

Mid-year report template for Community Projects and Internet Research - to be sent to nicole@internetnz.net.nz on the date specified in your contract

Grant reference number:	#PR201500032
Name of recipient and contact details	<i>Stewart Fleming</i> 0508 942 533 021 993 125
Name of organisation (<i>if applicable</i>)	WIC NZ Ltd
Title of project/research	Reinventing Engineering Spaces for Modern Communities
Amount of funding received	\$24000
<i>Budget details</i>	<p><i>List a breakdown of any expenditure to date and compare it with your expected expenditure (All figures exclusive of GST)</i></p> <p>(Some original budget items have been modified to fit the allocated amount of \$24000 reduced from the \$24937.80 applied for)</p> <p>Gasworks Internet – 2 access points and Internet router at 20 Braemar St, Dunedin. Valley Project Internet – access point and Internet router at 11 Allen St, Dunedin. Mini-Gasworks hub at Port Chalmers School (June 2016) \$5898.27</p> <p>Minecraft EDU licenses for Minecraft Club \$382.61</p> <p>Go Pro Hero Silver, stick mount, carry case, SD card and assorted mounts for Gasworks video project \$874.13 to establish a minimal facility.</p> <p>Sphero and iPad controllers for Robotics Club. \$5388 for 12 Sphero units and iPad controllers and 1 iPad Pro for class management.</p> <p><i>Have you achieved what you expected to achieved and with this spend? (If “No”, please provide more details)</i> <i>YES. The number of classes and students involved is approximately 15 times what was expected. We have added a 3rd site to meet underserved demand in a new area.</i></p>

	<p><i>Please account for any areas of overspend or underspend. Internet provision is overspent by \$1999.47. This is due to the need to supply a 3rd site at Port Chalmers as a mini-Gasworks (see news article referenced) and to continue Internet supply to the Braemar St site for a further 6 months.</i></p> <p><i>Robotics club budget is underspent by \$2012.00 as staff costs for training and teaching were not incurred.</i></p> <p><i>Gasworks Minecraft EDU licenses is underspent by \$17.39. This item budget was adjusted downwards on receipt of grant from \$800 to \$400.</i></p> <p><i>Outreach budget has not been used and is underspent by \$2600. The growth of the Hive Dunedin organization with its own separate funding for outreach and publicity subsumed this requirement. We propose to return the sum of \$2630.12 to InternetNZ on completion of the project.</i></p> <p><i>Video budget is significantly underspent by \$8826.87. There are two main reasons for this. The first is that the lead volunteer left the project and was not able to develop this area of activity; the second is that the revised plan for this activity requires a dedicated space. See notes below on space issues and challenges facing the organization.</i></p> <p><i>To summarise: Committed to date \$12543.01 Uncommitted (revised budget): \$11456.99</i></p> <p><i>To return to InternetNZ at end of project: \$2630.12</i></p> <p><i>On-hold: \$8826.87 (earmarked for Video Factory), decision pending in August.</i></p>
<p>Timeline update</p>	<p><i>How far along your timeline are you? Are there any significant changes to your timeline?</i></p> <p>Wicked Networks established the early presence at Gasworks Museum in May 2015. We added the Valley Project site in December 2015. Both sites are equipped with high-performance (802.11ac) wireless access points, and Internet routers onto Gigabit Ultra-Fast Broadband (UFB) connections. To enable a mini-hub, we built a 3rd smaller site at Port Chalmers School and this was used for a tech party event in</p>

	<p>June 2016. There is transparent connectivity between the Gasworks main site and the satellite and this is both practical and deliberate. We intended for the connectivity to be invisible – to be unnoticed and unremarked upon by participants. With a high degree of reliability and performance, we have achieved this aim.</p> <p><i>Minecraft Club commenced in October 2015 and continues at a high rate of interest among participants. Robotics Club commenced in February 2016 and the programming aspects of this activity are also popular.</i></p> <p><i>The limited resources provided for the Video Factory have been used to document all other areas of the Gasworks initiative.</i></p> <p><i>Valley Project migrated their Web server into their dedicated space using the upstream Internet connection. They are expanding their projects with an environmental health initiative using public access WiFi.</i></p> <p><i>The Video Factory project is mostly on hold. Space constraints within the existing space at Gasworks Museum make it impractical to host the planned dedicated facility there. Loss of the staff member who was to drive this make it difficult to pursue in the original form with editing suites and expert training/mentoring to be provided. A decision will be made in August whether to press ahead with this and if so what form it should take. If the decision is not to go ahead, then we propose to return the balance of funds to InternetNZ on completion of the project.</i></p>
<p>Achievements to date</p>	<p><i>Please outline your positive outcomes</i></p> <p><i>Almost all classes – Minecraft Club, Robotics, Web development, programming – are oversubscribed. The demand for innovative digital learning is incredible. The response from volunteers has been equally amazing. From a small handful in the early weeks, as word spread and friends recruited others, a roster of over 25 volunteer interns provides sufficient resource to run all classes without individuals being stretched. This has addressed one of my greatest fears early on which was that over-reliance on a few would lead to burnout and project failure.</i></p> <p>We have firmly established a parent organization – Hive Dunedin – that has encouraged the development of other</p>

