# (De)coding the City
## Analyzing Urban Play through *Wayfinder Live*

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The authors use the location-based, augmented-reality game *Wayfinder Live*, which one of them designed, as a case study to analyze urban play. Acknowledging the difficulty of defining urban play, they expand existing approaches to the topic by drawing on current theories about interfaces, assemblages, and coding in such fields as media and cultural studies, game and play studies, and urban studies. They consider *Wayfinder Live* as an interface—a site of both connection and translation—for urban play, one that encourages its players to test a given city's physical and social boundaries. They argue that the game offers a fruitful, if always contingent and contextual, framework for analyzing digitally mediated urban play. **Key words**: affect; assemblage; coding; decoding; encoding; interface; location-based gaming; urban play; *Wayfinder Live*.

*Wayfinder Live*, launched in 2016, is a location-based, augmented-reality smartphone game designed by Troy Innocent. It incorporates the physical space of the city into the game through "urban codes" that are situated in the everyday urban environment. Players are encouraged to find and scan these codes with their smartphones to earn points and influence their faction's control over the city. *Wayfinder Live* stands in contrast to many commercial location-based games—like *Pokémon GO* (Niantic, 2016), *The Walking Dead: Our World* (Next Games, 2018) and *Minecraft Earth* (Mojang, 2019)—that superimpose virtual objects onto an abstract map interface. Unlike these games, *Wayfinder Live* is deeply embedded in the material, social, and cultural conditions of the cities in which it is played. The urban codes that players scan are situated in, or near, hidden or less-frequented areas within the city, such as alleys and lanes. They are also designed to blend in with nearby urban infrastructure, architecture, street art and signs. The game's designer used the mapping and documentation of unique characteristics of a given city to design the game through multiple iterations



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in various cities. Players of the game, meanwhile, are asked to put away their phones momentarily and investigate their surroundings to discover the codes before interacting with them in an embodied way by scanning them with their phone's camera. Through this process, *Wayfinder Live* acts as an interface for urban play that enlists players in a process of decoding the city across multiple layers—cultural, geographic, material, social, and technical.

Our previous writing has examined how *Wayfinder Live* reconfigures the relationship of its players to the city in which the game is located through this embodied act of discovering and scanning codes (Innocent and Leorke 2019; Leorke 2018). Here, we build on both this research and an analysis—conducted through semistructured interviews—of the players' experiences during its most recent iteration in Tampere, Finland. We explore more deeply how the features and characteristics of urban play are embedded into the game design and enacted through the player experience. Although urban play remains an elusive concept to define and analyze, we draw on Stevens's (2007, 2012, 2017) approach to urban play as a mode of engagement with the city that often involves contesting the social and physical boundaries of urban space. This involves examining the two threads of creative-practice research that underpins *Wayfinder Live*. First, from a conceptual perspective, *Wayfinder Live* serves as a speculative world-building project exploring an urban culture based on principles of play. Second, from a more concrete design perspective, *Wayfinder Live* is an approach to public art that incorporates field research focused on the materiality of augmented reality. Both threads of this practice were developed in parallel from 2010 onward to explore different aspects of "urban codemaking": the methodology employed by *Wayfinder Live*'s artist-designer to map the city, situate the codes within it as part of the game, and structure the player experience. (We choose to use "codemaking" in this article as a single-word term of art.) We begin by outlining this methodology and its application within *Wayfinder Live*, before analyzing in the second half of the article how the player experiences of *Wayfinder Live* can shed light more broadly on urban play as an object of study.

## Urban Codemaking: Decoding the City as a Code and a Place

Cities are complex assemblages of material, social, economic, political, technological, semiotic, and spatial codes. Recognizing that cities are already encoded

with multiple messages across layers or strata, urban codemaking is a methodology for situating players within various ways of decoding these messages through urban play. We frame players as inhabitants of the city, both permanent and transient, who become players through their encounter with the game interface. Decoding in this context, meanwhile, connects three related concepts: Stuart Hall's (2006) model of encoding or decoding messages; Manuel Delanda's (2016) reading of coding or decoding in assemblage theory; and Rob Kitchin and Martin Dodge's (2011) exploration of the relationship between software code and the production of space. Urban codemaking focuses on a heightened awareness of place and the multiplicity of codes that produce it: spatial, digital, cartographic, social, and ludic. Its aim is to draw players' attention—consciously or otherwise—to the urban environment as a messy, heterogenous "complex adaptive assemblage" that is always in the process of coming into being and constantly being decoded across multiple layers (Dovey and Wood 2015, 9; Amin and Thrift 2016, 2002).

Urban codemaking accomplishes this, first, by extending to urban environments Hall's notion of encoding or decoding as a process that recognizes the ways in which messages are produced. Messages, Hall (2006) notes, take the form of "sign vehicles" that are coded and, thus, always constructed to various degrees and with certain "dominant" readings privileged, but not fixed (169). In contemporary cities, the encoding and decoding of signs traverses material, social, governmental, and infrastructural layers. As sites of both inscription and encounter, the multiplicity of signs in the city has long been conceptualized as complex and indeed overwhelming (Mitchell 1995; Ridell 2013; Simmel 2002). But this multiplicity is only increasing. A wall may become home to a piece of street art—produced by a particular individual and containing its own aesthetic and political codes—which also serves as the corner of a shop that draws upon street art as a signifier of its identity and brand. Spatially encoded data about this location on GPS-driven map services reinforce commercial signage in the area, reflecting the broader social code of this particular neighborhood. Meanwhile, embedded within the street scape are infrastructural codes that favor pedestrian over vehicle access. Together, these codes all form an assemblage that constitutes the urban environment itself and its affordances for mobility, play, sociality, and so forth (Dovey and Wood 2015).

At the same time, understanding cities as assemblages involves the recognition that cities are generally "decoded" spaces. For Delanda (2016), assemblages exist where "the value of the coding parameter is low, as when animal behaviour

stops being determined by genes, or when human behaviour ceases to be fully specified by written norms" (23). In contrast to highly coded or "overcoded" environments, like bureaucracies or the cities of despotic states, most contemporary cities are instead radically decoded. This does not mean they lack codes, since as we noted precisely the opposite is true. Rather, it means the proliferation of codes that exists in cities are highly contingent, open to interpretation and reinterpretation, and often in competition or conflict with one another. They are also in constant flux, varying depending on context, culture, the assemblage of bodies and objects present, and temporal rhythms (such as seasonal variation and day and night cycles). Such fluctuations can be less pronounced in some cultures—highly conformist cultures, for example, will be more heavily coded—or during particular events, like a military parade. Urban codemaking, in this context, uses game design to add another layer of coding to the urban environment. It involves coding the city for play, but in a way that recognizes the radically decoded nature of cities and encourages a multiplicity of readings or decodings.

Building on Erving Goffman's frame analysis, Thomas S. Henricks (2006) articulates play as a site for the transformation of meaning through playful encounters with the world. In this way, the process of decoding provides a negotiated code or position activated by the imaginative state of play, one that does not privilege a single, dominant set of codes—as would be the case in overcoded environments. Through this approach, urban codemaking activates the imaginative potential of "smart cities" mythology to expand the concept of encoding or decoding to include software code as a form of worlding that brings new urban assemblages into being. As a result, the approach brings the interface of urban play to Kitchin and Dodge's (2011) concept of "code/space"—that is, it adds the logic of game design. Kitchin and Dodge's code/space is a way of understanding the contemporary urban environment as mediated not only by visible "sign vehicles" (signposts, billboards, storefronts), but also software and algorithms whose code is "hidden, invisible" but nonetheless "produces visible and tangible effects in the world" (4). But although their notion of code/space acknowledges the "contingent, relational, and context dependent" nature of the relationship between code and space (18), its application is by necessity abstract and generalized.

