Message Bank: Time in Location-Based Media

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Abstract

This research follows the development and prototyping of a team working on the creation of *Message Bank*, a new digital theatre event using location-based media. It offers a specific focus on the narrative development and prototyping of the project as documented through observations of an active participant in the work in the lead up to the shows premiere at Sydney Festival 2023. Observations presented point toward the structuring of time and its relationship to narrative as a key challenge and oversight encountered by the team. Responding to this challenge, a performance score was created to iterate the project over three prototypes. The performance score is presented here as documentation of the team's process and as an outcome of this research. The observations and score is a contribution to a growing body of work seeking to support theatre makers in the creation of new work using location-based media.

Keywords

Locative media, location-based, digital theatre, Bluetooth, story, narrative, audio, audio-walk, immersive, flaneur, contingency, practice-base

Introduction

Premiering at Sydney Festival 2023, *Message Bank* was a collaboratively developed theatre event that speaks to how theatre and performance making practices might shape and be shaped by location-based media. The performance was initiated by the creative team's interest in trust and public spaces as well as how their collaborative process would be impacted by the opportunities and constraints of the form.

The performance told the story of a recruit named Charlie and operated using a mix of location-based media, interaction with a visual interface, pre-recorded audio and video material, physical set pieces, as well as co-present participants in the shared public space of Parramatta Square. The audience took on the role of Charlie as they followed instructions issued by a fictional entity named *SAFE*. Their goal; to identify imposters working for a disruptive and anti-institutional collective, *Dancing Bear*. The creative team responsible included three co-devisors as well as a director, sound designer, set and costume designer, creative producer, outside eye and a cast of actors. The first author of this article was part of the creative team as co-devisor and director.

From a form perspective, Message Bank can be considered through the frame of digital theatre and location-based media. Digital theatre is characterized by a limited interactivity of message, the presence of verbal communication, a co-present audience and actor and the existence of digital technology that is central to the creation of the performance [1]. Location-based or locative-media [2] can be understood from within the broader field of mobile media art [3] and is used here to refer to location-aware technology that ties action, interaction and meaning to a user's location. In the case of Message Bank, this manifested as spatial data generated through RSSI signal strength responsive to the proximity of the user to a series of BLE beacons. While digital theatre and location-based media can exist independent of one another, it's their relationship that is of interest to this research as well as how this fed into the collaborative process of the creative team.



Figure 1: Message Bank promo artwork - Credit, Robert Polmear

The process questioned how might a series of pre-recorded media assets be accessed at various times while still maintaining a sense of liveness [4] as well as narrative cohesion. Liveness and contingency [5] were surfaced regularly as key concerns for the creative team. This concerns or interests also included attention to how site-specific variables such as traffic flow, weather, signal strength, audience interaction might be worked with through the writing process and to what extent established processes of theatre making and frameworks such as liveness are relevant in understanding the form of *Message Bank*, or whether new ways to shape and make sense of experience are needed.

The following background is used to ground two sections on the making of *Message Bank*: the first on how the narrative was developed and the second on how this narrative was tested and modified over three prototypes. It brings together a series of location-based and digital theatre works to map out where *Message Bank* sits in its context and how this research offers insights into the structuring of time with a consciousness of contingency [5].

Background

Early examples of creative practice in this area include Teri Rueb's Trace, (1999) [6], Blast Theory's, Riderspoke, (2007) [7] and RATS Theatre's Maryam (2013) [8] [9] by Rebecca Forsberg. Trace is described by Rueb as a 'memorial sound installation' and called on the user to hike through a series of allocated trails in the Yoho National Park in British Columbia. Equipped with a knapsack, a small computer, headphones, and a satellite receiver, the user's location triggered audio samples. Riderspoke called on audiences to ride a bike around a city while listening in and contributing stories based on provocations offered by a pre-recorded voice accessed through an application. Maryam took the form of an interactive drama presented as part of a trilogy of theatre works around the theme of women in science. Audiences experienced the dramatic narrative via an application on their phone and a series of scenes that corresponded to different sites around the RATS Theatre in Stockholm.

