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ToDIGRA

# ToDIGRA

## Physical and Digital in Games and Play

Editors: Frans Mäyrä, Katriina Heljakka & Anu Seisto

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# From the Board to the Streets

## A Case Study of Local Property Trader

Alison Gazzard, Mark Lochrie, Adrian Gradinar, Paul Coulton, Daniel Burnett & Daniel Kershaw

### Abstract

The boardgame of Monopoly has undergone various iterations since it was first published in 1934. Versions have included location-based varieties of the game, involving mobile media devices that have taken the boardgame to the city streets as a way of engaging players with location in new ways. This article examines a new version of Monopoly, titled Local Property Trader that works with NFC/QR code technologies in order to encourage players to move around the city and interact with local businesses. In doing so, the project hopes to highlight how location-based games can use social media data to update a traditional game into more contemporary contexts. Correspondingly, the differences and similarities of taking a boardgame and reworking it for the city streets are explored through ideas surrounding location, player and map as key points of intersection between the two media forms.

### Keywords

Monopoly, Boardgame, Location-Based Game, Social Media, Place, Community, Trading, Social Capital

### Introduction

The concept of Monopoly has been traced back to 1903 (originally named “The Landlord’s Game”, created by Elizabeth J. Magie Phillips), where the game was originally constructed as an educational tool to explain the theories of tax and the negative aspects

of private monopolies. Philips continued development with her game up until the 1930s where she added the ability to buy, sell and develop land. However, it was not until 1934 when the Parker Brothers conceived the original game of Monopoly. It is believed that this first version of the game heavily involved a participatory design element, whereby people contributed to the games design, which consisted of a 4 x 10 square board game, with cards associated with the properties and the ability. The ability to buy and sell properties was also extended to include the adding of extra value through purchasing of houses and hotels. In the British version of the game, players strive to take over parts of London, from the cheaper brown squares of Old Street and Whitechapel to the much more affluent purple spaces of Mayfair and Park Lane. By gaining money through chance, by the roll of the dice and the spaces the players' piece lands on, the aim is to build up your property portfolio, accumulate rent and avoid jail (hopefully whilst continuing to Pass Go). The nature of the game existing on a board, with twelve potential playing pieces, means the game automatically lends itself to multiple players, thus existing within a wider social circle of play. Here, the dialogue between players becomes part of the game itself, as each person watches out for any cheating when money is passed between the banker and the player, and players anxiously wait to try and gain their wanted for section of the board.

But what happens to a boardgame such as Monopoly when the hard-backed board is taken away, and replaced by the city streets? And what can be learned from converting a boardgame to a real-world location-based game as a way of educating people about the social value of property in their local area by involving the game playing community in maintaining places? This paper explores these questions as it tracks the development of a locative mobile-based game titled Local Property Trader (LPT). By taking common themes of Monopoly, such as land ownership, property development, and the accumulation of wealth, LPT seeks to update the boardgame by taking these rule sets to the streets of Manchester in the UK in order to educate both players and the owners of highstreet businesses about 'social capital'.

#### Background

The traditional game of Monopoly is transformed into a location-based platform as LPT draws upon social media data as a way of reworking parts of the overall game mechanic. The use of social media starts to emphasise the importance of place within the spaces we frequent between home and work as we seek to move about areas within our social lives. As Beth Ward (2013) notes in the Local Leaders Network section of The Guardian newspaper, “Towns of the future need to offer something different and attract customers to ‘the experience’”. In many ways this experience can be based around current gaming and social media forms as a way of re-appropriating the Internet, as so often blamed for high-street decline, into a new way of thinking about and revitalising the city. Previous attempts to encourage people into the local area have occurred throughout the UK, such as using the ‘Bristol Pound’ as a form of local currency to be spent on the highstreet. However, LPT seeks to utilise local communities in a different way, through the integration of social media networks such as Twitter in order to create a game platform that promotes the highstreet and associated social and cultural values inherent in keeping such physical places alive and active.

Whereas other Monopoly derived location based games such as The Landlord game (Quip Media Ltd, 2013) integrate buying property based on location, there is no integration between player and the physical company, and no real incentive for the company to try and get players to check in. Games such as these focus purely on player point-scoring and reward and, as such, do not fully integrate the social nature of play beyond the player’s own friends network. Here, the game is structured around individual player worth, rather than the importance of play or community. Similarly, Monopoly games run in town centres, such as the yearly event run in the city of St Albans in the UK, do include the social spaces of play but only last for one day, therefore do not allow companies to reap the long term benefits of extra footfall into their businesses. This game is similar to a treasure hunt, allowing players to explore the city and claim properties, but within a limited time and with a quicker end goal. Distributing the

game to the city streets maintains a level of the social nature of boardgame play but it does not translate the underlying values of place, property, value, taxation and wealth as so integrated into the boardgame version. It is by discussing the translation of multiple aspect of the Monopoly boardgame to the location-based game LPT that this paper starts to address some of these issues as the spaces of the real world are negotiated by both player and potential business.

Starting to solve the problem: location as leisure

In distinguishing between our work, home and social lives, Ray Oldenburg writes of the “third place”. The third place is discussed as “a generic designation for a great variety of public places that host the regular, voluntary, informal and happily anticipated gathering of individuals beyond the realms of home and work”. (Oldenburg 1989, 16). Of course, not everyone necessarily frequents a third place everyday but it is a useful term to sum up some of our leisure based activities in relation to people’s movements around villages, towns and cities. As Oldenburg notes, “third places” manifest themselves in the coffeehouses, pubs and cafes we visit, and although his work was first published in 1989, this is a concept we can now use today in discussing various location-based media. The integration of global positioning systems (GPS) into a wide array of mobile phones, and the growth in ‘app’ culture through operating systems such as iOS and Android have seen a variety of applications available that enable users to log or ‘check-in’ to different virtual locations. Similarly, we are able to locate ourselves physically within the quotidian landscape. By carrying the phone we, as users, have access to a vast database of information about the area around us, things to do and how to get there. Routes between places can be mapped, and various directions by foot, car or public transport can be recommended through a couple of place searches and clicks. Whatever the purpose of location-based media platforms and services, it can be seen that by checking into these locations and sharing this information with others within their network, is a way of people showing where they are, whether that be the ‘first place’ of their home life, the ‘second place’ of their work life or the various ‘third places’ that they frequent between the



two. It is for this reason that the city streets can become a game board, transferring ideas from traditional boardgames based on the conquering and identification with place, such as Monopoly, and extending it into location-based platforms. It is some of these ideas that start to change in the integration of the location-based game with the online network of activity, as opposed to the fixed social spaces of the boardgame. To start exploring some of these questions we posed the following:

- How can location-based games be integrated with social media platforms in order to raise awareness of issues in physical spaces (such as the decline of the high-street in the UK)?
- What are the benefits in using NFC/QR code technologies in location-based games compared to GPS technologies and how does this affect the player's engagement with the physical spaces of the game?
- How could contextual awareness within games influence the game play and what is needed to balance the ambiguities?