Urban codemaking responds to this abstraction through pervasive game design that repositions the concept of code/space at the micro level. Games use digital code to set up rules and systems that overlay and interact with existing

systems. By mapping the city and embedding urban codes readable through game algorithms into its fabric, urban codemaking brings an embodied, situated, narrative layer of code that results in a different type of geospatial production. Rather than code/space it is "code/place": a reconfigured, heightened relationship with the city's codes that occurs through the act of decoding. This act of decoding unfolds across both the algorithmic and material layers of the city—corresponding, respectively, with the game interface and the physical urban codes (that are placed in situ alongside the other codes of the urban environment). Let us consider how this unfolds in more detail.

## *Wayfinder Live* as a Platform for Urban Codemaking

Urban codemaking originated in the development of an alternate-reality game (ARG) in Melbourne, called *Urban Codemakers* (2010), whose narrative enlisted players to "rezone the city through play" (Conway and Innocent 2016; Leorke 2018). But since 2016, urban codemaking has primarily been put into practice through the design and implementation of *Wayfinder Live* across multiple iterations performed in different cities around the world.

In *Wayfinder Live*, players are asked to download a smartphone app, which provides them with the back story for the game. Three factions—Remake (represented by a blue icon), Renew (orange), and Revert (green) —hold competing visions of urban governance and are seeking to influence the city's development from behind the scenes. Players choose (or are sorted into) these factions during the early phases of the game. This selection process varies by iteration: in some, players choose their faction, but in others they answer a series of questions that assigns them to a faction. Players are then presented with a map of their city, but rather than a simple top-down, Google Maps-esque virtual re-creation, it consists of sixteen fragmented, abstract shapes. These shapes each represent a physical code hidden somewhere in the city that players are yet to discover. The map provides players with clues to locate and scan these codes. The form these clues take also varies from iteration to iteration of the game. In one iteration, text clues appear based on the player's geographic proximity to the codes, determined by their phone's GPS signal (e.g. "head north, towards Swanston [Street]"). In another iteration, clues are not location based, but, for example, use photographs of locations around the city accompanied by a hint that players must interpret (e.g. "look for the blue elephants"). In all iterations of the game, though, play-

ers are never told explicitly where the code lies: they must investigate the area to which they are directed by putting their phones away once they arrive and looking around to identify the actual object they need to scan.

Once players locate a code, they take out their phones again to scan the code with their phone's camera. This triggers an augmented-reality animation


Figure 1. *Wayfinder Live* Melbourne game map

Figure 2. An urban code in Melbourne

that reveals a fragment of the game's narrative, providing insights into the three factions' intentions. Once players have scanned three or more codes, a new mechanic becomes available. They can spend influence points, which allows them to control codes they have previously scanned. By spending more points on a code than competing factions, they can change its color to claim it for their faction. As an example, Remake (blue) has spent a total of 110 points so far on a code, and the player's own faction; Renew (orange), has spent 100. The player spends 11 points to bring Renew's total to 111, changing that code on the game map for all players to orange.

Players acquire influence points by scanning new codes or returning to rescan previously discovered ones (which they can only do after a thirty-minute delay). The influence mechanic thus adds a competitive layer to the game on top of the code-hunting element. But it adds a narrative layer as well, since each faction represents a different philosophy for urban planning and development: Renew the city by balancing the cultures and communities already on the street; Remake it as a smart city through systems of datafication and algorithmic control; or Revert it through the reincorporation of nature and nonhuman beings into a "posthuman" city.

By earning influence points and spending them strategically to win over codes, players engage in a continuous, ongoing competition that unfolds in

real time. They might open the app and smugly claim a code for their faction by spending all their accumulated points on it, only to check it thirty minutes later and discover a player from the other faction has reclaimed it with an even greater number of points. At the end of the game—which can last between a day and several weeks—the faction that controls the most of the sixteen codes wins. In the game's narrative, this means the faction that the player has chosen (or, perhaps, been chosen by) successfully imposes its ideology over the city.

In previous research (Innocent and Leorke 2019), we outlined the five play design principles that underpin *Wayfinder Live* and examined how they unfolded in practice through semistructured interviews with players of the 2017 Melbourne iteration of the game. The principles can briefly be summarized.

1) *Put your phone away! —Wayfinder Live* blends the virtual and physical environment through material codes situated in the city, encouraging players to navigate with their phones but then put them away as they search for the codes themselves.

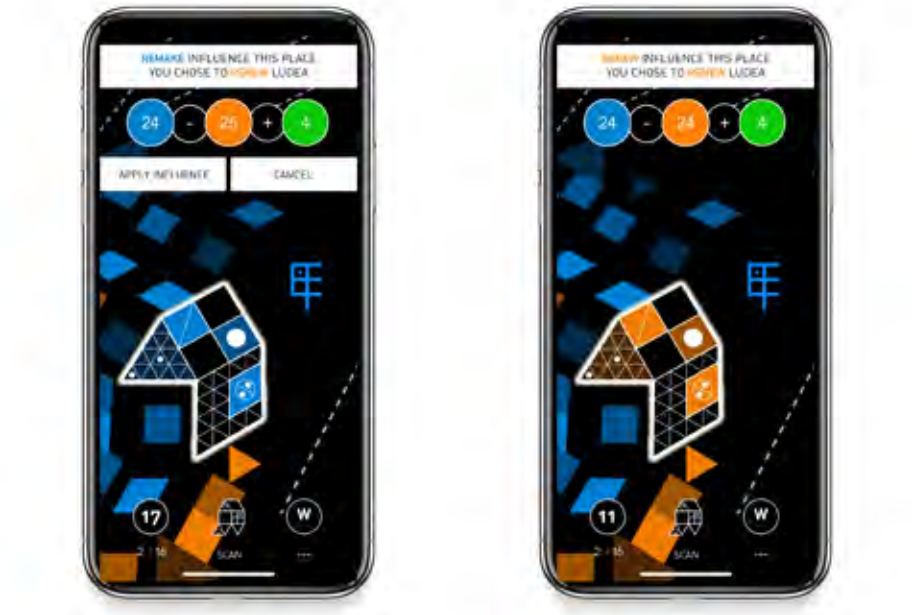


Figure 3. Influencing an urban code in *Wayfinder Live*: Remake (blue) to Renew (orange)

2) *Way finding equals finding ways of being*—As players search for codes, whether they are tourists or long-term residents, they become immersed in the rhythms of the city through a playful, exploratory process of way finding whose intention is to reveal the city as an ongoing process in itself, rather than a fixed state.
3) *Materiality and virtuality*—The codes themselves are both physical objects in the city and "barcodes" able to be read algorithmically by the game app to trigger augmented-reality animations. The codes thus extend across these two realms: the material and virtual.
4) *The ready-made in place making*—The codes respond to the already existing meanings of the locations in which they are placed, creating a dialogue with the objects, architecture, and people around them. A code may be placed next to graffiti, for example, simultaneously blending in and drawing attention to it.
5) *An alternate city within the city*—The "influence" mechanic encourages players to reflect on the themes and ideas around urban development and governance represented by the three factions' ideologies.