More recently and locally to Australia; Leah Barclay's WIRA (2015) [10] offered audiences a geolocated audio walk along the Noosa River, Claudia Chidiac's The Village by the Kids (2022) [11] provided a neighborhood storytelling tour co-created with young people living in Bondi and Griffin Theatre Company's Green Park (2021) [12] by Elias Jamieson Brown mediated action between actors and copresent audience in situ at Green Park, Darlinghurst. The last example, Green Park, sits apart from the others in that it doesn't involve location-based media. Rather, it's an example of site-specific or location-based theatre practice that features the use of audio as a key mediator of action between actors, environment, and audience - much like Back-to-Back Theatre's Small Metal Objects (2007) [13] or elements of Urban Theatre Project's Home Country (2017) [14]. It's inclusion here is to signal the spectrum of theatre practice occurring locally within which Message Bank was developed.

Each of these works make meaning from the relationship between location, action and audio materials accessed through headphones. Fan's notion of contingency [5] could be used as a framework to make sense of what is occurring in this meaning making process. Fan describes contingency as 'a condition through which a dynamic narrative can emerge between the parameters of digital writing and a user's narrative play' [5]. Digital writing or 'born-digital literature' refers to narratives which have a 'hypertext structure' enabling the reader to move from one site to another.

Across the literature various terms and frameworks are used to describe the space between narrative, experience and location in related works. Ritchie makes sense of this through the lens of affordances and constraints of mobile locative narratives [15] whereas Reid's description of 'Magic Moments' is used by others [16] to isolate instances of narrative cohesion that are then analyzed. For this research, Fan's description of contingency is used as it informs the performance score introduced later and it complicates references to the 'flaneur' which surface through the creative process. This research takes Fan's idea further to consider a spectrum ranging from greater to lesser contingency to distill the works introduced above. This spectrum is based on the extent to which the work offered the audience space for narrative play.

In Rueb's Trace location works as a trigger that makes audio accessible. Barclay's WIRA is similar with the added feature that the range of detected proximity impacts the volume of audio that is played. For example, a geolocated trigger will result in the audience hearing a sound and as the audience gets closer to the trigger, the volume of the sound will increase. Neither of these works require a co-present audience or actor nor do they involve a set time or duration over which the work is intended to be experienced. Location is framed as a site of landmarks or artefacts with which the audience is encouraged to be present. It also operates as an actor to the extent that there is a feedback loop occurring between audience and location through which a conversation is occurring. In this sense the audience is playing a role as both audience and actor in that they are participating in the creation of the work while also receiving it as an experi-

Riderspoke and The Village by the Kids involve a more structured and co-present audience. Both set a start and finish time between which a group experiences the work simultaneously. Audiences are equipped with a device and are free to travel alone or together where they may or may not encounter one another. The structure of these performances require an ending to the work which is signaled to the audience. For Riderspoke this was a programmed voice instructing the audience to return to their starting point after a set period. For The Village by the Kids this was a voice triggered by location and a map which guided the audience on a circuit. These references outline two categories of endings. One occurs when an audience chooses to stop engaging with the experience. The other is controlled by the author. Which of these two conditions a work chooses to adopt, brings forward a series of distinct questions around how narrative and contingency operates.

Trace and WIRA could be described as multidirectional or of greater contingency in that the audience can travel in a direction and at a pace they choose, and the resolution of the work will be informed by the audience's decision to finish. These examples speak to the role of the audience as a 'flaneur' which will be picked up on later. Whereas The Village

by the Kids and Riderspoke are more monodirectional or offer less contingency. They present a series of events that will lead to a resolution, even though the audience moving through these events may at times be afforded a level of agency in shaping those events. Contingency in these examples may shift from lesser to greater and back again within the work itself and doesn't speak to the quality or the success of the work but rather how the audience plays it part. Message Bank sits most closely alongside example such as Riderspoke and The Village by the Kids. It features a defined start and finish time and a narrative formed by a sequences of events the audience will come to observe and participate in. These works present a distinct set of opportunities and challenges for theatre making.

