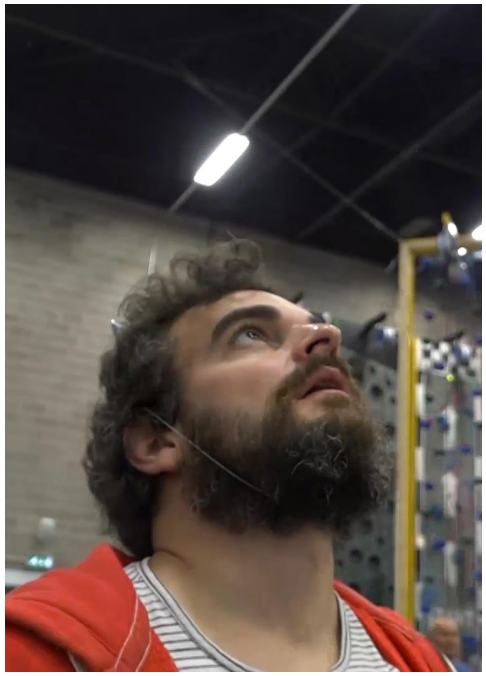
UNKNOWN UNKNOWNS. OR HOW I LEARNED TO STOP WORRYING AND LOVE THE BALLOON!!

Chris Jackson and Jonathan Spencer

Prologue

The autonomous flying machine roams overhead. Lights flash and strobe, a voice laden with electronic distortion booms across the playzone. The crowds of excited children respond, the orb above, at once documenting and instructing - a perfect convergence of art, science and communal exercise.

This was the vision we had all signed up for, and the funding had just come through. As graphic designers we were offered the opportunity to move beyond a rigid brief into something more fluid, and we jumped at the chance. Our initial impression of the project was that of ambition. As it turned out, this was both its strength and its weakness. I don't think any of us fully appreciated the scale of what we were proposing and the many technical and conceptual challenges that would have to be overcome to realise the project as intended. What would follow was an incredibly useful journey of discovery and collaboration.



Constructing the Canvas

One of our main goals in collaborating on the project was to experience, and learn from, the processes involved in running a successful arts practice. Re-Dock have an impressive back catalogue of projects and their history of engaging participatory events involving arts and technology is an area that overlaps with our own interests.

Initially the scope of our involvement was to help develop the personality of OLO through reactive lighting patterns, colours and motion that would respond to and visualise the voice audio. On its own this would be an interesting challenge. Working within restrictions often produces unexpected responses and forces a creative approach. With our 'page' being a strip of lights viewed from the ground below we would have to leverage our skills as visual communicators to create a distinct and recognisable personality for OLO.

We discussed possible ways of incorporating the lighting and decided that, rather than have the lighting hanging below OLO, where the mechanics would be visible, it would be more convincing to have the lights inside, where the balloon could diffuse the light and lend more coherence to the experience. Simple then. We would just suspend the lights inside the balloon. This was the point where things started to get a bit complicated, each solution was accompanied by two more challenges: a branching cascade of 'todo's. How does one suspend electronic things inside a balloon? How do you ensure it won't pop, dispensing a cornucopia of propellers, cameras and battery packs onto the participants below? How do you create something other than a snake of LEDs piled at the bottom of the balloon. How do you get power inside the balloon without the helium getting out? The more we progressed the more we realised how little we knew and we hadn't even started trying to get it flying yet!

As part of the project team, we had The Engineer (Patrick Fenner). This was one of the highlights of the project. To be able to collaborate with someone who came at a problem from a completely different angle and had a different, but complementary, set of skills was an incredibly rewarding experience. We noticed Patrick had some interesting technology from previous projects. Low resolution pixel art aesthetic screens with wireless communication? We had to have them! Wireless buttons that communicate with a central game unit which can then change the pixel screens? Put them in the trolley! It may have been a Wednesday but it felt like Black Friday!

With the deadline rapidly approaching, we set about it. Games were paper prototyped, harnesses and backpacks constructed and helium purchased. We had all the bits, the animations for the screens were ready, the game logic written, the propeller cowlings 3D

printed and some suitably futuristic music composed. Sure, we hadn't had a chance to actually test any of the parts together, but that, surely, would be a mere formality.

The Big Day

The thing about a canister of helium is that it's much heavier than you expect from something less dense than air. We hadn't had a chance to inflate the balloon with anything other than air and, although we had some calculations, we really had no conception of how the lift produced by a given volume of the gas would feel. We hadn't had time to weigh all the balloon's attachments and ballast accordingly. Later investigation revealed that this aeronautical engineering business is a precise and complex science - who knew?!

On reflection, with some time between us and the event, what we were trying to achieve in a range of fields new to us and in short order sounds vaguely preposterous. Apart from being graphic designers, we are also lecturers. We'd never delivered a workshop that had a strong technical component without running through it beforehand but here we were in a massive sports hall, with three hours to go before the the local community arrived, attempting to stitch this technological Frankenstein's monster together…

We didn't, in the end, manage to completely tie it all together. The balloon was held in place with some chord and walked around the arena, the lights worked somewhat intermittently and the control systems were not as effective at manoeuvring as we'd hoped. The buttons never communicated with the games module and the screens were left stacked in reception. And the thing of it is… it didn't matter that everything didn't come together as we'd have liked. The games were robust enough to work without the direction of OLO and much fun was had. The buttons could still be pressed and with some human assistance a winner declared, and the children loved the sight of a giant balloon being walked around the hall by a slightly bedraggled man.

Rising from the Ashes (use the helium)

In the few weeks after Gym Jams we worked with Neil refining OLO. We devised a system for fixing the the LED strips internally and making the power and drive systems detachable using magnets and felt . A ballast system was added and OLO made its maiden untethered flight at Liverpool Central Library.

Perhaps the aims were too ambitious but the legacy of this project will last. Multiple new avenues of technological exploration and participation for future projects have been opened up and collaborative relationships forged.

To misquote Paul Weller, *The more I see, the more I know. The more I know, the less I understand.* We come out of this project understanding less than when we began and, by this measure, it should be considered nothing less than a total success.

Chris Jackson and Jon Spencer were OLO's handlers.