Rather than reiterating and reapplying these design principles in a new case study here, we explore more deeply how to put these principles into practice by considering *Wayfinder Live* as both a platform for urban codemaking and an interface for a broader process of urban play. Each version of *Wayfinder Live* is an assemblage of four interconnected systems: a set of urban codes marking the area of play, a smartphone app providing an interface to the game world, an abstract map showing the state of the game world, and a community of players belonging to three competing factions. The map provides a starting point somewhere in the city and clues to locations within the game. The smartphone screen is intended to be used sparingly for encounters with urban codes via augmented reality, to check the current state of play, or to review unsolved clues to locations. Ideally, the players spend most of their time playing the game immersed in the city itself, keyed into the geometric patterns of urban codes. Once they locate a code, their smartphone screens come back into play, and fragments of narrative are introduced through the act of scanning codes that build on the narrative around competing philosophies of urban design and social capital in cities. In this sense, *Wayfinder Live* serves as a platform (both technically and

figuratively) for urban codemaking at both the design and user end. Each iteration involves documenting and coding the city—and subsequently decoding it through play. Importantly, though, unlike commercial platforms for urban play such as *Pokémon GO*, *Wayfinder Live* is completely free to play and funded through Innocent's research practice or by an organization based in the city in which it is performed, not in-game microtransactions or data harvesting.

Since launching at Melbourne International Games Week in 2016, *Wayfinder Live* has been performed in seven other cities around the world: Aarhus, Barcelona, Bristol, Dublin, Singapore, Taipei and—most recently, at the time of this study—Tampere, Finland. Each staging of the game is a new iteration with additional features added and mechanics tweaked. But this iterative process is equally informed by the city itself. The specific geography, architecture, urban design, cultures, and social conventions of the city both subtly and overtly shape and modify the game design and player experience. Each version of the game is also typically funded and organized in concert with a city- or university-funded event: a games festival, artists' residency, city place-making initiative, or academic conference.

Figure 4. *Wayfinder Live* Aarhus, an urban code on the Coal Bridge (Kulbroen)

*Wayfinder Live* was playable April 3–7, 2019, in Denmark's Aarhus during Counterplay '19, starting at Dokk1, a large public library, and ending at the Dome of Visions, a temporary architectural installation facing the water at the Port at Aarhus. It used locations along a walking trail that moved through Sydhaven, a reclaimed industrial area occupied largely by creative studios, collective work spaces, and social cooperatives in which multistory apartments were in the process of being constructed. Running through the center of this space is Kulbroen (the Coal Bridge), a major landmark and heritage site. Because the game took place in contested zones that traversed smart city infrastructure, heritage buildings, and many sites of community and collective action, the speculative design narrative shifted to the foreground as it was played during the real world events happening in locations on the game map. This also resulted in higher than usual diversity of urban environments ranging between open fields, dirt paths, main roads, public squares, waterways, a lookout tower, and experimental architecture.

In contrast, the Bristol games on March 14 and 23, 2018, were more orientated toward performance. Hosted by and starting at the Watershed Pervasive

Figure 5. *Wayfinder Live* Bristol, scanning an urban code on the ferry across the River Avon


Figure 6. *Wayfinder Live* Singapore, art and design students scanning an urban code in Bugis

Media Studio, the games were scheduled for specific times, which meant the players occupied the game locations simultaneously. Therefore, they were aware of each other during the game. The game played out in a looped trail that took players along the north and south banks of the River Avon, populated by the disused cranes, transit sheds, and other remnants of a major harbor. Many of these have since been converted into galleries, museums, and other cultural destinations, and the area attracts both lots of locals and many visitors. The waterways dominated the game map, with one urban code situated on a small cross-harbor ferry that players would scan during their two-minute ride from one riverbank to the other. As a performance, players navigated the game map mindfully, coming together with purpose at the end of each game to compare their scores and stories—a very different experience from the durational and ambient journeys of the players in Aarhus.

In Singapore, *Wayfinder Live* was tied to a specific event and was playable on February 15, 2019, in central Singapore. This game was hosted by Nanyang Academy of Fine Arts and cocreated with students through a week of workshops on the platform. Although Singapore has strict laws against graffiti and

street art, neither the students nor the administration had any concerns about placing urban codes on the street because, in the neighborhoods around Bugis and Kampong Glam, they consulted local shop owners and organizations who proved supportive. Working directly with people who live and study in the area resulted again in a different kind of game, with knowledge of Singapore's multicultural milieu naturally becoming part of the event for the multilingual students who had grown up in the city. Once the game became live, the entire student body was invited to play.

Over a number of iterations, a *Wayfinder Live* urban field kit has also been in development along with the platform. In the longer term, this will facilitate a do-it-yourself, cocreation process for building games that can be used in virtually any city. Building the game with this kit is an exercise in alternative mapping and field research that, through decoding the space, generates a body of new knowledge. This ultimately translates to the game through the choice of locations and fragments of narrative embedded in the map. But, when shared with collaborators on a game in a city, it also becomes part of the game itself.


Figure 7. Tampere University researchers find and scan an urban code (below the arrow signs) during play testing for the Tampere version of *Wayfinder Live*

The latest iteration of *Wayfinder Live* was held in Tampere. With a population of over 230,000 people, Tampere is the second largest city in Finland and the largest outside the capitol area of Helsinki. It is currently undergoing a population spurt with approximately a 1.7 percent annual population growth (Sponda 2018). Reflecting this growth, a number of large-scale developments dot the city: a tramline, a railway redevelopment that connects to a new stadium and mixed residential and commercial complex in the center, and a new smart suburb that embodies the ambitions of city planners to be carbon neutral by 2030 (City of Tampere 2017). With a skyline dominated by factory buildings mostly converted into apartments and hubs for tech workers, Tampere embodies Finland's rapidly developing services-driven economy, which punches above its weight globally in design and technology.

In April 2019, the Game Research Lab at Tampere University offered the latest of its long-running, annual two-day spring seminars based on the theme Urban Play. To coincide with the seminar, *Wayfinder Live* was run in the city between April 10 and 16 and was open to both seminar participants and members of the general public. The game was advertised through the seminar website, Facebook events, email announcements, and posters around the city. This iteration of the game was codesigned by Leorke and one of his colleagues at Tampere University, Elina Koskinen, who used the field kit to conduct field research, mapping, and documenting the city's spaces prior to Innocent's arrival. The starting code was placed at Vapriikki Museum, a former linen and ironworks factory converted into a public museum complex, which hosted the seminar. The remaining fifteen codes were spread out across an area of approximately 5.5 square kilometers. This area encompassed the city's commercial center; the Finlayson Art District, a former factory converted into an arts, cinema, and commercial hub; the main hall Tampere Talo, which hosts conference events and musical and theatre performances; and a lakeside harbor in the city's north that lies off the usual routes taken by residents and visitors through the city.