Method

Message Bank was developed as part of a practice-based PhD. Candy [17] introduces practice-based research as "taking purposeful actions within a specific context, typically in a creative or professional way: [through] the making, modifying or designing of objects, events or processes". The context here is location-based media and digital theatre. The purpose is to further understand how location-based media might shape and be shaped by a theatre making process as well as deepening understandings of liveness and contingency in the context of this work. The making process, the event itself and the accompanying reflection [18] are processes through which data has been gathered. The first layer focuses on the structure, timeline, and deliverables of the creative team including prototypes, and the second on the documentation of reflection and insights. These layers impact one another in a cycle of iteration that resembles Kemmis and McTaggart's spiral of self-reflection [19].

The first author of this article held a position as both artist practitioner and researcher. They were responsible for leading the creative team as director & co-devisor. The team collaborated over a period of five months during which the project was conceived, workshopped, drafted through script and application development, recorded as audio and video extracts, and tested through prototypes. As many of these layers occurred asynchronously, a shared online production folder operated as a gathering ground for storing and sharing draft materials. The first author and creative producer were responsible for maintaining correspondence and facilitating feedback sessions throughout the process which were documented and stored in the production folder.

The components of *Message Bank* included 7 x Bluetooth beacons, 15 x iPhones, 2 x stationary "reporting booths" and the *Message Bank* application itself. The application used a technique of proximity detection to position the audience in relation to the beacons and to act as a trigger for action. Additional time and action-based triggers were used and are further detailed later. The prototypes referred to relate to three work-in-progress presentations across October and November 2022. The presentations occurred in Parramatta

Square and ran for between 20-45 minutes and were followed by conversational debriefs which ran for a further 30-45 minutes. These prototype presentations involved different members of the creative team stepping into the role of audience.

Debriefs were focused on what elements or moments the team perceived to be contributing successfully to the envisioned experience. They took the form of semi structured interviews where the first author took notes based on observations raised. Following each debrief these notes were shared with the creative team by email. The creative team were offered the opportunity to add additional observations the notes might have provoked following the debrief or to provide a response if they felt the notes failed to capture a critical point. These notes were used to document the process for research but were also a practical reference for different team members to iterate layers of the performance for which they were responsible. These various iterations, including draft scripts, design sketches and audio files, were all collated and are also used to inform insights for the purpose of this research. Across this period there was an ongoing and ad hoc conversation occurring between the creative team as ideas, offers and questions surfaced throughout the process. These conversations occurred across email, Zoom and WhatsApp.

There was not a consistent group of testers across each presentation but rather a different mix of 2 to 4 people at each stage. The variation here was the result of availability as well as relevance for differing creative team members at different stages of the process. Each presentation also featured a different iteration of the performance as notes generated from the previous presentation were integrated. The key point to stress here is that insights and reflections speak to an ongoing conversation between a creative team and a performance actively subject to experimentation and adaptation. These prototypes were run within a larger process tied to the delivery of *Message Bank* for public audiences as part of Sydney Festival 2023.



Figure 2: On site in Parramatta Square

Development and Prototyping

Message Bank set out to explore thematic interests in trust and public spaces which also drew in considerations of surveillance and proximity. The team was interested in the simultaneous desire for personal privacy and the desire to be a voyeur. Poe's The Man of the Crowd [20] was introduced early in the process as a key reference. The story centers on a protagonist observing passersby until they become fixed on a person that presents a contradiction. The desire to reconcile the contradiction motivates the protagonist to pursue the person through the city until they arrive at the conclusion that the person cannot be made sense of or read. Poe's protagonist is often associated with the flaneur [21, 22] and described as counter force to the momentum of modernity occupying a place within the city but removing itself through the act of observation [23].

To tell a dystopian story about the threat of overreach from a surveillance state was perceived too simple, but a story that tapped into the audience's desire to observe and to eavesdrop, was of greater interest. A seductive quality connected to the act of observation was a strong initial impulse which, again, harks back to *The Man of the Crowd* described by Nicol's as "an encounter with an opaque" and "seductive text" [20]. The team wanted to create an experience where an audience was tempted to play the role of voyeur, then confronted with an invasion of their own privacy and positioned to wrestle with these two desires in a final action. The themes raised here were a response to and driver in how the team worked with location-based media and the mechanics of the performance.

