Socially Accessible Computing

Programme Proposal and Impact Assessment

Summary

Farset Labs, will prototype a "Classroom in a Box" that, in conjunction with organisations such as W5 STEMNET, the Raspberry Pi Foundation, CoderDojo and Belfast City Council, will facilitate a scalable, efficient solution to the challenge of putting computing education facilities in the hands of as many people as possible, making use of existing facilities such as BCC Community Centres, and enabling a wide range of community groups to have low/zero-cost access to technology required to deliver flexible teaching facilities across Belfast and, on the demonstration of a scalable model; beyond the city.

Key Impact Opportunities are:
- Facilitation of child/young person education programmes such as CoderDojo / CodeClubs, removing the "bring your own laptop" barrier to entry, enabling higher inclusion of children/families from lower socio-economic backgrounds.
- Coordinating resource development between existing organisations such as The Raspberry Pi Foundation, CoderDojo, CodeClub UK, Farset Labs, W5 and more to allow community groups to host/run their own Clubs/Dojos, greatly increasing the capable mentorship base for these programmes and thus massively increasing the potential reach of such programmes; instead of encouraging bigger and bigger "classes", these programmes are disseminated and distributed around many organisations that can better adapt to their own communities needs while maintaining strong links between and across groups and institutions to leverage best practice and peer learning exchange.
- Cultivating a "Smart City" in the purest sense by leveraging the growth of OpenData technologies within NI to better connect social and political policy to data driven outcomes, and to use these resources as a method of engaging young people (and adults) in their locality and integrating this experience with their educational requirements, i.e. "making data real".
- Adult Education Support; While children and young people may indeed be the primary target of this programme, based on our experience with programmes like the Northern Ireland Raspberry Jam (started in Farset Labs in 2012) it is important to not overly-focus the outcomes of this project, so as to provide a general solution for as wide a range of computing and educational related challenges; the same technical resources that can be used to educate children and young people can be directly applied to NEETs and older adults who may wish/need to retrain into more modern working environments, or indeed for the digitalisation of the elderly population. This programme would open up the possibility of "drop in" sessions for older people to access digital-only content if they don't have facilities/capabilities in their residences, and many other secondary impacts can come from this if it is handled in an open-minded way.

Scope

There are two planned stages to this proposal;
- a Proof of Concept phase focused on the development and validation of a scalable computing solution along with associated educational materials (initially but not exclusively targeted at children and young people),
- a Second "scaling" phase to roll out the arrived at solution to several "base-sites" including but not limited to Farset Labs, W5, BCC, FabLab NI, etc that will perform as "operators" of their own "classroom in a box" solution that different groups, agencies and potentially motivated individuals can access as they need.

A third potential phase out side of the scope of this proposal is to expand this project beyond the Belfast metropolitan area, however it is the intention that this programme on completion will be in a suitable state to be replicated and scaled by any interested parties with no attempts to "own" the programme. It is the intention that all resources generated will be provided as "open source" for local, national and international collaboration and sharing, and that the construction of any generated technical solutions be equally "open" where ideally, anyone can roll out their on "lab in a box" anywhere in the world.

Proof of Concept Back-of-the-envelope costing

Equipment Costs

Thing	Price (Ballpark)	Desc.
12-Laptop Hard Case	£300.00	http://www.shop4cases.co.uk/product_list.asp?CatID=187
12 x Mid Range Laptop	£4,800.00	https://www.amazon.co.uk/dp/B076799T2N/ref=psdc_429886031_t3_B01N7P3QFL?th=1
24-port Switch	£70.00	https://www.amazon.co.uk/TP-LINK-TL-SG1016D-16-Port-Gigabit-Desktop/dp/B003UWXFM0/ref=sr_1_2?ie=UTF8&qid=1512394437&sr=8-2&keywords=network%2Bswitch%2Bgigabit%2B16&th=1
Assorted Ethernet Cabling	£120.00	https://www.amazon.co.uk/s/ref=nb_sb_noss_2?url=search-alias%3Dcomputers&field-keywords=gigabit+ethernet+cable
Wifi Router	£65.00	https://www.amazon.co.uk/ASUS-RT-AC1200G-Dual-Band-Gigabit-Wireless/dp/B01F4WOFD6/ref=sr_1_5?s=computers&ie=UTF8&qid=1512394517&sr=1-5&keywords=wireless+router
Cable Protectors	£50.00	https://www.amazon.co.uk/D-Line-CC-1-Protector-Protection-Prevent/dp/B0078NU4C6/ref=sr_1_1?ie=UTF8&qid=1512394617&sr=8-1&keywords=cable+strip+floor+cover
Assorted Extn Leads	£100.00	
TOTAL	£5,505.00	

Facilitation Costs

Thing (All expected to be for 1 year)	Price (Ballpark)	Desc.
Travel Expenses	£500.00	For inter-partner facilitation and equipment transfer where applicable
Venue / Meeting / Event Hire Costs	£2,000.00	Includes the facilitation of testing events, mentor knowledge sharing events and associated catering costs for at least 4 significant events throughout the year, including but not limited to: mentor workshop days, hackathons, in-visits by local schools/organisations, etc
Educational Resource Generation	£500.00	To leverage the experience and expertise of a range of individuals across the private sector, it is advised that a few are selected as "key consultants" to generate content in a

and Collation		consumable and maintainable manner so as to establish highest ROI over time
System Maintenance and Support	£1,000.00	It *may* be necessary to allocate some resources in the event of technical issues related to the equipment that a receiving community group cannot resolve themselves.
Total	£4,000.00	