The 2019 versions of the game in both Aarhus and Tampere also introduced a new feature for providing clues to players about the locations of the codes. It involved embedding short loops made of a series of photographs into the game map. These photographs are collected during the field research and provide breadcrumbs of urban code—depicting, for instance, a unique fragment of text, a colored wall, commercial signage, a labelled infrastructure, a found geometric pattern, detritus, a ruin, miniature landmarks, and other details that can be read in the environment. These examples each point to different layers

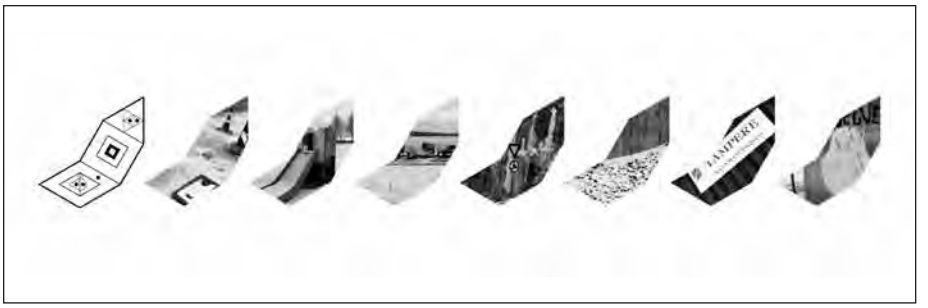

Figure 8. *Wayfinder Live* collection of image clues connected to an urban code

of the city, noting infrastructure, traces of the past, formal and informal identifiers, emerging uses of the street, evidence of current occupation, materials, and structures. In addition to functioning as visual clues that key the player into the urban environment around each urban code location, the codes photographed both represent a form of recorded psychogeography made from signs and traces of the city and encourage players to be more observant and connected as they find their way through it.

These examples of how performances of the game have evolved demonstrate the way the unique characteristics and conditions of the cities in which it is played influence the design and implementation of *Wayfinder Live*. In each case, this influence is tied to the event or institution that hosts the game, which inevitably informs, for example, the location of the starting code, the general geographic area for play, and the target audience of players. But beyond these general parameters, each iteration of the game is deeply imbricated in the materiality of the city and its social and cultural conditions through the process of urban codemaking. Observing and documenting the city and its potential for play proves key to the game design and its fieldwork process. This process involves seeing the city through a playful frame and responding to its myriad existing affordances and interfaces for play. It literally codes and inscribes the urban environment as a place for play through the urban codes. From the designer perspective, on a purely instrumental level, the urban codes operate as wayfinding markers that draw attention to locations by collecting them within the game world assemblage. To encounter the other layer of meaning behind them, meanwhile, requires becoming a player of *Wayfinder Live* by downloading the smartphone app and following its prompts to find and scan the codes. In this

sense, *Wayfinder Live* is an interface for urban play—from the perspectives of both the designer and the player.

## *Wayfinder Live* as an Interface for Urban Play

To understand *Wayfinder Live* as an interface for urban play necessarily means providing some definitional context for each of these terms: interface, urban, and play. We draw on Kim Dovey and Stephen Wood's (2015) understanding of interfaces in the urban context as "connections, relations and flows that are geared to productive practices," rather than distinct "things" (4). Further, leaning particularly on Alexander Galloway (2012), we understand digital interfaces not merely as connections or gateways that are binarily open/closed or enabling/constraining. They are "always a process or a translation"—a "nexus" or site that mediates relations between distinct entities beyond the simple flipping of a switch or execution of an algorithm (33). This builds on our understanding of cities as assemblages, since interfaces mediate the relations between different layers or strata of this assemblage, such as the architectural (building) and the urban (street) —or to use code/space parlance, the social (human bodies) and infrastructural (software systems). Importantly, Dovey and Wood (2015) note that interfaces are also temporal, not just spatial. They can be affected by rhythms and routines—for instance, by the manual shuttering of a storefront at close of business time or the automated programming of a keycard system timed to deny entry to a building during specific hours. Further, interfaces also embody "a latent dynamism, a potential for change and adaptation" since such rhythms, programming, or design can be changed at any time. An opaque window can be replaced with a transparent one, changing the building's interfacing with a street, while a system can be reprogrammed, hacked, or cease working altogether (9–11).

Like Miguel Sicart (2016), then, we understand play as an interface for engaging with the various components or layers of the city-as-assemblage. But Sicart's framework is based on the acceptance of cities as "data production engines"—that "there is no way back" from the inexorable push to make cities smarter through big data analytics and real-time, responsive management systems (31). Sicart therefore privileges the technological, framing play as a way of interfacing with this data, using it for playful and subversive purposes rather than "commercial controlling devices" and instrumental applications.

Sicart's self-confessed "romantically optimist and designerly naïve" approach rejects both the "old paradigms of physical environments" favored by the Playable City movement and the gamification of urban life. Yet the few examples he provides—such as people huddling closer to access WiFi in a public square; Tamagotchi-like creatures attached to cars that "screech" and encourage people to take public transport instead—sound suspiciously like both these things, not to mention deeply mundane and uninspired (34–36).

To this end, we position *Wayfinder Live* as an interface for urban play, not only at the technical level as a playful approach to urban data, but more specifically as one grounded in the notion of interfaces (digital, nondigital, and hybrid) as microspaces of power, translation, and adaptation. The game is one interface among many in the urban environment that, like all the other interfaces, is always ambiguous, contested, and in flux. It is a hybrid, material-algorithmic, gamic interface, comprising physical urban codes and a game app that intersects with the existing, ready-made spaces, objects, codes, and other interfaces of the urban environment. In other words, an interface within a myriad of interfaces—technical, physical, and conceptual—albeit one that privileges the playful and speculative over the instrumental and proscriptive. This approach rejects a technocentric approach to play as an interface first and foremost for urban data. It also avoids the romantic optimism of urban play scholars and practitioners like Sicart—what Peter Smith (1995) describes elsewhere as the "play ethos," an uncritical valorization of play's positive potential (Henricks 2020). But nor does it fully endorse pessimistic narratives of play's assimilation into "ludic capitalism" and neoliberal economic agendas through digitization (Galloway 2012). Instead, it acknowledges and embraces the complexity, messiness, and contested nature of both play and the urban.

Play, as Henricks (2020) notes—and many play scholars are acutely aware—is inherently "difficult to comprehend and investigate" and as an object of study eludes easy definition, having been conceptualized throughout several centuries of Western thought (117) (see also Huizinga 1949; Lutticken 2010; Nagel 2002). For Stevens (2017), play even inherently "resists the dualism of Western thinking," presenting potentially irresolvable "conceptual and practical challenges" that make play scholarship itself playful and ever evolving (177). The urban, meanwhile, has been more concretely defined within geography (Davis 1955). But such definitions are complicated by the lack of a universal measurement of urbanization (Uchida and Nelson 2010). Meanwhile, recent criticisms and countercriticisms from human geography and postcolonial studies reject any

universalizing and bounded definitions of the urban altogether (Brenner and Schmid 2015; Robinson 2006; Ruddick et al. 2017).

