

Arts and Humanities Impact Fund

1. Project Name and Organisation

Phish and ChYpPS: Using digital technologies in the heritage sector to engage patients

2. Principal Applicant

Daniel Pett University Position: Head of Digital and IT School: Non-School

3. Co-Applicants

Dr Abi Glen Fitzwilliam Museum/ Faculty of English

Ms. George Oates Museum in a Box

Ms. Jacqui Strawbridge Education Department/ Dialysis Unit Delivery Team

4. Stakeholders and Beneficiaries Stakeholder / Beneficiary

- Dialysis Unit, Addenbrooke's Hospital (including medical practitioners, service users and their families/carers/friends, Addenbrooke's Arts)
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- Families attending Cambridge City Council Children and Young People's Participation Service (ChYpPS) summer events Cambridge City Council ChYpPS staff and City Council Community
- University of Cambridge Museums staff in Learning, Digital and Policy roles.
- Prof. Steven Connor, Faculty of English and Director of CRASSH, Project Advisor Digital Humanities, Museum Studies, Human Computer Interaction practitioners at Cambridge University and beyond.
- Policy advisory services and organisations - Arts Council England, Department for Culture Media and Sport

5. Project Duration

Project start date: 01-Jun-2019 Project end date: 30-Oct-2019

6. Underlying Research

Outline the original research (including publications) which underpins this impact project and the relationship between the research and the proposed impact activities/outputs (Approx. 200 words):

Pett's research (& by extension Glen's) harnesses innovations in digital technologies as pathways to engaging diverse audiences with museum collections & research in evidence based, replicable & sustainable ways. Funding from the AHRC CEE Fellowship programme is enabling Pett & Glen to collaborate with micro-SME Museum in a Box (MIAB); this project will enable us to focus on extending audience reach & diversity (beyond postdocs, the Academy & MIAB). A MIAB is a small, portable box built from a Raspberry Pi computer that enables users to touch an object equipped with an NFC sticker onto a sensor, enabling them to have a "voice" & to "speak" to users, giving informative context that goes far beyond the traditional & outmoded museum label, & affording a more accessible museum experience. With MIAB, we intend to develop new methods of engaging audiences, building on the Fitzwilliam Education Department's existing links with the Dialysis Unit (DU) at Addenbrooke's Hospital, bringing MIAB into wards for use by patients & visitors, & to children & young people via a collaboration with the Children & Young People's Participation Service (ChYpPS).

7. Project Summary

Brief summary of the impact project, detailing why you will engage specified, external and non-academic collaborators/stakeholders/beneficiaries (Approx. 300 words):

Our project, and other recently funded work, all respond to the challenges laid down in the Mendoza and DCMS Culture is Digital reports and dovetail with the Arts Council England's emphasis on technology within the museum sector. We plan to deliver new ways of digital engagement, train our staff and create new opportunities.

This project responds to international work on how cultural engagement could enhance health and wellbeing and reduce loneliness [APPG report, Creative Health: The Arts for Health and Wellbeing, 2nd ed.] and to evidence that active intellectual stimulation improves the wellbeing of many patients [Uwajeh & Iyendo, IJMAS,2016]. It is designed to improve the wellbeing of hospital patients and their carers, and to support the DU in providing stimulating experiences for their service users (Corrigan et al., 2017, IMJ). Our existing work with the DU, whose patients are typically aged 65-80, involves bringing handling collections to facilitate bedside conversation. However, partnering with MIAB enables us to respond to DU evaluation feedback that patients would like more interactions and have a wider multi-sensory experience. The MIAB collaboration will bring aural, sensual and visual engagement through replica and 3D-scan derived objects linked to cutting-edge technology, enabling new modes of interaction for both CYP and DU users - 45% of whom suffer from sight loss - with cultural provision in non-museum locations.

In addition to conversations facilitated by Glen, we intend to leave a box in the DU's public common room for patient access, along with relevant reading material, ensuring that the needs expressed by DU users are fully accounted for. This project goes beyond MIAB's existing work, as most of their outputs have been focused around museum and school engagements; clinical and informal learning settings like those run by CHYPPS are an under-investigated space for MIAB. In the future, the silicone-coated boxes - which are easily sanitised to avoid cross-contamination - can be updated with additional material via Wi-Fi . Through a series of blog posts, a best practice workshop, and a self-produced video, Glen will promote the use of MIAB to other UCM and regional museums for relatively cheap, easy-to-implement and replicable tool for engaging different audience groups.

8. Outputs and Activities

Provide details of the project activities and outputs which will be supported by the funding, including a timeline of delivery (Approx. 300 words):

8 x 3 hour workshops for 150+ patients undergoing dialysis, and 4 day-long events as part of the CHYPPS summer programme, resulting in: a short film aimed at others wanting to implement a similar intervention, posts for the UCM blog (annual reach: 30,000) bringing our best practice to the wider heritage sector; a practice-based journal article for an open-access, digital by default museological journal.

Promotion via the Museum's social media channels (13,000 followers on Instagram, 31,000 on Twitter and 20,000 on Facebook) and those of key staff who have already established a high profile.

