social category, but in a context where any member of the category can play a crucial role" in the situation (as here the fact they are both logged on Nido players). (Goffman, 1963)

[19] Social recognition to Goffman is "the process of openly welcoming or at last accepting the initiation of an engagement, as when a greeting or a smile is returned" (Goffman, 1963).

[20] Goffman himself emphasized that point, remarking that civil inattention was "a courtesy that tends to treat those present merely as participants in the gathering and not in terms of other social characteristics" (Goffman, 1963, p.86)

[21] The screen maps available to Nido users playing through their PC and the internet server are much more extended than those available on mobile phone screen, which only figure the current cell.