Urban play is therefore especially difficult to define, let alone actually analyze. But analyzing urban play, we contend, involves a conceptual shift similar to that involved in understanding interfaces as processes rather than as things. Urban play is equally not a thing or even a collection of things assembled into an activity we call play. It is, like both play and the urban, unbounded, unstable, and processual. As Stevens (2012) notes, "urban play is not so much a specific set of actions, places or regimes, but is, rather, a distinctive mode of engaging with people, spaces and built forms, and developing new relationships to them" (n.p.). It is responsive, dynamic, and fluid, rather than a fixed state or "way of being" that is "autotelic" in the sense described by Sicart (2016)—having a purpose in and of itself (28). This is not to deprive play of either its radical or instrumental potential. On the contrary, Stevens (2017) identifies various ways that urban play enables people to test, challenge, and even transgress the boundaries of the city. These include physical boundaries, such as through acts of appropriation or reappropriation of physical locations that occur in public protests, flashmobs, parkour, skateboarding, street theatre, and street art. But they also include social boundaries, by providing "means for individuals to step outside their usual social role, interact with those who are different, challenge conventions, and thereby explore being themselves" (178). For Stevens (2007), urban play draws on and combines various elements of play previously identified by Roger Caillois (2001): chance, competition, mimicry (which includes imagination, fantasy, and role play), and vertigo. According to Stevens, these become embedded within the spatial and social conditions of the city as a site that tends to "gather and multiply the diversity of social life" and make it particularly conducive for the intersection of these elements (181) (see also Sennett 2010).

*Wayfinder Live* serves as an interface for urban play most obviously by encouraging players consciously and visibly to test out the physical and social boundaries of the city through the game. Moving through the city with clues in mind, searching the urban environment for a hidden object, physically scanning the code with a smartphone—all these actions that take place through the game embody this understanding of urban play as a mode of engagement with the messy and multilayered urban environment. Meanwhile, through its speculative fiction and design—the narrative and urban codes themselves, respectively—*Wayfinder Live* encourages imagination and simulation as players explore the city as it could be. This reflects the aim of speculative design as a methodology to

invite the user of its products to be creative, imaginative, and, indeed, playful by positing visions of the world as it also might be, not only as it is (Dunne and Raby 2013; Galloway 2013; Leorke and Wood 2019). This adds an additional layer of playfulness to the game that invites players to bring a creative and imaginative frame of mind to the places they explore through the game.

In this sense, *Wayfinder Live* brings an interface for urban play that is intended to be simultaneously transgressive or transformative and imaginative or speculative. In doing so, it draws on the two overarching forms of urban play described by Stevens and also connects with the four categories of play identified by Caillois and enacts them, to varying degrees, in the city in which the game is performed. In this sense, *Wayfinder Live* is not merely a practical interface for urban play. Building on Galloway's (2012) notion of the interface itself as a methodology for critiquing culture in the digital era, it can also function as an interface for analyzing urban play itself.

## Analyzing Urban Play through *Wayfinder Live* Tampere

As Stevens (2017) points out, analyzing urban play is particularly challenging given the fluid, multifaceted, and contextual nature of play and the messiness and diversity of urban space. But Stevens makes two particular points about examining urban play that we would like to draw on in our analysis of players' actions in *Wayfinder Live*. First, analyzing urban play involves "close, detailed observation and description of what people do in particular places and times" (182). This is because what is and what is not play constantly shifts. Meanwhile, external factors—namely the material and social environment around the player or players—deeply shape all play. Second, internal or intrinsic factors—most prominently, the player's mood— also shapes play. As Stevens notes, play involves "psychological states that do not readily lend themselves to external empirical observation," such as "imaginative fantasy and competition" and "emotional engagement with risks" (183). Although these points apply to all forms of play, they become particularly heightened and thus more challenging to analyze in the urban context.

Taking all this into account, analyzing urban play through the lens of a game like *Wayfinder Live* presents both advantages and challenges. As a game with somewhat demarcated boundaries—a few square kilometers of a city—and a set of established rules and goals for players to follow, it provides a distinct

context for studying urban play. That is, its boundaries are not strictly confined to a particular place, nor are they completely amorphous. Likewise, the game's algorithmic rules structure play, but like digital games more broadly, this play is also situated, embodied, and processual (Consalvo 2009; Keogh 2018; Malaby 2007)—even more so because it takes place in the urban environment. As such, the game encompasses a wide area of urban space and allows for the analysis of urban play beyond a clearly demarcated zone (such as a park or playground) and with a focus on a particular set of actions, carried out by a defined set of people (the players), all of which are mediated by the game rules. But this porosity has a downside as well: it makes observation of player behavior difficult, since players' actions are spread over such a large distance and are affected by many external factors and stimuli beyond the virtual game world itself.

For this article, like our previous research (Innocent and Leorke 2019; Leorke 2018), we opted for semistructured, face-to-face interviews with a small sample of *Wayfinder Live* players to test how the principles and intentions of the game design translated into the play experience. Instead of close observation of players' behavior, we use the players' own accounts of their actions to reconstruct their experiences of urban play. This method means we rely on players' memories and their verbal communication of them rather than on the type of close observation conducted by Stevens. But such reliance also enables us to gain a deeper insight into the mood and affect of players during their experiences than observation would allow.

We focus on interviews conducted with players of the Tampere iteration of *Wayfinder Live*. That game was conducted in April 2019 during the Urban Play spring seminar, and it attracted 117 players, 89 of whom scanned at least one of the codes. Leorke interviewed eight individuals within two weeks of the game's conclusion—four women and four men, including two men of color. All interviewees were in their thirties, lived in Tampere at the time, and had heard about the game either through social media posts or as part of the Urban Play seminar. They all played the game during the week it was available and engaged in it for between one and ten hours. The interviews were semistructured, lasting approximately thirty minutes and following a series of questions based on our previous research about the interviewees' experiences with the game, although we built in a high degree of flexibility to allow interviewees to develop their own thoughts and raise tangents during the conversations. These conversations were recorded and transcribed by Leorke, who identified the recurring themes of several interviews, again drawing on previous research. To recruit participants,

we advertised on social media and offered cinema tickets valued at €9.90 as an incentive for their time, to ensure we had at least as many interviewees as our previous study of Melbourne players (Innocent and Leorke 2019). We required that participants had played the game for at least one hour and asked to see their game screen to confirm this.

With such a small sample of interviewees (less than 10 percent of this iteration's total active players), both the Tampere and Melbourne studies served as pilot studies to help develop a future, larger study of *Wayfinder Live* players using several methods (combining interviews, observation, and an online survey). They are not comprehensive analyses of the overall player experience. And they invariably skew toward more invested players, ones willing to spend the time discussing their experiences. But this does not minimize the depth and richness of our findings in this article. Through the interviews, we gained a deep insight into the players' specific experiences with the game and with urban play in Tampere, enabling us to test the intentions of the game design through our conversations. We outline the findings of these interviews, focusing primarily on Tampere players' experiences but also referring back to our previous case study of Melbourne. We identify four ways that *Wayfinder Live* served as an interface for urban play by encouraging players to adopt a playful mode of engagement with the people and spaces of the city. These involved, respectively: the act of performing the game in front of others; learning to read the city playfully by searching for the codes; becoming invested in the affective experience of the game's goals; and engaging imaginatively with the narrative layer of the game. Not all these experiences were universal, nor were they always positive or successful for players. But they provide a rich framework for analyzing player experiences both with *Wayfinder Live* and digitally mediated urban play more broadly, as we highlight in the concluding section.

### *Finding and Scanning the Codes as Social Performance*

Locating and scanning the codes in *Wayfinder Live* is one way the game becomes an interface for urban play. It is a visible act or performance that often takes place in front of strangers. Nonplayers (i.e. passersby or bystanders) standing near the urban codes might see players looking around the environment or holding up their phone to scan a code on the side of a building and wonder what they are up to. As we (Innocent and Leorke 2019) note in our previous research, several players in Melbourne described worrying that they would appear "crazy" or "like a weirdo" to passersby who didn't know what the players were doing (33).