Based on limits of time, budget, and location, it was planned there would be six locations where audiences would listen in on scenarios drafted by the devisors. Six was considered a workable middle ground to allow each devisor enough scope to create something substantial while also creating enough locations for an audience to navigation across the landscape. The location of Parramatta Square consists of a series of civic buildings, commercial vendors, a train station, and a steady flow of foot traffic. The intention was that in listening to the audio exchanges, the audience's consciousness of other people moving through the location as well as others participating in the performance would trigger their curiosity as to relationship between the people they were listening and those they were observing. In the development of Maryam a similar strategy to this is described as a process of 'loose coupling' [9] between the location and narrative. The task of creating this would require the scripting of six scenes from the devisors and the creation of an application which could enable the envisioned interaction. In addition to this, a larger narrative structure was required to set up and resolve this action and a strategy for executing this technically.

The characters of *SAFE and Dancing Bear* were conceived to provide this set up. *SAFE* (Security and Freedom through Encryption) was written as a fictional government agency

that gathered information for the purpose of contributing to public safety. Dancing Bear was inspired by hacktivist groups such as Anonymous and conspiracy communities such as QAnon. Dancing Bear was conceived of as an extreme libertarian collective of individuals cooperating to digitally disrupt state surveillance efforts. These two entities had competing objectives related to the themes in which the team were interested and were designed to position the protagonist and the audience at the center of their conflict. By the end of the first draft, a scenario had been created to distill these objectives into action. The audience would play a role as a probationary recruit for SAFE. Over the course of their probation, they would be asked to listen in on the audio exchanges and attempt to detect who in these exchanges was secretly working for Dancing Bear. By the third draft this scenario had developed further to include splitting the audience into two groups with each pursuing a similar objective but one framed by SAFE and the other Dancing Bear. The goal here was to encourage suspicion and cross purposes between audiences.

The role of the audience and its connection to the protagonist was a point of contention across the five writing workshop days. There was discussion about whether the audience would be positioned as a witness to the action or adopt a character's point of view within the narrative. A decision was taken by the team to place the audience as a character named Charlie. This raised further questions as to how the audience would experience Charlie's journey. Would they hear Charlie's voice interacting with the narrative or would the mechanics of the performance operate in a way that would enable Charlie to be unheard? It was believed the second option would provide more opportunity for the audience to engage with Charlie's point of view. The outcome of this meant that the audience hears instructions spoken to Charlie and encounters characters from Charlie's life such as their sister, but at no point would Charlie's voice be heard.



Figure 3: recording workshop

Fan describes contingency as a resistant or 'counter' force to 'paradigms of standardization or rationalization.' This description has parallels to how the role of the flaneur was conceived and utilized through narrative in Message Bank. Within the narrative the entity of SAFE operates as a force for standardization and rationalization. It provides briefings and tasks within which the audience is asked to follow suit. Alternatively, the role of *Dancing Bear* is to disrupt. The cross purposes of SAFE and Dancing Bear creates space for narrative play between the audience and place. The tension between structure and disruption is embedded in the story world of Message Bank. The role of Dancing Bear also resonates with a critique of the flaneur presented by McGarrigle [24]. Dancing Bear can be seen as an attempt to replace the passive audience in the spirit of McGarrigle's call to replace the flaneur "with an alternative model which is of necessity engaged, a disruptive activist who does not merely observe, but actively seeks to create alternative narratives and shape outcomes." While Dancing Bear plays out a scenario of resistance and disruption, it is still a fictional entity operating within a structure authored by the creative team. Whether this creates the contingency Fan is discussing or simply the appearance of contingency is open for debate. The spectrum of passive observer through to active participant is also encountered by Evan's work considering the evolution of the flaneur to the 'playeur' in Pokemon Go [25]. While there's not the scope to the follow this thread here it's worth noting similar questions and themes being raised where location-based media intersects with gaming as well as digital theatre.