In writing about the ludic possibilities of the city streets, Fereiss (2007, 218) notes, "Cities are dynamic places of change and transformation... Within the game of urban possibilities, the city is a constantly changing stage, forever reinventing and redefining itself on the basis of its performer's creativity and interactions." Although this is a statement about real-world play, this could also be interpreted to sum up the possibilities within the boardgame of Monopoly. The structure of Monopoly changes with the player's engagement with places on the board, changing patterns of play and changing the dynamic. Here we can see that the rhythms are place change through the interaction with the board. As Lefebvre (2004) notes, "Everywhere where there is interaction between a place, time and an expenditure of energy, there is a rhythm".

These rhythms of events allow the player to adapt their game performance based on this changing flow of information. In 2013, where issues of high street wealth and the decline in local businesses in the UK are at the forefront of constant debate, the fluctuation of property value remains less constant than within the confines of a game such as Monopoly. Here the rhythms of interaction are changed by physical footfall, and a sense of continued community in local areas. By making potential players aware of how they can engage in their own local spaces, LPT seeks to utilise communities of players to investigate their local streets in new ways, and to create new rhythms. It is via the social nature of play and the integration of social media in particular that LPT seeks to address some of these issues.

Social games often refer to a game that is being played as a way of social interaction. Typically these games have a simple user interface, are easy to understand, and allow players to socialise during play. As a rule of thumb, social games often appeal to a wider non-gaming audience referred to as ‘non-gamers’, or ‘casual gamers’ (Juul 2010). This type of gamer is fundamentally challenging the notion of the gamer demographic with the widely reported claim that the average social gamer is a 43-year-old woman (Ingram 2010). Although the evolution of digital social games and mobile social games have been around for many years (even pre iPhone), it is the game ecosystems of mobile platforms and the openness of social networks that has provided a method to distribute mobile games to a wider audience (therefore providing a truly social experience). On the mobile phone, social games often utilise functionality from existing social networks such as Facebook. This linkage means that these games can spread remarkably quickly, for example the game FarmVille saw its peak reach 83 million active monthly players, only eight months after launch<sup>1</sup>. At the core of social games is a ‘sticky’ component to keep players engaged and more likely to return, sometimes leveraging the same game mechanics and psychological signals seen in slot machines, or in the case of Farmville, creating a regular appointment whereby the players must regularly return to check their virtual crops.

1. Zynga - <http://www.businessinsider.com/zynga-sequel-farmville-2-performance-2012-10>

Although such social games are on the rise we do not yet know if they will maintain long-term engagement amongst players (Kirman 2010). However, maintaining the social nature of play is a vital component of LPT. Integrating both players and local businesses into the game was an important part of achieving the final design in order to maintain a sense of purpose and community. As such, the game can be discussed from both the perspective of the player and the perspective of the business taking part in the game to show how the fluidity of the game's location can change through each interaction.

In the last decade we have witnessed large sections of society spending increasing amounts of time socialising online through sensor rich mobile devices. This phenomenon is primarily driven through popular social networks such as Facebook, Twitter and Foursquare. Each of these platforms maintains a slightly different focus depending on the social network from the grouping of friends to posting photos. Furthermore, services like “friending”, “tagging”, “following”, “check-ins” and “hashtags” have all impacted the way we make these quick and convenient real time communications with one another. With the advent of Location Based Services (LBSs) for mobile phones these “status updates” were extended to incorporate location. This extension was adopted by early LBS's such as Dodgeball (Crowley and Rainert 2000), which popularised the term ‘check-in’ (Humphreys 2007) to describe such an activity. However, it is arguably the service Foursquare that has brought the activity into common understanding and use. Although many other social networks such as Facebook and Google+ have now incorporated such functionality, the rise in popularity of this activity has led some venues to embrace the concept and actively encourage customers to check-in by offering physical and virtual offers through advertisements often offered through the social networks. Many venues are already embracing the Foursquare community by enticing customers to ‘check-in’ achieved through many social mediums and also by the inclusion of such advertisements in window displays. However, one important aspect to this phenomenon is what service Foursquare is actually offering. In its early days those discussing Foursquare would refer to the application as a Location Based Game

(LBG), as it actively embraced the use of leaderboards, mayorships, rewards and badges. As McGonigal (2011, 166) notes, "...it's not a game that rewards you for what you're already doing. It's a game that rewards you for doing new things, and making a better effort to be social."

However, the location based social network has undergone an obvious clear shift from what could have once been considered a game to now a very service driven approach with gameful designed elements. The use of badges and leaderboards are still present in the latest offering, however they are not as prominent in the design of the system (albeit they are still part of the service). Discussions, search, recommendation systems with independent incentives have taken centre stage of the application. This has been achieved in an attempt to encourage further participation through other activities, such as deals, specials and other monetary promotions (by synchronising users credit cards such as American Express, where users receive certain deals if they use their credit card and check into the venue). Furthermore, in their latest offering, Foursquare have introduced functionalities to visualise a users' past through an online mapping technology that flows the user through time and space, highlighting the places they have visited since they became a Foursquare user.

Similarly, QR codes and NFC tags litter our social worlds, from ways of purchasing goods to ways of promoting or augmenting our buying habits. As such the places around us are marked with layers of sign systems created by these physical and virtual tags, and are only brought to life by the accessibility and portability of mobile phones along with the users that understand how to read them. Instead of relying on GPS positions that allow users to check-in to a range of nearby listed locations, as is the case in Foursquare, that has its advantages in scalability but disadvantages within accuracy (for example a user on Foursquare can check-in to venues without being at said location). By employing an implied approach for determining location such as NFC tags, QR code markers and now even iBeacons, the user has to physically engage with the place they are in. The

materiality of the marker becomes embedded within the place and thus associated with it for as long as it remains there.

### Finding a solution: designing LPT

The design of Local Property Trader (LPT) draws upon many of the original interactions observed in the board game Monopoly, such as buying and selling (negotiating) properties, paying rent and collecting additional funds from ‘passing go’ or collecting cards, with a modern day element of ubiquitous technologies. In a decade focused around constant communications on the move, through popular social services like Twitter, Facebook and Foursquare, we are all sharing information about our whereabouts, what we are doing and what we like/dislike all from our mobile devices which we carry around inside our pockets. These devices with all their sensors and connectivity methods provide game designers the ability to develop games to use greater levels of information including location. Along with the social media content one of the other rationales of LPT was to draw the player’s attention to the places around them in their local area. The decision to use NFC or QR codes was made in order to make the player connect with the place they were standing in. Much like placing a marker on the board of the Monopoly game, the physical location of the player is one part of the new mechanic offered by this iteration of the game.