Four out of the eight people we interviewed in Tampere similarly reported some degree of self-consciousness when playing the game; two of them acutely so. Danish (a thirty-year-old male) said, "at times I got a bit, you can say shy. In fact, I went to Finlayson [an arts precinct where several codes were located] twice, because people started looking [at me], and then I went away from there and then I came back. But I couldn't find it." This shyness strongly influenced the places he chose to search for the codes: "If you notice, I only found ones that are not in a very public place…there are not many people there, so I thought I should go there." Similarly, Suvi (a thirty-three-year-old female) said, "I felt I looked very suspicious," and "I felt like people were looking at me."

Danish and Suvi both played the game alone, and only for a short time (one hour and two hours, respectively). Mikko (a thirty-five-year-old male), on the other hand, played only with his partner (a fellow researcher at Tampere University, not involved in this study), over several days. They are both avid geocachers, and Mikko said his previous experience searching for caches that are sometimes hidden in public places influenced how they scanned the codes: "I'm not saying that we did it extra stealthily, because scanning the codes, you really can't do that, but I think just from geocaching, the idea that you somewhat check your surroundings before doing suspicious things in public has been set in both [of us]. So we weren't totally nonsuspicious, but tried to keep a fairly low-key approach to scanning the codes."

Kirsi (a thirty-six-year-old female) provided the richest account of how it felt to play the game in front of others. Although she was mostly unbothered by searching for and scanning the codes, one incident made her feel, "a bit stupid [laughing]. There was a group of young guys standing there, and it was a bit like ok, I don't want to go past them, because otherwise they pay attention, and I don't want that they start to shout something or they say something stupid. So, I just walk and of course I didn't see [the code]. But later on, when I walked again and they weren't there anymore, it's like 'oh, there it is' [laughs]."

Like Danish, she left a location with a code and returned later to scan it, although in this case she did so because of a particular context—a group of rowdy young men at night. As she said, "sometimes in that area, you know, it's spring, and people spend nights out and might be a bit drunk . . . even though Tampere is a safe city and so on, I just don't like that extra attention." Kirsi did not explicitly raise the issue of gender, and her tone was light and amused as she described this incident, conveying that she was not deeply concerned for her safety. Nor did Danish, who is of South Asian descent, mention race at all as

a factor in his avoidance of searching for codes when others were around. But players' comments indicate the need always to analyze urban play with issues of diversity, equality, and marginalization in cities in mind. This is especially so in the context of location-based games, since—as Mary Flanagan (2009) has pointedly noted—many supposedly "interventionist" urban games are often instead designed as "an entertainment spectacle for a privileged audience" (206).

Other players we interviewed said they "weren't bothered" or "didn't care" if other people saw them playing the game. But, interestingly, apart from Mikko, the other three players who felt self-conscious only did so when they were looking for the codes, not actually scanning them. Suvi, who also plays *Pokémon GO* casually, said, "I don't feel that way playing [*Pokémon GO*], but . . . when I was scanning the codes, I don't think anyone thought that was weird. But I kept walking very slowly and looking around, so that possibly looked weird." She added that this was "because I didn't look at my phone so much as I was looking around." Despite Danish's shyness, he also said he was not concerned about others seeing him scan a code, just about people seeing him search for it: "They don't know what I am doing because I am looking in all sorts of directions, plus up and down as well." As Suvi's comment suggests, using a phone provides a kind of shield or cover for players. They can blend in, because "everyone is looking at their phones anyway." But when players put their phones away and look around the urban environment, they are exposed, stepping outside normal, expected behavior in public. Ironically, staring into one's phone screen rather than at the environment around one is, somewhat perversely, perceived as normal. This is especially so when holding a phone up to an object on a wall is now a common gesture in public, signaling perhaps that one is taking a photo or scanning a QR code on a poster.

Of the players we interviewed in both Tampere and Melbourne, only one—Dela (a thirty-two-year-old male)—described actually being approached in Tampere while searching for codes (standing outside an office building, someone asked if he was looking for an office). Our interviews indicate that players' concern about being observed or approached by others, although always contextual, was largely a projection of their anxiety about stepping outside their normal patterns of public behavior. *Wayfinder Live* asks players to "Put your phone away!" And it is this aspect of the game—being momentarily deprived of the phone-as-protective-cocoon from others (Habuchi 2005)—that tests and even transgresses perceived social boundaries and conventions. This observation—that in an era of ubiquitous connectivity, standing on a street corner and

looking around is perceived as weird—provides a rich site for situating future analysis of urban play within broader debates about the etiquette of using mobile devices in public (Turkle 2015).

### *Decoding the City as Urban Ludic Literacy*

As players navigate the city searching for codes, they often describe entering a state of what we term "heightened intensity" or, as one of our Melbourne interviewees put it, "heightened awareness" (Innocent and Leorke 2019). In this state, players become more attuned to their surroundings as they search for hidden codes. They pay more attention than they normally would to the material objects and infrastructure of the urban environment. They venture down streets and narrow lanes and into other locales they might otherwise ignore. This is another way *Wayfinder Live* acts as a mode of engagement with the city through urban play—the urban environment is coded with new meaning, which players must decode using their knowledge gleaned from the game so far.

Our Tampere interviewees provided a particular insight into this process. Several described a shift that took place early in the game as they became "keyed" (our term) into the act of decoding the city and gradually learned to become fluent in guessing where the codes might be situated. In one sense, this is an obvious shift familiar to all players who begin a new game. At first, the objects, patterns, symbols, and icons on the game interface or game board are unfamiliar, even bewildering (see Galloway 2012). But the more one plays, the more this interface and its various elements assume meaning and clarity. Similarly, in playing *Wayfinder Live*, Dela noted that initially he did not know what he was looking for, until he found the first code. Kirsi similarly noted that "the first [codes] were a bit trickier, but I think I started to somehow learn to spot them easier." This process of learning to spot the codes involved the act of identifying the target object—a geometric shape usually glued to a wall, door, or electricity pole—and subsequently searching other locations, based on the clues, with this object imprinted on one's mind. But in *Wayfinder Live* this also involves a deeper layer of learning to read the city as well—finding common patterns in terms of where the codes might be placed, how far apart from one another they might be, and whether they are carefully hidden or "hidden" in plain view. As Mikko says, again comparing *Wayfinder Live* with his experience of geocaching,

> [It was] an interesting way of looking at the area in the sense that, in most of the cases, you were pretty sure that you were in the right approximate location. So you started to look where the code might be. It felt a lot like geo-

> caching in the sense that you start to look at the surrounding with a different point of view. In geocaching, you're like "If I had a cache of this size where would it be?" [In *Wayfinder Live*] you're looking at things like, "I have a fairly good idea of what size the code will be, and you have certain limits, so the code can't be scanned from too far. So what would be a good place to put it?"