The narrative of *Message Bank* was developed collaboratively and iteratively by a team led by three devisors with input from a wider design team. The thematic concerns were informed by the constraints of location-based media but the form was equally tested by the interests of the devisors. The flaneur surfaced as a role the audience could take on and this role was challenged to become more active than that of a passive observer. Tensions between the need for structure and space for play became apparent through the figures of SAFE and Dancing Bear while also remaining as a technical question for the team in structuring the performance. The outcome of this work was the development of a narrative that centred on a new recruit whose allegiance would be tested as well as a script composed of six scenes and instructions intended to be recorded and mapped onto a location to be accessed by an audience. These materials were recorded, rendered and then tested through a series of prototypes.

Prototype #1

The first prototype hosted in early October involved the installation of four beacons which each triggered a 5 to 8-minute audio track framed by a briefing at the start of the performance and a staged 'alert' message at the end. All content

was accessed via an application preloaded on phones and handed to participating testers.

This prototype lasted for 18 minutes. A key takeaway that emerged through debrief was that while the performance had a sense of momentum, tone, and excitement in its set up, the interest, engagement, tension, and purpose was not sustained. A series of offers were made to address this including a revision of narrative to heighten the emotional stakes, the introduction of visual timers on the interface to create a clearer sense of time constraint and to bring forward the disruptive character of *Dancing Bear* earlier into the story. It was hypothesized that a lack of structure or control over the experience of time within the performance was what led to the lack of sustained engagement or liveness. The next prototype was therefore iterated with a stronger focus on time.

Prototype #2

The second prototype included a series of additional timebased events and frameworks. Instead of a 20 – 30-minute window of time the audience was invited to openly explore the location, their journey was now tied to two tasks. A 5minute introduction which asked them to find a specific location and a 20-minute task in which to explore the scenarios. The narrative was modified to frame these tasks and a timer was brought into the interface. In addition to this a series of notifications were scheduled at time-based intervals. These notifications were sent as if messages from the characters of SAFE and Dancing Bear and appeared as text messages. They were key in opening a new layer on which the performance could operate. This new layer meant that while audiences were moving through longer 'open exploration' phases or phases with greater contingency, information that related to narrative or character could be revealed. It was a channel through which authorial control could be managed.

The decision to use notification and time-based intervals to structure action was considered successful in the debrief. It also further clarified the importance of revelation in the performance. While the team were all aware of the importance of revelation as a process of storytelling, it wasn't till this point that it became clear that strategies to manage revelation in a location-based form were not considered earlier.

Prototype #3

The third and final prototype of this series saw six beacons installed in the square. Audio chapters which were previously running at 5 to 8 minutes were cut down to be between 3 to 4 minutes. Instead of scenes involving longer set up and resolutions, significant edits led to shorter exchanges that focused more aggressively on the theme of trust. The shorter run time meant less information was revealed about each distinct story which, through debrief, was believed to contribute to greater intrigue. An increased experience of

'closeness' to the characters speaking was described by testers. The shorter run duration of audio chapters resulted in their being an increase in the frequency of motion between each beacon. Testers also commented on their consciousness of others moving around the environment creating an informal and discreet choreography in the work. This was perceived as an unintended but desirable quality which could be further developed to strengthen the work.

The run time for the third prototype was 30 minutes. It featured part one and part two of the envisioned performance and an introduction to part three. A third part of the performance which involves a physical booth in which the audience reports on their activity was not able to be produced for this prototype due to budget and time constraints. Part Three is also intended to feature a sequence of action where the audience will provide a verbal report on why they chose the imposter they did, however this was not produced in time for the third prototype. This sequence is intended to guide the audience to a point where they must either reaffirm their commitment to SAFE or choose a new allegiance with Dancing Bear taking the crisis of the performance through to a climax. These elements and further testing were scheduled to coincide with the project's public presentation at Sydney Festival 2023.