It’s easier to split the game up into two tiers, the players and the physical properties. The players of the game interact with physical properties around the city, by simply checking in. However, the check-in element of the game is not the sole mechanic. The game highlights social issues such as political and economical factors by linking the physicality of checking in with drawing inspiration from the traditional all time classic board game ‘Monopoly’. The underlying goals of the game are to get players to engage with their city and neighbouring cities, to seek out places they wouldn’t usually visit such as independent venues that do not usually have big budget for marketing and advertising plans.

## Business and player registration

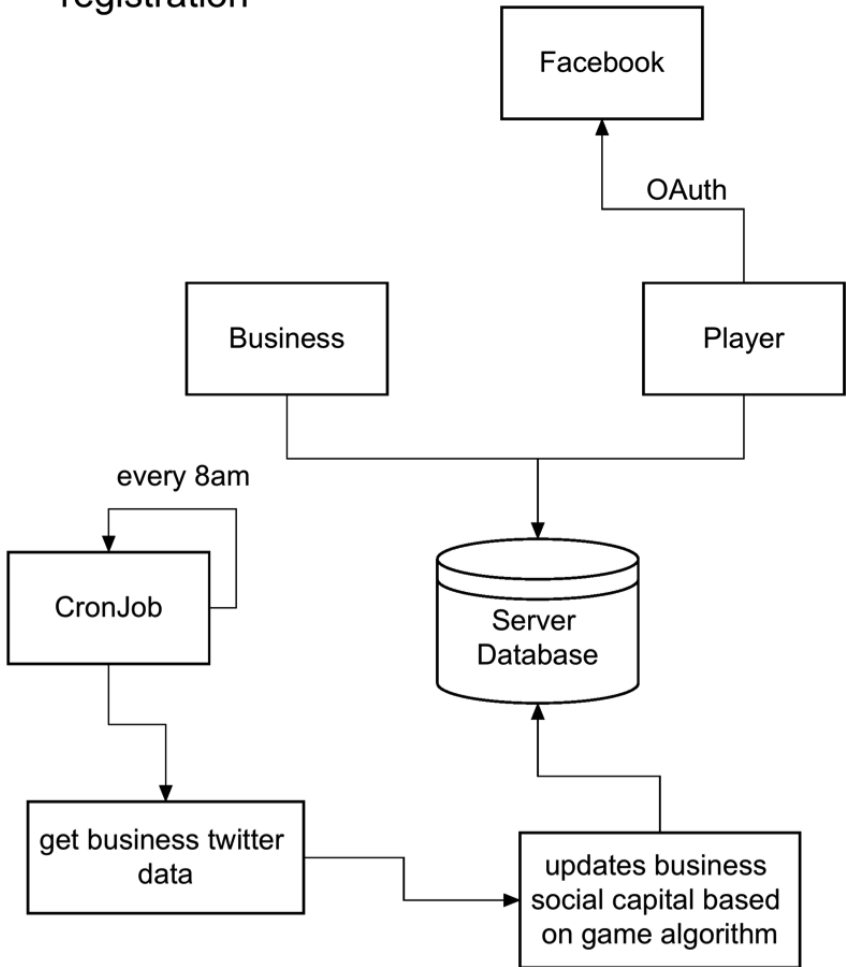


Figure 1. A diagram to show the process for how businesses and players register for the game.

As we can see from Figure 1, a player registers their participation with LPT by authenticating with Facebook. Businesses on the other hand join by registering directly with the game (supplying all required pieces of information). Once a business has registered, in order for game data to be present, a cronjob (a running process for a specified time that can execute comments at specific periods – in the case

of LPT a cronjob calls a script on the server) is performed daily retrieving all business related twitter data (such as number of posts, followers, retweeets etc.). This data is then passed through a game algorithm to calculate that businesses Social Capital (SC). The change of the SC is calculated daily, similar to the stock market (X).

### Property Status

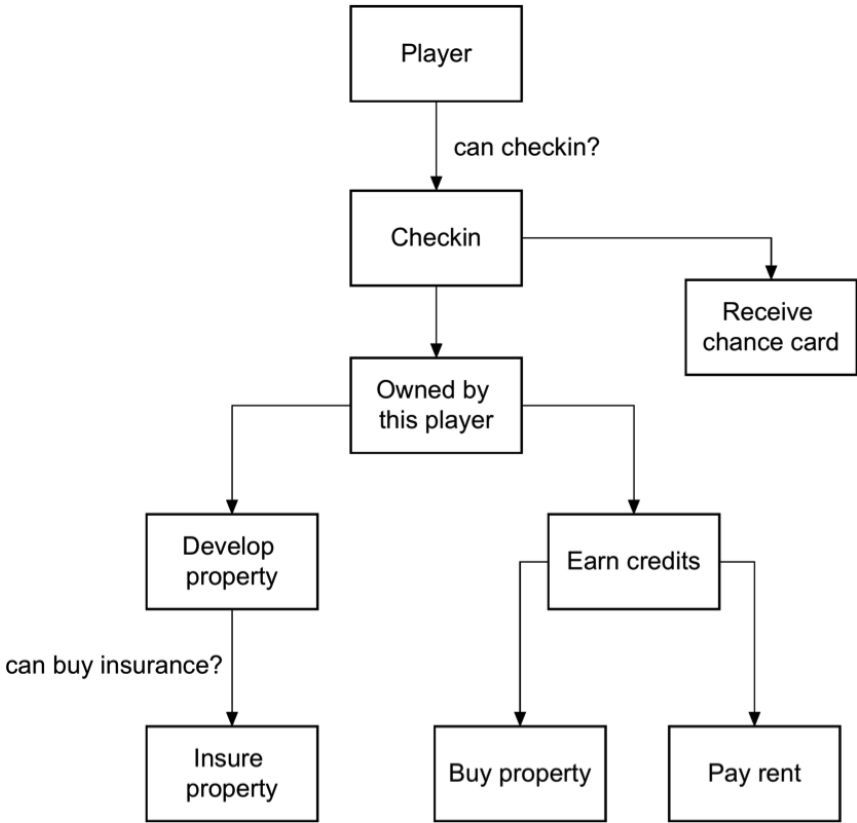


Figure 2. A diagram to show the basic game processes

The basics of the game can be summarised by the following statements and Figure 2:

- Only one check-in per property per day is permitted.