Adopting this "different point of view" involves becoming literate in a new, very particular, skill of spotting highly unusual, alien objects (geometric codes) in the urban environment. This means the players need to pay attention to objects and spaces that would normally recede into the background because we place codes on those objects and spaces. To use another analogy from digital games, the city shifts from a low-resolution environment, where objects, infrastructure, and buildings invite minimal interaction, to a high-resolution one, where these elements suddenly assume greater depth, significance, and conscious detail. Of course, we use resolution here not to refer to the visual detail of the urban environment, which objectively remains unchanged. Drawing on James Ash's (2015) discussion of resolution in digital games, resolution instead refers to the extent to which an object "encourages us to approach it, based upon the differing capacities or sensibilities of that object" (33). Playing *Wayfinder Live* and undertaking other forms of urban play—skateboarding, parkour, geocaching, and so on—alters the resolution of the objects in the city as they are conscripted into the game through the players' playful state of mind. In the process, the various components of the city-as-assemblage assume a kind of "hypermediacy" (Bolter and Grusin 1998) and are brought to the fore as objects for play and interaction in players' minds—although of course most players themselves would not use this kind of terminology.

Playing *Wayfinder Live*, then, means learning to read the city playfully in a process we describe as "urban ludic literacy," borrowing from Kirsi's description of "learning" to spot codes. Importantly, this process takes place across both planes of code/place (Kitchin and Dodge 2011)—the material and the algorithmic. Both Mikko and Dela, for instance, described learning to read the looped photo clues of the game app and identifying subliminal patterns and clues that subsequently informed their exploration of the city. But sometimes the photo loops did not work correctly because of technical issues. When they figured out that the photo clues for one particular code were accidentally input in reverse order—depicting the area closest to the code first instead of gradually getting closer and closer to it—they adjusted their strategy and found the code. In another example of this crossover between urban literacy and gaming literacy,

Kirsi described playing the game for the first time as she walked home with her partner. Although he was not playing the game on his own phone, Kirsi's partner helped her look for the codes as she described the clues to him, and he was the first to find one. She said, "I'm pretty sure it would have been more complicated for me if I'd been alone" and mentioned that "I'm a more casual [player] and he's definitely playing more, so I think it's easier for him to notice those kind of small tips." These examples also point to the way that playing *Wayfinder Live* can potentially be a form of urban codemaking in reverse, viewing the city as the designer might have when placing the codes. In the process, it builds on both types of literacy, the ludic and the urban, albeit in synergy, without privileging one over the other.

### *Coding Hunting as Hardcore Urban Play*

As well as an interface for urban play, *Wayfinder Live* is also an "interface envelope" of sorts (albeit a noncommercial one) designed to capture its players' attention (Ash 2015). Previous research on location-based game play indicates that even mobile games designed for a casual, pick-up-and-play style can elicit behavior more akin to hardcore than casual play (Innocent and Leorke 2019; Koskinen et al. 2019; Leorke 2018). In the case of *Wayfinder Live*, our interviewees in both Melbourne and Tampere described feeling a "completionist" desire (Rob, a thirty-two-year-old male from Melbourne) and "100 percent motivated" (Dela) to find all sixteen codes. In both studies, every player we interviewed identified finding the codes as their main motivation for playing the game, although this was not always enough to sustain their interest in it. Spending influence points on the codes and being on the winning faction, as we will discuss, was at most a secondary motivation.

As with the previous Melbourne iteration of the game, several Tampere players described actions that we label "hardcore urban play." Nancy (a thirty-six-year-old female) played the game mostly with her partner while attending the Urban Play seminar. She says they got "a little bit" into the competitive element of the game, but "the main point was to find them all"—referring to the codes. At one stage, the two had found fifteen of the codes and identified the location of the final one, which had gone missing. This is not an uncommon occurrence in *Wayfinder Live*, where curious passersby take the codes despite the fact they are fixed to objects with industrial glue (Leorke 2018). Nancy and her partner eventually scanned the final code when they encountered and recognized Innocent walking from the seminar venue to replace it. When asked if she would

have been annoyed or disappointed if she had not found all the codes, Nancy replied emphatically, "Yes [laughing]. Because we were so close, but then that one code—we went away and then we went there like three times, I think [that] was showing our motivation."

Kirsi also found fifteen codes, but could not find the last code with the clue "North, under the bridge." She described wanting to give up several times: "It was annoying because I walked so many times to the bridge one, and I gave up already. And then I found the corner one [described earlier, near the group of young men], and I thought, 'Ok, now I'm going to find this one, there's only one left.' . . . I really got frustrated because it was already something like 9:00 p.m. and I thought 'Ok, maybe it's time to stop now because I really have to go home,' but I felt like I should have stopped maybe thirty minutes ago [laughing]."

Ultimately, Kirsi did not find the final code and gave up, but only reluctantly. She describes a complex affective relationship with the game over the two days she played it, oscillating between gratification and frustration. On the first day, she discovered two new areas in Tampere she had not visited before, including a lakeside walkway where several of the more out-of-the-way codes were situated: "I thought it goes to the factory and you aren't allowed to go there . . . so it was a nice one to notice." But the next day was "the opposite, because I got frustrated, I didn't find the last code and I felt stupid spending time, walking the same loop there and trying to find [it]. So, it was a bit like, 'Oh my god it's really annoying, why [would] I play it again?' [laughing]. It was sort of like a love and hate feeling: Sunday it was really nice, Monday it was really annoying." Her comments echo those of a Melbourne player we interviewed, Nancy (a forty-four-year-old female—not the same Nancy interviewed in Tampere), who described *Wayfinder Live* as "a game of highs and lows" (Innocent and Leorke 2019, 33).

Only a handful of players in our sample, however, demonstrate this hardcore approach, going to extreme lengths to find all the codes and sometimes still failing in the process. Three of the Tampere players we interviewed—Danish, Lauri (a thirty-five-year-old male), and Suvi—played the game for only an hour or so, finding a few codes and then giving up, which suggests they did not feel compelled to find them all as Nancy did. In Suvi's case, she played on a particularly cold day and her hands were freezing. Danish and Lauri simply became frustrated and gave up. Unlike Kirsi, their motivation to find the codes did not spur them beyond their usual limits of patience.

Dela mentioned feeling strongly motivated to find all the codes and "prob-

ably" would have been disappointed if he had not. Although the sixteenth code he found would not scan due to technical issues, and therefore was not added to his game map, simply determining its location seemed sufficient for him. He played the game with Johanna (a thirty-seven-year-old female), whom we interviewed separately. Johanna could only play the game on the final day because she was not in town until then, and she teamed up with Dela in its final hours before the score was calculated to help find the codes he was missing. As they found his final code (and her sixth one) the timer ended, but rather than being disappointed or frustrated, Johanna said "that gave even more excitement to it, because it was against the time."

In all cases, players described varying levels of commitment to playing and completing the game. They ranged from gradual disinterest (Danish, Lauri, Suvi) to a strong but balanced motivation (Dela, Johanna, Mikko) to pushing their limits and investing what they described as excessive amounts of time and effort in it (Kirsi, Nancy). These levels of commitment are also influenced by their affective experiences during game play—excitement and gratification at finding codes; frustration and boredom at not finding them; and discomfort caused by the weather, walking for prolonged periods, and being observed by strangers. Taken together, these accounts illustrate how urban play in *Wayfinder Live* in particular, and location-based games more broadly, extends the alternating affective pleasure and agony of game play (Anable 2018; Ash 2015) into code/place, mingling with the various conditions and layers of the urban environment in the process.

