

# EXPLORING THE RESPONSIVE SITE: Ko Maungawhau ki runga

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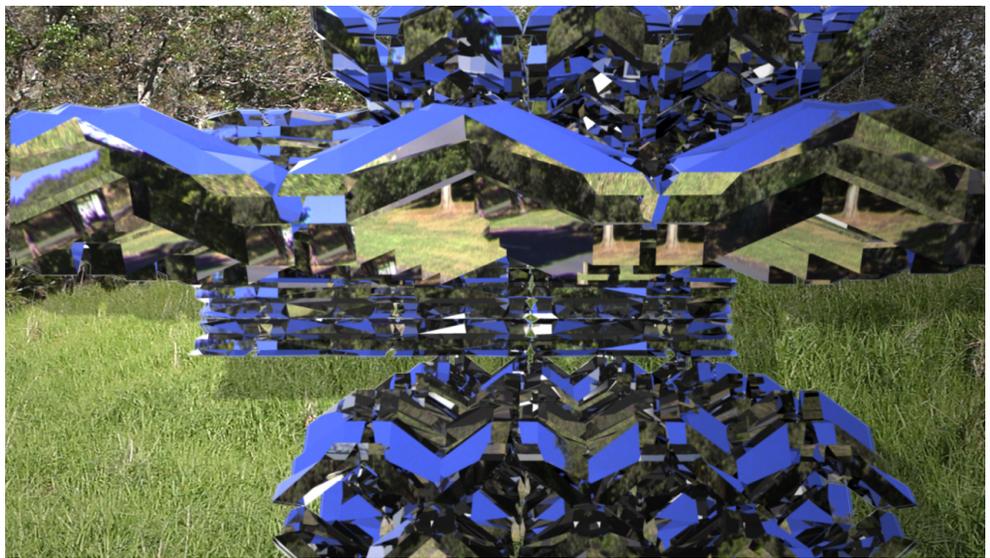
## Abstract

*Ko Maungawhau ki runga* [1] is a performative research project by the author on the site of a former 17th century Maori *Pa* (fortified village) in Auckland, New Zealand. It is a subset of the long-term project *Do we see in algorithms?* and uses location aware technology to deploy augments at precise nodes in a meaningful location. Accessed on foot, the augments explore multiple strategies for engagement between Global Positioning Systems (GPS), the smartphone as an art interface, user, artist and site.

**Keywords:** site responsive art, space & ecology, media art, Maori art, mobile technologies, software assemblage, location aware technology.

Exploring the smartphone as art interface while confronting key issues of scale, user, movement, and site, *Ko Maungawhau ki Runga* seeks to generate a creative exploration of Maungawhau [2] by establishing a situation where the physical and cognitive experience of the user collides with cultural memory, geological shifts, and archeological heritage. During April and May of 2013, participants walked between a series of six augments using their smartphone or portable media device to navigate to each point of interest (POI). Accessible as a channel in the application Layar, POI were embedded as video layers and activated by the user at specific coordinates [Fig. 2].

Since the smartphone is also an everyday interface for performing a variety of non-art based actions - talking, taking photographs, playing games - these behaviors must be taken into account when using the smartphone to deliver an art experience. For example, if it is normal to pull out a smartphone and capture an image of a compelling scene, then this convention provides an opportunity for the artist to design work that operates alongside *and* against what N. Katherine Hayles has described as 'hyper-attentive' behavior [11]. In response to user practices which privilege multitasking, this work has no set order in which to experience each augment: it does not follow a prescriptive trail, and does not assume that it has a captive audience, since users may choose to not complete all of the augments. Each augment is brief (30 seconds) and the six locations are geographically varied to engage



**Fig. 1. Still image, *Ko Maungawhau ki Runga: Te Maraekohanga*. (© Rewa Wright, 2013)**

attention. Crucially, the user rather than the artist is the agent of the work: their actions are performative and allow the work to unfold.

*Ko Maungawhau ki Runga* contrasts the (pastoral) act of walking between nodes with a networked (urban) context where time is fragmented between various attention capturing activities and thus entails an experimental collision of 'deep absorption' and 'hyper-attentiveness.' These neural shifts allow fresh insights into human-computer interaction in our global twenty-first century milieu, while foregrounding the molecular potentialities of networks as sites of embodied experience.

Set outdoors, within the ecology of Maungawhau, the project was designed to operate alongside the self-directed practice of walking. When we traverse a

natural environment on foot, we tend to do so at our own pace, a slow meander rather than the pressured scramble typical of city walking. Latent in the self-directed experience of exploring an organic ecosystem is the potential for digression, in contra distinction to the linearity of the fast paced urban-scape. Duration as a force of the virtual comes into play, since the time it takes to traverse each node of the work cannot be predicted.