- Players can only purchase a property once they have checked into it.
- A check-in is worth a relative number of credits based on the properties social score.
- Each check-in earns the player a chance card (this can be something negative or positive such as extra credits, offers or pay tax and bills).
- Rent is calculated based on the social score of the property.
- The rent is taken out of the players' check-in credits.
- Insurance for properties can be purchased (the incremental prices of this is based on the social capital of the property).
- Owners can buy insurance for 2, 5, 10, 15 and 20 days.
- Players can only see if a property is insured (they do not know the level of insurance).

Everyone knows that New York City is the city that never sleeps. But what actually happens to a city when we go to sleep? People tend to congregate in pubs/bars/clubs socialising in groups, they navigate around the city often visiting place after place. Nowadays social media allows us to interact with people/businesses at any time of the day. Just like the real time aspect of these interactions, social data can be collected in real-time at any time of the day. LPT embeds social data directly into the game, unlike the game of Monopoly whereby the prices are fixed. Instead, just like the real world prices for land and properties increase and decrease in value. LPT uses the social data and more importantly the social change to determine the price of properties. In order for the game to provide variable property prices, Twitter accounts for each property are scraped and parsed each day generating a social score or 'social capital' for each property. The price is set for each property at 8am every day, and the change is determined on the previous day's social capital. It is this change that is revealed to players in order for them to make an assessment



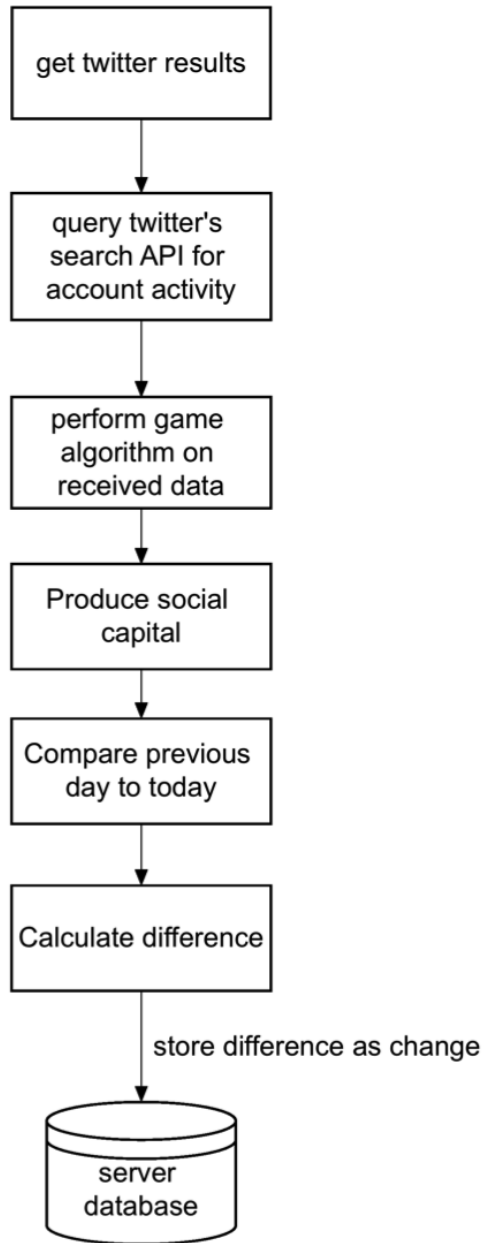
on the properties value and possible increase in value. The social capital is calculated by observing the most influential aspects of a Twitter account which are to gain new followers, increases tweet count, favourite a tweet, be added to lists and follow other users (these are all considered as positive impacts to the social capital) whereas losing a follower, having your favourites decrease, being removed from lists and unfollow some users are negative aspects of Twitter. These metrics are calculated and compared to the previous days.

The physical properties in and around the city form the focal point of the game. LPT gives these businesses another way of representing themselves in a different manner. Unlike Google's 'Places for Business', which lists companies on Google, TripAdvisor, Twitter, Facebook and Foursquare, LPT represents this data in a different way. The properties engagement with Twitter as represented in LPT has the ability to influence the game by increasing their value within the game. As previously mentioned, this is achieved by increasing the social score, in essence by improving, maintaining and interacting with their own Twitter account, by tweeting, getting new followers and generally interacting with their audiences. Furthermore, this gives the business an opportunity to engage with the players of the game, encouraging them to check-in by applying a discount within the business or via by simply understanding the customer demographics. In doing so, the aim is to create a closer relationship between the company and the customer, through the playing of the game, and in doing so, start to construct a more unified town, city or high street through these interactions.

A basic example of this can be understood from the following pieces of information and the Figure 3Figure 3: *Manchester Museum of Science (MOSI)*

- day 1 score: 30,122
- day 2 score: 30,170

## Daily calculation of social capital



*Figure 3. A diagram to show the process of calculating the social capital from the data collected from Twitter.*

This has a positive 48 value. This means that the property has increased its value by 48, and this is represented within the game as a green up arrow. If the property had not improved it would reveal a blue flat line, whereas a red down arrow would represent a negative value. The increase in value means the players of the game earn more check-in credits and rent. Rent is paid out of the check-in credits earned for the check-in and this is based on a percentage of the credits.

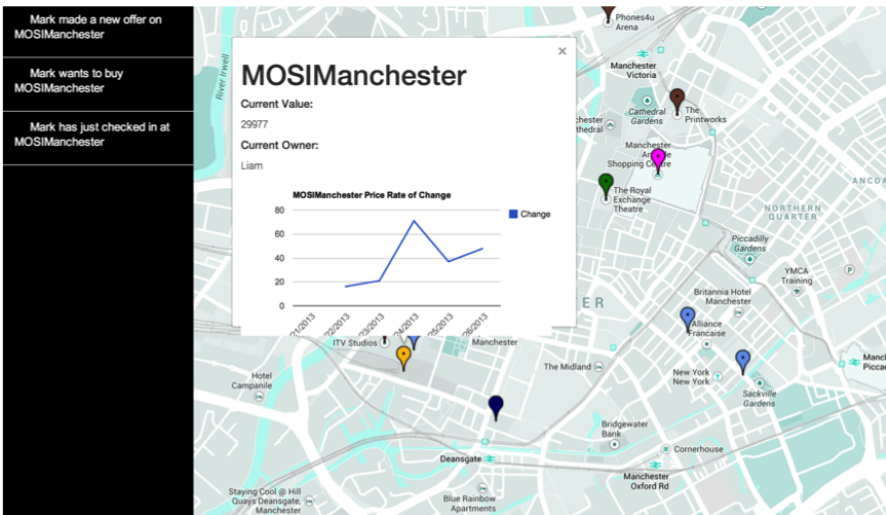


Figure 4. Screenshot of the LPT web interface and notification system.