	<p>groups.</p> <p>Through the Internet provision, we support 3 active sites with unlimited data and practically unlimited speed. Valley Project have gone from having to hang a cellphone out of a window to get signal, to having gigabit connectivity and hosting their own server. They are now embarking on a low-cost environmental monitoring project to measure conditions in Dunedin homes.</p> <p>For the period January-April 2016, approximately 2200 children had attended Minecraft Club, Robotics Club or MakerParty.</p> <p><i>Ann Cronin, the leader of and inspiration behind GasworksNZ, received the Otago Daily Times Community Science award (non-profit section)</i></p>
<p>Difficulties to date</p>	<p><i>Please outline any difficulties you've had so far and how you're managing them</i></p> <p><i>There are some issues between the host organization (Gasworks Museum) and the education initiative (GasworksNZ). A draft Memorandum of Understanding between the two organizations is under discussion, but is not presently finding good common ground. It is expected that GasworksNZ will seek its own dedicated space and certain projects (most notably the video factory) are on hold until this can be established.</i></p>
<p>Findings/learnings to date</p>	<p><i>What are you learning? What findings have you made so far?</i></p> <p><i>Internet enables activity in spaces. To a certain extent, it doesn't matter what the space is or where it is, as long as a) it is accessible and b) it provides access to other spaces (online). While the physical space may change form or location, the online spaces are constant, accessible and usable from anywhere.</i></p> <p><i>We have tried very hard in the engineering of Internet support for the initiatives, to remain transparent. The Internet should be just there and functional (at a high level of performance) so that it disappears into the background and allows focus on the activity. We find this in practice – participants engage with others, amongst themselves, in both the physical and online worlds, almost interchangeably. They don't talk about the Internet as such – they talk about what they are building, or what they are doing. The Internet becomes</i></p>

	<p><i>an omnipresent substrate, practically unlimited in capacity and hence...quite unremarkable.</i></p> <p><i>In 1 year (we took a flyer and equipped the space with Internet in June 2015), we have gone from having nothing but a dream for and activity and with the support of funding agencies (of which InternetNZ is the lead), turned it into a recognized vibrant, active space for digital education.</i></p>
<p>Do you anticipate their being anything media-worthy in your project/research*</p>	<p><i>Any outstanding discoveries, good-news stories or unique work (in your opinion?) *Please note we may use this information in a media release.</i></p> <p>It is very clear that the InternetNZ funding has served as a catalyst for activity and attention. GasworksNZ is one of the success stories of Dunedin's Gig City and it has attracted further funding in the form of grants from MBIE's Curious Minds fund, and through Gig City Community Funds for projects directly as well as through the Hive Dunedin parent organization.</p> <p>The activities of the project could not have happened without the Internet. The Internet provided through this funding has given certainty of supply and quality of performance that has enabled a wide range of activities.</p> <p>This attention and publicity has led to improvements in governance and direction. Hive Dunedin has emerged as a viable parent organization in the medium- to long-term and has its own Board and funding. It acts as an umbrella into which new initiatives can slot of which GasworksNZ is one and Valley Project is another. GasworksNZ is also now an incorporated society with its own Board and financial structures.</p> <p>At the close of the project, we will leave three viable organizations – Hive Dunedin, Valley Project and GasworksNZ.</p> <p>Media <i>July 2016: Ann Cronin receives ODT Community Science Award</i> http://www.odt.co.nz/news/dunedin/389809/harbour-study-leader-receives-inaugural-lifetime-achievement-award</p> <p><i>June 2016: Mini-Gasworks hub at Port Chalmers provides venue for science education</i></p>

<http://www.odt.co.nz/news/dunedin/387392/tech-party-promotes-creativity>

Valley Project electric bike conversions empower residents to commute longer distances

<http://www.odt.co.nz/news/dunedin/388641/rider-empowered-bike-conversion>

April 2016: GasworksNZ facilities provide the focus for Dunedin's first MakerParty

<http://www.odt.co.nz/news/dunedin/378469/soldering>

February 2016: GasworksNZ feature in Insiders Dunedin

<http://www.insidersdunedin.co.nz/attractions-insider/2016/2/22/hammer-time>

November 2015: Initial Minecraft clubs oversubscribed.

<http://www.odt.co.nz/news/business/364130/gasworks-science-training-gets-near-50000>

September 2015. What we had then was basically nothing.

<http://www.odt.co.nz/news/business/355572/gasworks-joins-computer-age>

Publications

Ann Cronin

University of Otago, Dunedin, New Zealand. Revenge of the nerds... Rebooting industrial heritage in the digital age. CIMUSET 2016 Annual Conference, Milan.