In response to the technical and geographical demands of this project, the need arose for a combination of approaches: augments were produced using interactive 'print triggers' as well as 'geo-layers' [3]. These print triggers were postcard-sized laminates, positioned on physical markers already installed at the site as part of existing

**Fig. 2. Key to work. (© Google Earth/ thumbnails added by Rewa Wright).**



walking paths [4]. The augments themselves consist of 3D animations made in Autodesk Maya, composited as video then embedded for delivery to a server. The mechanisms that precede the work's technical operations are contingent on a set of networked predicates. Variables effecting the speed and quality of content delivery include cellular wireless networks at the site, the user's data provider and individual phone model. However, it is not technical or functional structures that 'produce' *Ko Maungawhau ki Runga* - it is the actions of the individuated user, the specifics of their affective behavior, and the level to which they engage with the work as a kinesthetic system.

Photographic panoramas taken at the site were used to assemble High Dynamic Range (HDR) images, projected in the 3D modeling environment to layer colour and light information as equirectangular maps. Models appear to break and re-configure as they move, a result of the way non-manifold geometry interacts with the mirror-like surface reflections [Fig. 1].

Reconfiguration, conceptually speaking, is also a geological feature of Maungawhau, whose summit, crater, plateau and basalt fields were formed by geothermal activity between 10,000 and 20,000 years ago. As a changing natural environment, Maungawhau displays radically different seasonal and climactic variations. Furthermore, embedded in the archeology of the site is the legacy of a Māori tribal architecture of impermanence: the seventeenth century fortified village which fell to disrepair and eventually rotted in the elements, was largely constructed of wood and lashed together with rope made of flax. Designed as an engagement between the specificity of the augments and the cultural, geological, and archeological influences, this work opens Maungawhau to the virtual in art, where the past is invoked to explore new possibilities for trans-cultural engagement. Critically, it is the agency of the user that facilitates the connectivity between memory, time, and perception.

### Evolutionary Forms

Each model is formally a remediation of a singular prototype, whose animated movement produces differences across the series of six forms. New forms are produced through shifting the algorithmic parameters of the 3D models. At times, certain configurations

of the augments appear as bird-like, kite-like, hive-like, without ever actually fixing themselves to that shape. Fluid and evolutionary, abstract or naturalistic, vertex, edge and face (the bifurcated lines of the non-manifold) reveal their construction through shifts in movement, position, and gesture [5]. Following is a brief description of each augment [Fig. 2]:

**Meeting place/ *Marae*:** Located on a wide northern plateau called *Te Maraekohanga* (place of acceptance and meeting), this augment consists of two forms folding into one another, referencing the ceremonial mingling of peoples that would have occurred at this locale.

**Hive/ *Kohanga pī*:** The home of bees but also a metaphor used for human populations living in close communal quarters, as in a city. Set adjacent to a tree, this augment features connected cells pushing toward and away from one another [Fig. 3.].

**Kite/ *Manu aute*:** Set on the blustery Southwestern edge of the summit, this augment explores the traditional Maori kite or *manu aute*. Woven from natural materials, *manu aute* are flown at *Matariki* (solstice) celebrations in June/July.

**Mats/ *Whariki*:** Māori shaped the natural geographical features of the site between 1100 and 1650, digging terraces for gardens, scarps for fortifications, and middens as storage pits for root crops. Placed in the largest surviving food food-storage midden (6m x 5m), this augment is inspired by traditional *whariki* woven mats, placed as a barrier between earth and food.

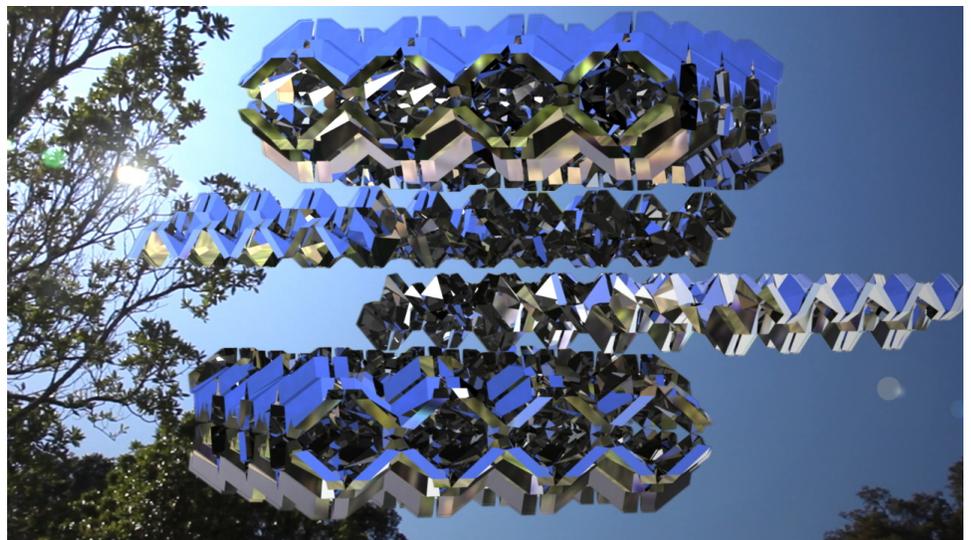
**Bird/ *Manu*:** Set on the edge of the North facing plateau, this augment references flight and the airborne. The *manu rere* (flying bird) is a popular symbol of freedom and communication, while the accompanying sound design evokes the water storage reservoir beneath.