If a business is engaging with social media on a frequent basis, and has a high amount of followers, then their property value in the game will be much higher. Players will aim to buy properties based on how much they are worth (much like in the game of Monopoly), except in LPT this price is changing daily depending on the business' real life upkeep of their social media outlets. This score is then compared to its previous days score and this determines the property's forecast (Figure 4). The decision to fluctuate the property prices is linked with actual land, stock and share prices, which occur daily. In the game, the change in price is depicted by a green 'up' arrow, a red 'down' arrow and a blue 'flat line', this allows players to determine if the property is worth purchasing, as it gives the player an insight into how

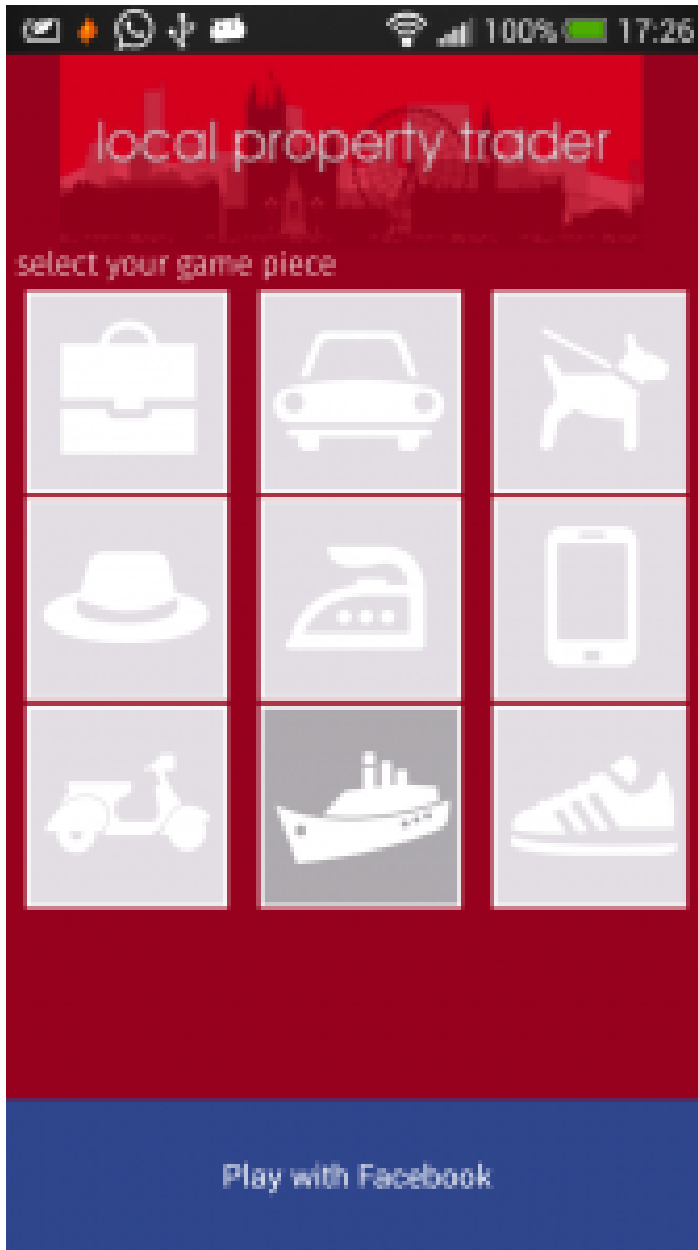
the business handles their social media account. If the property has a low social capital then the property is lower in price. However, if the property has a high social capital then the rent rates are higher. Essentially players want to purchase properties by observing their forecasts to see if the social capital will increase, thus earning the player a high rent score. It is all about buying at the right time.

Furthermore, keeping inline with the UK's property tax procedures (assigning properties to different tax bands, starting with the lowest band A) and colour coding properties in Monopoly, LPT uses these bands/colours to categorise properties into groups to determine the percentage of rent and check-in credits distributed against that property's social capital (Figure 4). As LPT has been designed as a centralised system, only one property can be purchased at one time. This means that two people cannot own the same property. To avoid players earning large numbers of credits from checking in, a single player can only check into the same property once a day, and a purchase offer/transaction can only take place upon tapping their mobile phone against the properties NFC tag or scanning the QR code (Figure 6).

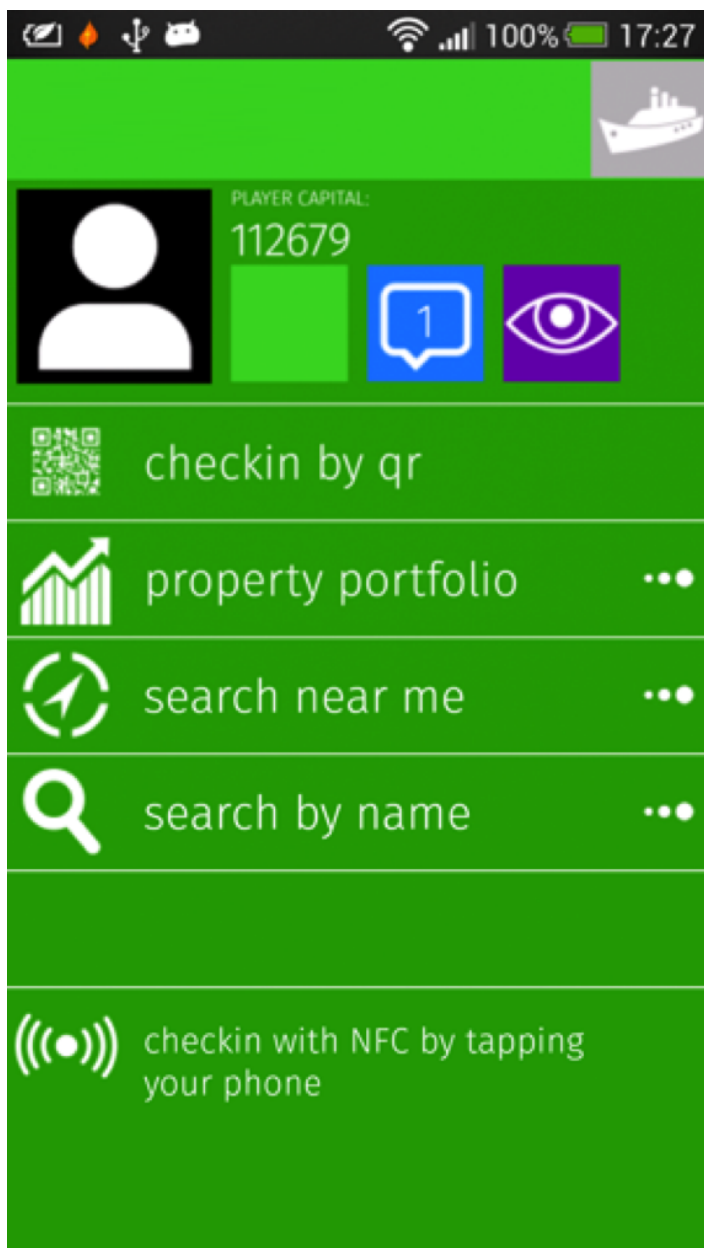
Additionally, as a physical city's transportation system is critical to keeping the city moving and creating a healthy and balanced economy, the same applies to LPT. These properties within the game, such as transportation systems (rail, bus, tram and underground) and public services (town hall, police, fire, hospital etc) are places players cannot actually purchase. These properties however act as places to earn kudos points within the game. If a player regularly visits and supports them (and contributes credits towards maintenance costs) they are looked upon supporting the city and this data is considered when making a deal/bid to purchase the highest valued properties within the game (these are currently properties worth £2.5m, which have high social capitals, thus high rents and checkin credits distributed). A player can not simply earn the credits to purchase the property alone, other gaming benefactors are considered such as their property portfolio, check-in history and their local support