Key Findings

Between the first and third prototypes of *Message Bank* the creative team produced three iterations of the performance responding to a host of notes. A core area of work that bound many of these iterations was how the team worked with time. At the stage of the first prototype, the performance had been written as a text script, a map of locations with sketched out set elements, a directory of media files and an interface. By the third prototype a score which gathered each of these elements to present the performance in its totality in relation to time was produced. This is shown in Figure 4.

Figure 4 presents a timeline of the approximate 45-minute run time of the performance. It then breaks this into three parts which linked to the narrative structure. Below this are key production elements of the performance and a thickened line to indicate when those elements are active in the work. For example, the application interface presents a series of views and is a constant through the work. Atmos and music is also noted as being regularly present. Layers of narration and tasks oscillate back and forth and signal sequences where the audience is receiving instructions and playing out objectives. These layers speak to moments of greater or lesser contingency. The Narration and Notification layers were moments in which the team reduced contingency by introducing instructions or constraints to the user in order to shape a dramatic arc through experience. The Tasks layers involved sequences where there was greater contingency for

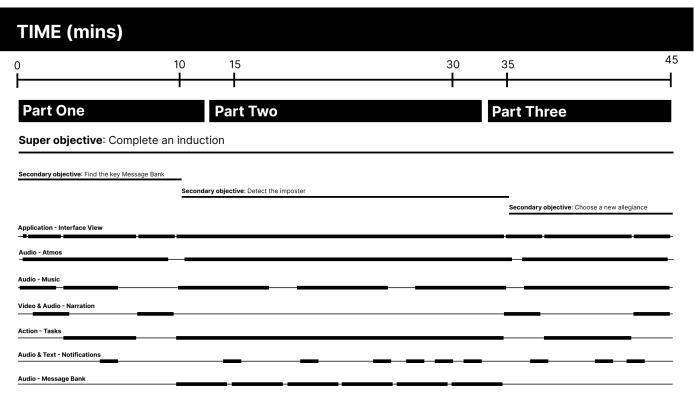


Figure 4: performance score

the user to navigate the landscape and to experience the work through their allocated role.

The creation of Figure 4 and the discussion around it was a key factor in how the team went about redrafting the performance over Prototypes #2 and #3. It brought to the surface a discussion around how the user is onboarded to the experience. While a briefing was initially used to explain the interaction and then offer people the chance to engage with the work, a game was developed to replace the briefing. Instead of gaining immediate access to the audio exchanges, audiences were given the task of finding a specific 'key' beacon before they could progress. As the team considered the performance more consciously over this time structure, redrafting became concerned not with producing more story or material, but strategies to conceal information so that they might be revealed at structured moments. The locative media element of Message Bank which formed the entirety of Prototype #1, by the end of the process became one layer or just one part in a multipart and multilayer score. This isn't to suggest that locative media or location itself came to play a smaller role in the creation of this work, but rather that through prototyping, the team discovered it was how location had been conceived through time that was critical to the story they were telling. And that failing to consider this more deeply at the outset required the most attention through prototyping. As opposed to multidirectional works which might be more open ended or exploratory such as Wira and Trace, location-based performance works like Message Bank, which seek to develop a narrative and dramatic arc leading towards a structured resolution, require strategies to structure the concealment and revelation of information across time as well location.

Conclusion

Message Bank was conceived of as a location-based media and digital theatre event that imagined its audience protagonist as a flaneur. Constraints and contingency emerged as key concepts for making sense of interaction within this performance and how these shaped the role and agency of the audience. Over the course of three prototypes the relationship to location become more nuanced. The creative team perceived their biggest challenge to be not how the performance engaged with place but how engagements occurred through time. Figure 4 is presented as an outcome of this engagement. The team presented Message Bank publicly to audiences as part of Sydney Festival 2023. An extract of the work can be accessed via the link provided in Figure 5. The development process has raised areas of interest for future research and creative practice for the team. These include the impact of scaling the work up significantly to feature more beacons and whether this impacts assumptions made regarding time, location and contingency. As well as whether there are opportunities to adopt practices and models used in game development to support theatre makers on the composition of new performance that works with location-based media.



Figure 5: Link - https://vimeo.com/manage/videos/798187194

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