**Fishing net/ *Hao*:** Placed in an area where cooking pits - used between 1430 and 1650 - have been unearthed containing shellfish remnants, this net-like augment traditionally symbolizes two types of gathering: food and knowledge. This augment is adjacent to the edge of the crater, known in Maori as *Te Ipu a Mataaho* (the cup of Mataaho) [6].

The sound design of each form is unique, mediated through a combination of amplified field recordings of the hidden sonic world of Maungawhau blended with studio created machine noise. Users were encouraged to wear headphones to enhance the aural experience. When presented back at the site, invisible aural minutiae take on an enhanced significance: their smallness stands in stark contrast to the mountain's expansive plateau. Concrete and studio sonics are treated as productive collisions: the sometimes harsh wind as it flows across the mountain, is set against the solitude of birdsong; a simulated cavern space underneath the volcanic ash is juxtaposed with vehicle engines and the distant motorway; flowing underground spring water is blended with chattering insects.

An ancient Māori *whakataukī* (proverb) is pertinent here: *ki mua, ki muri*, or 'the past is the future.' *Ki mua*,

**Fig. 3. Still image, *Ko Maungawhau ki Runga: Kohanga pī*. Augment embedded as video (© Rewa Wright 2013).**



*ki muri* is a proverb that has existed in Maori oral narratives for around 900 years, and is recited today as part of traditional ceremonial events. In the last 200 years it has been trans-mediated to different formulations, such as 'e nga wā o mua' or 'the time in front' [7]. This saying can be treated as providing a conceptual window to a Maori approach to time as non-chronological, and deeply vested in the 'long duration.' Crucially, it exposes a non-linear sense of time as crystalline: the past, activated at the site of the human person, ensures that cultural memory exists in the context of a continuous present. The past is not expressed as remnant or ruin as in the conventional Western paradigm: rather it is vital and alive with every moment.

Philosophically, *ki mua*, *ki muri* can be seen as a strategy wherein the past as virtual is actualized in the present, a cosmological approach to time which seems to share common ground with Gilles Deleuze's notion of time as 'crystalline' [8]. Moreover, the experience of walking between the augments in *Ko Maungawhau ki Runga* resonates with Henri Bergson's embodied sense of 'durée' [9]. As the user walks to each augment, activating, perceiving and engaging with it, they are leaving a recent past and moving to an indeterminate future. It is a constant movement where present is always becoming past, and the future, while inevitable, cannot be predicted. In the context of a discussion of Bergson, Anna Munster notes: "Attention is an attending to, tracing how something singularly unfolds relationally. This singularization occurs dynamically in relation to previously grasped actualizations and with the sense that the singularity of the unfolding- playing a chord, playing chess, surfing the web- always takes place in a present also littered with virtualities that potentially 'shift' the game elsewhere" [10]. *Ko Maungawhau ki Runga* gently points 'elsewhere,' toward a terrain without a map, where imagination, memory and perception nudge the user to explore the unexpected. While there are diagrammatic nodes [Fig. 2], there is no set order of augments or fixed duration to the experience. Through the practice of walking between, activating, listening and viewing the augments, the user is asked to engage in a relational experience with the network and the site.

We have spoken of duration, and alluded to the existence of culturally trans mediated perceptions of time, but

what of memory? Smartphones are arguably *the* twenty-first century memory aid: at once portable and personal, their close physical proximity to people allows them to occupy the 'intimate zone' of personal space, to exist functionally within 45cm of the body. Since the tools for creating AR experiences have shifted from unwieldy and expensive headsets, to the portable and personal smartphone, augments have been accepted as 'everyday.' Already, the technological shift from the confined lab to a distributed dispersal in a ubiquitous 'everywhere,' has created new problems of perception and recognition. My own questions surrounding augmented and mixed reality scenarios include issues of how augments might participate in art practices, what status they may take on in life, whether or not they can be displaced from hierarchies of power to become a creative and generative force, and how we will cognitively respond to their presence.