(kudos points for supporting the public sector industries) therefore contributing to the wider community of the game.

Furthermore, to keep the game like its original boardgame counterpart, 'passing go' is represented daily through the opening of the mobile app and a simple poll of one of the main headlines of the city. For the example of the game in Manchester, the Manchester Evening News newspaper headlines are downloaded and selected at random and sent to the mobile client upon login. Players vote on the headline as to if they agree, disagree or are unsure on the topic to be then given a city wide poll as to how other players feel towards their city, represented in the form of a pie chart. This is achieved once a player has registered using their Facebook account and has chosen their LPT game character (Figure 5). The mixture of using Facebook for player identification and Twitter for properties was adopted due to both social networks nature of interactions between people. For example Twitter with its followers and Facebook with its connections. Additionally, chance cards are provided upon check-in. These are random cards which are generated from the central server, relating to real world topics and inline with current affairs such as, if you check-in around the time of 'Children in Need' (a UK annually charity event broadcasted over the BBC to raise money for children), you may be expected to pay some credits towards this charity (this would also come out of your check-in credits).



*Figure 5. Screenshot of the LPT mobile interface: registration and player avatar screens*

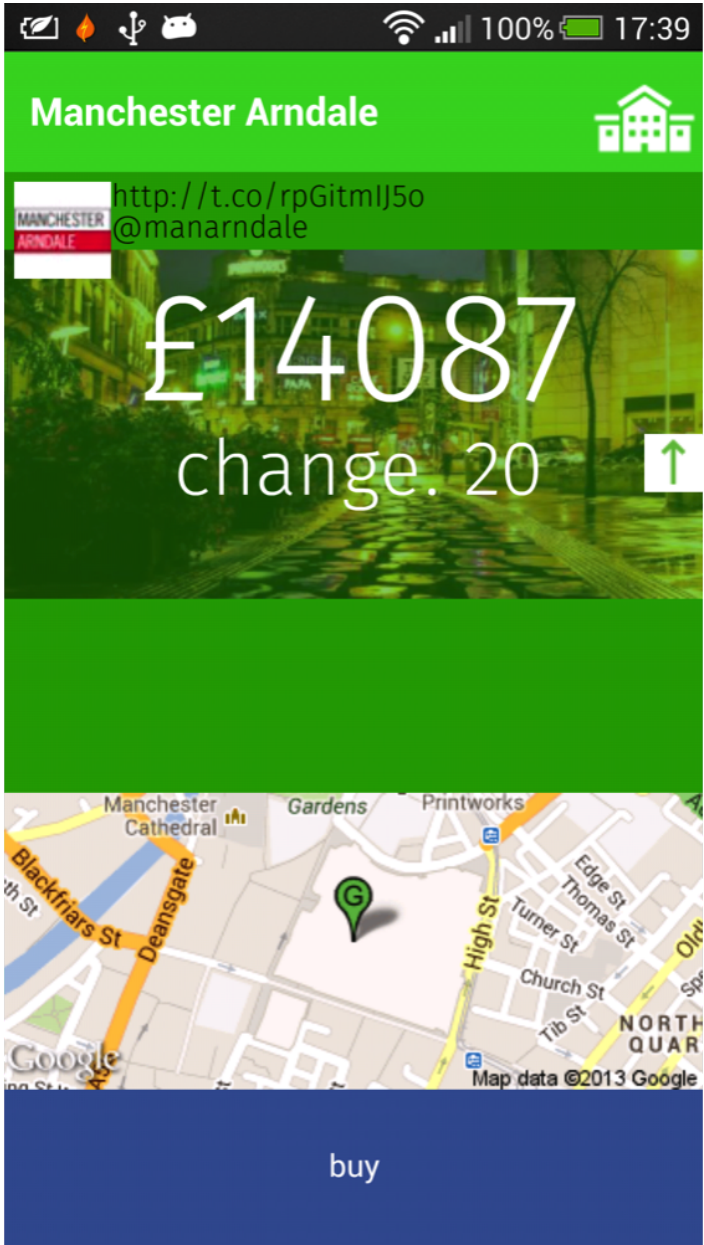


*Figure 6. Screenshot of the LPT mobile interface: main menu.*

Although the original game of Monopoly was designed to essentially get a monopoly of the city, LPT differs completely from this analogy.

A player in LPT, who gains a monopoly of the city, will be punished by higher taxation rates on the number of properties they own (and have to maintain these properties by checking in more regularly). A monopoly is determined by the number of high band properties owned, for example; a player who owns 5 high band properties will be highly taxed and require extra maintenance, whereas a player who owns 2 high valued properties and 8 low band properties is considered as an ideal player contributing to the wider community wealth of the city. The idea of the game is to trade with other players and support the local economy. Furthermore, the game is about building up the property's value (thus increasing the company's social impact) and not player's worth. Players need to play the game by exploring other areas of the virtual gameboard. The majority of the game is based around the idea of being a 'good citizen' in amongst the wider community (not just individually checking in and individual wealth) emphasising wider social consequences of play.





*Figure 7. Screenshot of the LPT mobile interface: checking into a property displaying details and the social score of a property, with the option to buy where possible.*

### Prototyping and Further Work

As a great deal of inspiration was taken from traditional boardgames, the designers of LPT also curated a novel way to influence the game with real time dynamic data to add context to the digital game and the real world. This data results in a player's social capital where the price of a property is determined by how well the player utilises social media, in particular Twitter. This was a key factor in balancing the game and defining the rules. One of the disadvantages of using contextual awareness within games is handling the ambiguities and unknowns. Take for example a game that uses real weather data to change the game play ([Lund. K., 2011](#)), in this instance all weather conditions need to be mapped and categorised to a particular action.

