

FISH TRAILS: AN INTERACTIVE FLOOR PROJECTION

Martin Kean



Figure 1. Installation view of *Fish Trails* projection on floor outside lifts.

During August 2017, wandering through the ground floor Hub of Otago Polytechnic's H Block, you might have stumbled upon an animation of fish and heard the sound of water in a stream, projected onto the floor carpet. If you stepped into the animation, the fish moved out of your way and made space for you. This was an interactive floor projection, a project undertaken by Year 1 and 2 School of Design students as part of an interdisciplinary study.

AIM

The project engaged students in research and storytelling, describing something about the place, locality and environment within their given exhibition space. The aim of the design problem of the project was to utilise 'interactive projection' and sound as media for storytelling; the project also had to involve an audience within a sense of play, while sharing a closer examination of the site.

The ground floor of a five-storey concrete building became both the site for the students' research and their exhibition site – a small area of nondescript carpet outside the building's lift doors, where hundreds of students, staff, and visitors pause each day, idling for a few minutes while waiting for the lift.

PROCESS

The students started by researching the specific site, discovering that, long ago, part of the Ōwheo (or Water of Leith) stream passed directly underneath the building of H Block, on Otago Polytechnic's campus. Through their research, they discovered that urban development had encroached on the stream's natural path and covered its flood plain. They asked a number of questions: What happened? Why does the Ōwheo flood? Why was the stream diverted? What's being done about it?

DISCOVERY

The students discovered that from the late 1800s and into the mid 1900s, concrete and stone walls had been built along the Ōwheo in places to prevent bank erosion. A concrete channel was added in 1929 and extended in the 1950s. The negative effect of concrete channeling was to make flooding more severe as the Ōwheo overflowed its banks. Recently, the Otago Regional Council has extended the width of the stream's banks, from Leith Street to Forth Street, planting grasses and reeds that recover well after flooding.

The students noted that the stream has been home to a variety of wildlife and plantlife, and chose to focus on the introduced fishlife in its waters, species introduced early in the settler era. Using Adobe Illustrator, design students drew and painted both trout and salmon shapes as animation sprites, then animated the sprites in Adobe After Effects to create distinct cycles of fish movement. With help from Patricia Haden, principal lecturer in Computing and IT at Otago Polytechnic, students used the Processing computer programming language to randomise the animated fish trails within a projection window.

Projected from above the lift waiting area, randomised swimming fish played on the carpet below, for people to walk over, kids to lie on, even jump on. Using further coding, and utilising Kinect for Xbox One, the projection space was made interactive – when a person moved into or through the projection space, the fish slowly moved out of the way, eventually forming trails around the intruder. The animation on the carpet became a playful, interactive space. Posters on the wall near the projection summarised the project and imparted information on the state of the stream: "Taking away the man-made walls and putting in new plants have helped the stream return to a more natural flow."¹

SUMMARY

This project displays how technical, historical and environmental research can come together like tributaries to inform a project. The interactive element in the animation creates a "third space" beyond the projected light and the carpet 'screen'. Randall Packer discusses the Third Space as

a shared, social space: collective space, transcending the first and second spaces as a place of 'OTHER',¹ a place of open possibilities, a place of NEW POTENTIAL for going beyond the physical and the representational. This is why third space experience is so provocative. It is outside of time and space, not limited to those rules and limits. It is transcendent, it is connected, it is spatial in terms of a sense of active play that takes place in a space without borders like worm holes, instant trajectories that defy distance and geography.²

This interactive "third space" allowed the audience to add their footfalls on top of the fish; the audience created the narrative in their own minds – telling themselves that although the Ōwheo stream had been covered over by a building, people still walk on the stream hidden below. In his book *The Language of New Media*, Lev Manovich discusses "two spaces ... connected through their meanings" and asks "what will happen if two spaces seamlessly merge?"¹³ This project demonstrated two spaces converging with the footfalls of the audience to create a "third space" of imagined narrative.

The result is a kind of metaphoric mapping, a digital interaction that has feet as its input instead of mice and keyboards. The audience becomes comfortably complicit in an interaction with the digital, as they play foot-touch with digital fish swimming across a carpet, all within a safe space. Scott Contreras-Koterbay and Łukasz Mirocha discuss the “new aesthetic” of digital art in their book *The New Aesthetic and Art: Constellations of the Postdigital*: “The very idea of digital space as luxuriant is fascinating, as is the notion of ‘touching’ algorithms, and through this conceptualization of a physicality in the digital ... It’s not because video has become more personal, it’s because the technology behind the video has driven our aesthetic standards away from the human towards the pervasively digital.”⁴

Interdisciplinary student collaborators together contributed to the project’s successful outcome. The students found a suitable design solution to a storytelling problem, with many people enjoying how the carpeted lift area was transformed.⁵

Acknowledgements:

The students who worked on this project were Shaun Funnell, Taylor Pahuru, Sherman Sreedhar, Laura Ward, Krystal Watt and Alex Withinshaw, all studying in the Bachelor of Design programme in the School of Design, Otago Polytechnic. Thanks go to Patricia Haden, principal lecturer in Computing and IT at Otago Polytechnic, for her kind help with Java and Processing.

Martin Kean is a Senior Lecturer in the School of Design at Otago Polytechnic, focusing on design for print and screen, typography, prepress, web design and digital skills.

- 1 S Funnell, T Pahuru, S Sreedhar, L Ward, K Watt and A Withinshaw, “Student Report and Poster,” Dunedin, Otago Polytechnic School of Design, 2017.
- 2 Randall Packer, *Third Space: Place of Other*, 26 September 2014, <http://www.randallpacker.com/third-space-place/> (accessed 18 September 2017).
- 3 L Manovich, *The Language of New Media* (Cambridge, Mass.: MIT Press, 2001).
- 4 S Contreras-Koterbay and L Mirocha, *The New Aesthetic and Art: Constellations of the Postdigital* (Amsterdam: Institute of Network Cultures, 2016).
- 5 Link to Vimeo showing video of the projection: <https://vimeo.com/229079479>.