Timothy Lenoir identifies an affective collectivity that is emerging within our portable technics: "Our new collective minds are deeply rooted in an emerging corporeal axiomatic. This is the domain identified by Guattari as the machinic unconscious: a wide range of media ecologies, material practices, and social apparatuses for encoding and enforcing ways of behaving through routines, patterns of movement and gesture, as well as haptic and even neurological patterning and repatterning that facilitate specific behaviors and modes of action" [12]. Since this 'corporeal axiomatic' is still emergent and thus yet to be thoroughly defined, its specific modes and patterns are fertile and productive ground for location aware art. How the individuated user will couple with an affective collectivity is not only an issue of context within their localised cultural sphere, but pushes toward the 'extended mind' of global virtual culture.

Augments, delivered through our ubiquitous smartphones, are incorporated within a 'software assemblage,' [13] and operate as a vector for activating scattered virtualities. If this practice can be connected to an artistic legacy, then Marcel Duchamp must surely be blamed. *Bicycle Wheel* (1913) posited a radical folding of the 'everyday' into art: an event-scene which instantiated the destruction of the rarefied art object through a reconfiguration as readymade or assemblage. Perceiving *Ko Maungawhau ki Runga* as a 'software

assemblage' references the deployment of everyday technology within the 'privatized' public sphere, while it also situates the activities of the user as a subject for political critique and aesthetic scrutiny.

Distinct from other uses of AR, such as those from within gaming, military, medical, or advertising paradigms, augments as art can potentially re-inscribe our perception of the locales they inhabit. The process of situating augments inspired by Maungawhau back to it, for display within the particularities of its natural environment, represents a gentle folding of cultural, archeological, and geographical influences, facilitated by AR technology mobilizing an online meshwork driven by code. Like a large spotlight focused to a tiny shaft, vastness- the internet, GPS- emerges in service of the affective and specific. The combined weight of history and ecology that many of us sense when we enter an expansive landscape such as Maungawhau, is mediated by augments as interventions in the network, only to be remediated by the active subjectivity of the user.

## References and Notes

1. 'Ko Maungawhau ki Runga,' a phrase in te reo Maori, is translated to English as *the mountain of the whau tree is above us*.
2. Maungawhau is the name of a 196m tall dormant volcanic cone and public park situated in Auckland, the location of the work *Ko Maungawhau ki Runga*. Maungawhau was a *Pa* (fortified village) until abandoned in the seventeenth century in the aftermath of sustained and bloody inter-tribal conflict.
3. Both techniques were delivered using the Layar Augmented Reality App. since at the time it seemed to offer an accessible delivery system. Subsequently I have used other systems such as Augmente and Unity. Augments can be accessed as geo-layers at the site. In addition, the 6 full versions of the video can be viewed online:  
<<http://www.youtube.com/user/TheStanleyKnives>>
4. Maungawhau receives approximately 1.2 million visitors a year, and is an iconic stop on the Auckland tourist itinerary. This intense use has resulted in the severe deterioration of some trails, now nothing more than muddied tracks. The locations chosen by this project were scoria-clad, with the aim of diverting foot traffic away from ecologically vulnerable regions.
5. *n*-manifold or non-manifold geometry refers to polygonal forms which appear visually connected but are actually technically separated either by edge, vertice, or face.
6. Mataaho is a deity who resides in the volcano, who was sent fire by Mahuika (Goddess of Fire) after his wife stole all his clothes leaving him shivering.
7. Te Ahukaramu Royal., *Te Whare Tapere*, PhD thesis, (Victoria University, Wellington, 1998) p. 211.

8. G. Deleuze, *Cinema 2: The Time-Image*, R. Galeta & H. Tomlinson, trans. (London, U.K.: Athlone, 1989).

9. H. Bergson, *Matter and Memory*, N.M Paul & W. S. Palmer, trans. (London : G. Allen & Co., Ltd. ; New York : Macmillan Co., 1913).

10. A. Munster, *An Aesthesis of Networks: Conjunctive Experience in Art and Technology* (Cambridge, Mass : MIT Press. 2013) p. 139.

11. Hayles comments: "What we know is that our experiences with the diverse temporalities of the computer are pushing us toward faster response times and, as a side effect, increased impatience with longer wait times, during which we are increasingly likely to switch to other computer processes such as surfing, checking e-mail, playing a game, etc. To a greater or lesser extent, we are all moving toward the hyper attention end of the spectrum, some faster than others." N. Katherine Hayles, *How We Think: Digital Media and Contemporary Technogenesis* (Chicago : The University of Chicago Press, 2012) p. 105.

12. T. Lenoir, "Contemplating Singularity," in Ulrik Ekman, ed., *Throughout: Art and Culture Emerging with Ubiquitous Computing* (Cambridge, MA: MIT Press, 2013) pp.579.

13. If we accept Lev Manovich's contention that software has 'taken command,' (Manovich, 2013) then the term 'software assemblage' is highly appropriate. 'Software assemblage' is a term I personally use in relation to my hybridized practice, an extension of 'mixed media assemblage.'