Unfortunately LPT's contextual information cannot be pre-mapped due to its varied and sparse information collected from Twitter. However, what was apparent early in the design and prototyping stage was how the Twitter accounts of some venues were owned as a global brand, rather than that particular location. This was clear with some train stations, whereby the national brand of the company as opposed to the location of the station itself ran the Twitter account. This was also clear for the football teams in Manchester (arguably global brands in themselves) having a greater pull on the city's property scape. Ultimately the game creator for that city/area has the choice to allow a business into the game or not. Furthermore, this is when the concept of mirroring the real world further became clear by categorising the properties into tax bands and any calculations were based on this band (similar to the rates one pays in certain housing/business locations in the UK). To reemphasise, the purpose of LPT is to get people engaging with their high street in an attempt to spend money locally, the game's mechanics and rules have been designed and set out to constantly reiterate encouragement. This progressed into new gameplay mechanics to keep in line with current developments in terms of the economic state of towns and cities in the UK.

Much like the game of Monopoly, players can build houses and hotels

to increase rent, but also in order for the game to balance and create a sense of longevity the idea of a singular property owned by one person throughout its entirety lead to the game designers looking for additional inspiration to forbid such action happening. This is where encouraging players to check-in even when they don't own the property becomes a viable option. As previously mentioned, the main aim of the game is to get people to explore their city and ideally rejuvenate the high street, thus actions like these are rewarded. This is when the idea of squatting becomes appealing to owners and visitors. A squatter is someone who wants to steal away the ownership from the owner, he/she becomes a squatter whenever they check-in, and if done regularly and consecutively they can change the ownership of such property. This is only permitted if the owner hasn't checked-in thus interrupting the check-in chain. Furthermore, the idea of squatting is again linked to the real world and its current affairs. Additionally, to re-balance the game, property owners in LPT can also protect their properties with insurance levels to deter the ability of explorers to squat. As previously mentioned, varying levels of insurance can be applied to such properties. This could be used in a scenario where the owner may go on holiday and has no ability to check-into their properties but still wants to keep ownership; he/she will add insurance so that when they are able to once again check-in, the property still belongs to them. During said time some information isn't revealed to all players in order to encourage players to keep engaging with the game. The players that have checked in can see if a property has insurance but they cannot see when this is likely to expire (thus its level of protection), whereas the owner can see when their insurance is to expire. The number of check-ins before a property can be stolen is based on its colour/band, the higher the band the greater the need to self check-in to prevent squatters and also the higher the insurance protection. It is also through negotiating the relationship between the player and the business that the city streets start to change into the gameboard.

As well as marking locations within the LPT mobile application, a web-based map of the game was also presented as a further idea to allow for another sense of community amongst players and those

interested in following the game action but not necessarily playing it (Figure 4). The traditional Monopoly board acts as a mapped representation of place, with the original British version focusing on key landmark streets and stations in London. The colours of the board separate out areas of commonality through location and community, as a way of representing parts of the city (while recognizing the vast expanse that the city actually is). By contrast, the game map of LPT also marks out locations, but this time through checking into new places.

In discussing the growth of networks, in relation to perceived global and local access, Eric Gordon (2009, 23) comments that, “[t]he ubiquity of digital networks has altered the form and function of space. Distances between things and people have changed: physical space has become less of a barrier to interpersonal, social, cultural and political communication”. Through location-based media, our social networks can in some ways change the way we view the spaces between each of our connected user’s check-ins, even if we are not in the same vicinity as them. We are given a snapshot into other people’s locations and social spheres through the information they choose to share with us through the network. Location has become another status update, a way of conveying how people move about, and whom they might be there with. Locations frequently checked into by others starting to become ‘placed’ in our social networks as we see familiar names crop up time and time again, even if we haven’t been to those locations ourselves. This bridges the gap between spaces that physical transport networks cannot provide as instantly. In many ways this is changing how we access the landscape and view the places around us.

It is through locating our actions, through locating our bodies within the landscape that the map becomes vital in our understanding of both known and unknown spaces. In discussing the connectivity of online spaces, Dodge and Kitchin (2001, 72) distinguish between four different modes of mapping that exist in digital environments, including “static, animated, interactive and dynamic”. We can start to see more and more “dynamic maps” popping up on the Internet “where the mapping automatically updates as the information used

in its construction is updated". In terms of LPT the locations within the database are fixed in order to define the structure of the game, much like the traditional Monopoly game board fixes a sense of place for users to navigate around. By fixing place, the goals of the game become apparent (although players then have to find those real world places, navigating real space, and potentially navigating real maps). By players locating themselves within the game, a map of connections starts to form, drawing attention to real world places and a representation of the places via the linked game website (Figure 4 and Figure 5). Here, both players and viewers of the website can track the progress of particular properties and locate their possible next move. The game becomes as much about negotiating the real world city as it does about checking in to the virtual equivalent via an NFC or QR code (Figure 6 and Figure 7). The social elements of play become vital in order for players to adapt and understand their motivations for entering into as well as maintaining a level of interest in the game. It is this connection to a map, a virtual boardgame of interactions that allows for a social connectivity of play as so important in both the original game of Monopoly and the newly developed idea of LPT.

## Conclusions

The findings and work presented thus far deriving inspiration from traditional boardgames and translating such interactions into a mobile game, alongside the creation of novel concepts such as adding in game context (Twitter), tax bands and squatting, were conceived from paper prototyping the game and initial playtesting. Although the current designs for the game are still in their infancy, playtesting and paper prototyping enabled the game designers to understand if such concept could be developed into the wild, to create further research linking to social and economic studies to understand if people of a city or town are willing to engage further with their local businesses in a more playful manner. Furthermore, the disjoint between the web and mobile platforms needs to be further studied to observe if non-players of the game find the web platform interesting enough to either

participate in the game and become a player or if the information provided helps them understand their local community.

The characteristics of many LBGs mean that they are often based on movements rather than unveiling the location. This requires constant player attention, which has led to the conclusion; what extent and context of location is used within LBGs. In contrast to the term ‘location’ applied to many LBGs, where in such games the players’ location and surroundings are independent from the actual game (Lund K. C., 2011; Lund K. L., 2012) as the players’ actual locations are not contextualised within these games. Designing LBGs to be more than simply moving through space to actually permit players to interact with their surroundings can unlock greater depth of gameplay. Some LBG designers employ location independence deliberately, as it allows these games to be more scalable, in the sense of being able to play it at any location. However, this can also be seen as the negative aspect of designing LBGs in this way as the scalability leads to a generic output that does not take into consideration how players might use individual cities and particular locations in certain ways. This is something that LPT aims to explore in more detail.