### *World Building and Influencing Codes as Instrumental Role Play*

Finally, *Wayfinder Live* becomes an interface for urban play through the imaginative layer of the game. This layer becomes most explicit in the underlying game narrative, concerning the three color-coded factions' competing ideologies for urban development, which is communicated through text fragments while scanning codes. Players can directly relate to this narrative by spending influence points to sway factional control over the codes. But more broadly, the game design and aesthetics—including the urban codes themselves—are intended to encourage creativity and imagination throughout the game play process by situating evocative objects that draw on speculative design within the urban environment. In this sense, *Wayfinder Live* draws together multiple features of urban play: simulation, competition, imagination, and fantasy (Stevens 2017, 2007). Yet our interviews in both Melbourne and Tampere revealed that this

imaginative layer of the game is potentially the least successful at transforming players' relationship with the urban environment.

In Melbourne, four interviewees described spending influence points to some extent—and only one of them engaged with the factions' philosophies. Of the other two Melbourne interviewees, one was not interested in spending influence points, and the other did not even realize it was a part of the game. In Tampere, three of our interviewees were also unaware of the influence point mechanic. They include Suvi, Johanna, and even Dela, who despite playing the game for approximately ten hours was not only unaware of it but also did not even know which faction he belonged to. He said, "I just wanted to grab the sixteen objects [laughing]."

Of the Tampere players who did spend influence points, all but one lost interest when it became clear within the final few days that their faction could not win. In the Tampere game, players were sorted into factions based on their responses to a questionnaire that appears as soon as they open the app. This contrasts with previous iterations, where players could decide which faction to choose (with a short description of each) after finding three codes. In either case, there is sometimes a disparity in the number of players in each faction due to this self-selection. In Tampere, Renew (orange) had fifty-two players, Remake (blue) had forty-two, and Revert (green) had twenty-three. Throughout the Tampere game, although Remake and Renew battled it out in the first days, by around day four Remake controlled the entire map, holding most codes by an unbeatable margin and turning it blue in the process (see figure 9). The three players we interviewed who belonged to Renew described giving up on the competitive aspect of the game once it become clear they could not win. As Lauri put it, "It just felt it doesn't matter. The blue had so overwhelming, much more points, it was already lost," adding, "I guess there was not many green players, if any [laughing]." Kirsi said, "On the second day [I played], it felt like there's nothing I can do. . . . I'm not sure if I played it right, but once my points just ran out, so then it was a bit like there's nothing I can do." This suggests she did not discover that she could rescan the codes to earn additional points. Notably, this occurred on the same day she began to feel "annoyed" at not finding the final code.

Players engaged with the game's narrative, meanwhile, to some extent through the opening questionnaire and the occasional narrative fragments scattered throughout the game. The questionnaire in particular prompted several players to think deeply. Suvi said she "liked" the questions: "I think they were very related to how I was feeling, so how it determined my place was cool." Dela


Figure 9. The Tampere game map, approximately four days in. About half the codes are each controlled by Remake (blue) and Renew (orange), as shown by their color. For the final few days, all codes were colored blue, signaling Remake's insurmountable lead.

was unaware of the factions and, initially, said he could not recall the questions. But on reflection, he allowed that they "got me thinking. . . . At some point I didn't know what to choose, and I had to sit back and reflect." He mentioned a question about family: "I don't know if it's culture, I had to just analyze [myself] for a few seconds before I could answer the question." Nancy, meanwhile said, "I think I did not put 100 percent effort, but I still did pay attention to it. . . . The answers were the ones that they were supposed to be [laughing]." Notably, Nancy and her partner, like Mikko and his partner, completed the survey together and matched their responses so they could be in the same faction.

Other players skipped through the opening questions. As Kirsi put it, "I'm more of a person who likes to just do something." Johanna said, "I thought it was good to have a side story to it, but playing the actual game I wasn't thinking about those questions anymore." Only Mikko and Nancy described more deeply engaging with the alternative reality behind the game's narrative. Mikko said, "It was kind of like you weren't exactly sure if the narrative was like a hidden world thing across our universe or an alternative take on that. . . . It was clear and slightly ambiguous at the same time, and I think it worked well in that sense because you could always have your own interpretation in the end of what it was and what it means."

Nancy, a graphic designer, said the aesthetic design of the game, particularly the codes, appealed to her: "I really liked that you [weren't sure] what do they mean? But you feel like they mean something. And then all the pieces kind of went together. And I did like that the [game] map wasn't an actual map, but it was [still] a map."

Indeed, the only unambiguously appealing aspect of the game design for all our Tampere and Melbourne players were the codes themselves, which some players found "beautiful" and felt strongly drawn to (Innocent and Leorke 2019, 32). This suggests that the more overt world-building aspects of the game primarily serve the game mechanics and instrumental goal of finding all the codes, if they interest players at all. The urban codes more explicitly encouraged the sort of speculative, questioning, and imaginative approach to urban play intended in the game design. This underscores the challenge of maintaining players' attention in any location-based game narrative when the game play primarily takes place in the ever-distracting milieu of the urban assemblage. As Suvi put it, even the minimal game text is "a lot to read in a public place when you're in the middle of it. . . . You can't really get into it and wonder 'what does this mean?' You just want to get going [laughs]."

Although the field kit version of *Wayfinder Live* is still in development, it has been tested through workshops in Melbourne and Barcelona, offering another mode of engagement with the game's narrative through a cocreation process. This suggests that future iterations may offer two different experiences of the game: the heightened intensity of code hunting while decoding the city and another more contemplative and reflective mode of participatory world building through the field kit edition.

## Conclusion

Making the map and playing the map are two different modes of urban play that are equally important to *Wayfinder Live*. Through the process of urban codemaking, the game's designer constructs the game map by documenting and analyzing the conditions and potentialities for urban play in the city where it is to be performed. The game itself is highly customizable for each city and responds to its local sites, histories, and characteristics. The *Wayfinder Live* field kit guide, for example, instructs users to place codes in relation to architecture, contrasting them with different urban materials and drawing attention to urban character. Line of sight with landmarks and buildings is also important, as is blending in with street art and surfaces and using existing infrastructure and signage. This draws attention to a particular set of codes that express the lived experience of the city, which is central to the intended urban play experience arising from the game.

Playing *Wayfinder Live*, meanwhile, involves identifying these codes, albeit in a way that privileges a multiplicity of readings and interpretation—decoding rather than overcoding. We have analyzed four ways that this takes place: through social performance, through the process of learning to read the city, through a hardcore mode of play, and through world building and imagination. These modes of engaging with the city are prevalent in *Wayfinder Live*, but as we have outlined, they also embody familiar categories of play identified by Caillois and applied by Stevens (2017) to the urban environment. The chance element beyond players' control (alea) of encountering strangers while searching for and scanning codes shapes their social performance. Competition (agon)—particularly mastery—and vertigo (ilinx) are both central to learning to read the city and the affective experience of searching it for hidden codes. And simulation or imaginative fantasy (mimesis), while less prominent in our

interviewees' experiences, influenced their relationship to the game's narrative and aesthetics. Each player described a different level of engagement with these four modes, attesting to the highly subjective and multifaceted nature of urban play and pointing toward their potential use as a broader framework for qualitatively examining other forms of urban play. As such, we hope this article helps lay the groundwork for future research into the burgeoning area of urban play studies that recognizes the very complexity, contingency, and subjectivity articulated by our interviewees.

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