By checking into LPT, the player is broadcasting to others within their social network (and the game network), allowing other people to see the new place they have started to mark as their own territory. This is much the same as moving the boardgame piece in the physical version of Monopoly, with the claiming of space being an apparent theme across both platforms. In both instances the place is named and therefore, takes on some sense of location as other users can view the location and get a sense of its positioning from this data. If this place is in the other player’s possible vicinity, it may encourage them to seek it out and they too may decide to check-in the next time it comes up on their location list of possibilities. In writing about various examples of locative media, [Peacock \(2005, 129\)](#) notes that, “they are performative in the sense that the participant is bought into a role (as traveller, seeker, author, witness) and in carrying out that role they bring-into-being the work...through their actions, their utterances”. It

is through these performances that the places within the networked database start to emerge.

The fluidity of the data transfer in networked location-based social media systems, such as LPT allows for the player to negotiate the city in different ways. As much as the player may be aware of the rules of Monopoly, they also have to shift their frames of reference to play the game when out and about on the city streets. This shifting between frames ([Goffman 1974](#), [Stenros Montola Mäyrä 2009](#)) allows players to dip in and out of play as they go about their daily lives. It also acts as a reminder of the benefits of play, in terms of seeking to keep the virtual community alive (and hopefully these actions flowing back into the real world community). As such players learn to “upkey” and “downkey” ([Goffman 1974](#)) between frames, as Stenros, Montola and Mäyrä note (2009, 269), “shifting the focus between ludic and ordinary changes the frame, but also looking at the same event from the point of view of an individual, the community (of, say, players), and the society may require keying”. Therefore, the businesses involved need to be as aware of the ludic content they are potentially creating by maintaining their social media capital in the hope that players will continue to engage and want to keep the properties they have accumulated in the game. It is these factors that draw on how players recreate and response to the rhythms of the boardgame of Monopoly that start to become translated into the location-base version of LPT.

As much as LPT is based around the mechanics, meanings and rules of Monopoly, by converting a boardgame to a real life space, some of these aspects also had to be adapted. The evolving structures of a city, such as Manchester do not lend itself to a fixed grid of a traditional Monopoly board. Instead, properties are spread out, but this in itself creates a movement of players between places. The player has to physically be present on the point on the virtual game board, much like the piece has to wait on the square of the Monopoly location. However, unlike Monopoly, there is no roll of the dice to move on. Instead there are incentives to Pass Go, collect Chance cards and collect Railway stations through interaction with places,

rather than the numbers depicted on the dice. The player takes their position into their own hands, but as with Monopoly, their property-buying portfolio (Figure 6) involves taking risks and working out the lie of the land in terms of other player's interests. The social space of both games remains as a vital aspect of being part of the playing community. But now the location of the places becomes a vital part of the player's need to interact with places as real world consequences of social media engagement affect play. This in turn, allows player types of change and evolves to suit different modes and models of play through a common gamespace of shifting frames. By rethinking the underlying values of Monopoly, the game is now able to be adapted and updated for 21st Century play, not only in terms of the technologies involved but the underlying principles of integrating players with the community, showing the value of community to local businesses and hopefully re-invigorating towns and cities to create "new experiences".

## Bibliography

Feireiss, L. "New Babylon Reloaded: Learning from the Ludic City." In *Space Time Play – Computer Games, Architecture and Urbanism: The Next Level*. Edited by Friedrich von Borries, Steffen P. Walz and Matthias Bottger. 218-229. Basel: Birkhauser Verlag AG, 2007.

Dodge M. and Kitchen R. *Mapping Cyberspace*. London: Routledge, 2001.

de Lange, M. "From always on to always there: Locative media as Playful Technologies". In *Digital cityscapes: merging digital and urban playspaces*. edited by Adriana de Souza e Silva & Daniel M. Sutko. 55-7020. New York: Peter Lang, 2009.

Foursquare Blog. "The new Foursquare, 4 years and 3.5 billion checkins in the making". Accessed April 10, 2013. <http://blog.foursquare.com/2013/04/10/thenew-foursquare-4-years-and-3-5-billioncheck-ins-in-the-making/>



Goffman, E. *Frame analysis: An essay on the organisation of experience*. Boston, MA: Northeastern University Press, 1974.

Gordon, E. "Redefining the local: The distinction between located information and local knowledge in location-based games". In *Digital Cityscapes: margining digital and urban playspaces*. Edited by Adriana de Souza e Silva and Daniel M. Sutko, 37-54. New York: Peter Lang Publishing, 2009.

Gordon, E and A. de Souza e Silva. *Net Locality: Why location matters in a networked world*. Chichester: Wiley-Blackwell, 2011.

Humphreys, L. "Mobile social networks and social practice: A case study of Dodgeball". *Journal of Computer-Mediated Communication*. 13.1:341-360, 2007

Ingram, M. "Average Social Gamer Is a 43-Year-Old Woman". Accessed April 20, 2013. <http://gigaom.com/2010/02/17/averagesocial-gamer-is-a-43-year-old-woman/>

Juul, J. *A Casual Revolution*. Cambridge, MA: MIT Press, 2010.

Kirman, B. "Emergence and playfulness in social games". In *Proceedings of the 14th International Academic MindTrek Conference: Envisioning Future Media Environments (MindTrek '10)*. 71-77. New York:ACM, 2010.

Lund, K. "Participation inequality in mobile location games." *Proceedings of the 8th International Conference on Advances in Computer Entertainment Technology*. ACM: New York, 2011.

Lund, K, P. Coulton and A. Wilson. "Free All Monsters!: a context-aware location based game". *MobileHCI '11 Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services*. 675-678. New York:ACM, 2011.

Lefebvre, H. *Rhythmanalysis*. London: Continuum, 2004.

McGonigal, J. *Reality is Broken*. London: Random House, 2011.

Oldenburg, R. *The Great Good Place*. Massachusetts: De Capo Press, 1989.

Peacock, A. "Being here: performative aspects of locative media". *International Journal of Performance Arts and Digital Media*, 1. 2. 127-146, 2005.

Stenros, Jaakko, Montola, Markus and Mäyrä, Frans. "Pervasive Games in Media Culture." In *Pervasive Games Theory and Design*, edited by Markus Montola, Jaakko Stenros and Annika Waren. 257-277. Burlington, MA: Morgan Kaufmann Publishers., 2009.

Sheller, M and J. Urry. "The new mobilities paradigm". *Environment and Planning A*, 38, 207-226, 2006.