June: Ethical approval application; receive materials from MIAB. In-house museum based testing of software, hardware and content with colleagues using standardised Human Computer Interaction (HCI) methods.

July: Meet with DU medical practitioners and Fitzwilliam Museum's Education team to establish delivery practicalities. Work with Dr Kate Noble (see in-kind support) to establish an evaluation framework based around museum standards, and project advisor Prof. Steven Connor on suitable medical humanities research methods. Commence delivery with 2 visits to the DU; leave a box in DU. Each DU visit will take 3.5 hours and will require 15 hours of preparation (object research, producing written materials) and 10 hours of reflection and evaluation.

August: deliver 4 day-long CHYPPS events as part of their Big Wednesdays offer.

Preparation will take 15 hours after an initial strategy meeting with Education (promotion; identification of appropriate materials; Research & Development); write-up, 10 hours. Delivery of 2 ward visits. Before completing these visits, we will consider the evaluation received from the facilitated and non-facilitated visits. We will then create and print 3 new 3D printed objects (in sterile materials) to add to the collection for these visits; interpretation for the revised collection will be informed from gathered feedback. September: deliver final 2 ward visits, evaluate programme including an event for UCM and regional museums on exploring potential future uses of the MIAB.

Mid-September-October: wrap-up; report writing, infographic generation and final blog posts and publication on creative economy website.

9. Measures of Success

Please specify the outcomes for beneficiaries, as identified and detailed in Questions 4 and 7 above that you anticipate for your project.

150+ DU users (typically aged 65-80, some suffering from macular degeneration and/or cognitive impairment) & their families/carers: each session has the opportunity to engage 26 patients plus visitors; 300+ young people & their families at CHYPPS events, based on

2018 anticipate for your project and how you data. propose to assess progress towards All beneficiaries will explore and learn about museum collections through MIAB; learn impact. Please consider how you may how digital heritage might enable them to engage with collections in a new way; be more gather and incorporate both qualitative and connected to the Fitzwilliam Museum & wider cultural provision in Cambridge (see method 1 quantitative evidence of success. (Approx. below). 200 words):

Evaluation: (1) Feedback via visually led questionnaires collected on iPads, 'meaning maps' & discussions appropriate to clinical/recreation ground setting; (2) responses captured in box at DU. DU: Patients asked to self-report across a variety of wellbeing measures in line with current evaluation methodologies employed in the programme based around the UCL Museum Wellbeing Toolkit and Warwick Edinburgh Mental Wellbeing Scale. DU medical practitioners asked to report observations in relation to the wellbeing measures from the facilitated interaction, & provide qualitative feedback on use of MIAB in common room (Methods 1 & 2). ChYpPS: we will evaluate the effectiveness of digital heritage to engage participants with collections in a way that contributes to outcomes inline with programme level goals for our families programme, including creative thinking, knowledge, and confidence(1).

10. Project Ethics

If applicable, please explain how you will ensure appropriate ethical oversight of the project is put in place (for example if the project involves human participants, personal data, animal studies or human tissue) (maximum 200 words):

The Fitzwilliam Museum's award-winning Learning Department regularly works with human participants and personal data so has established procedures for dealing with this, in line with GDPR requirements. As this is a project involving human participants, the project will be subject to the Fitzwilliam Museum's internal ethics review process and will be assessed by the Museum's Ethics Panel, which will decide whether it should be referred for further review within the University. If referred to the HSS Research Ethics Committee, all recommendations will be complied with. We intend to complete the ethical review prior to project commencement in June 2019.

Please note that careful consideration has been given to the choice of clinic for this work: dialysis also differs from some clinical settings as it permits some distraction from the discomfort of the process, but (crucially) interaction with MIAB would not affect the efficacy of the medical treatment.

PI Pett, Head of Digital, will take responsibility for ensuring that the relevant ethical procedures and processes, along with associated documentation, are fully adhered to during the project.

11. Funds Requested

Total Staff Funds (£): 7240

Total Non-Staff Funds (£): 1379

Total cost: 8619

Total requested: £8,618.69

Itemised Costs

Staff funds (£7,239.69) Dr.Abi L. Glen, full-time for 2 months on scale 7.41 = £7,239.69. Glen recently completed her PhD in the Faculty of English at Cambridge and has been working with the Fitzwilliam since January 2019 as an AHRC Creative Economy Engagement Fellow. Glen brings together many core skills relevant to this project. She has five years' experience volunteering in paediatric clinical settings so is extremely familiar with - and sensitive to - the demands of working in clinical settings. As an intern at the Fitzwilliam - and now in her role as Research Fellow - she has developed an

intimate knowledge of the Fitzwilliam's collections and an ability to share interesting stories with diverse audiences. This post-doctoral post has also enabled her to build and develop a new range of alt-academic skills including programming, 3D modelling, content creation and dissemination and is preparing her for a career in digital humanities research. This work will enable her to broaden her experience whilst providing a prototype for a lasting legacy of clinical digital interventions.

For instance, during her AHRC internship (2017), she provided training and interactive sessions about manuscripts and printed objects for current Art History students, prospective undergraduates, and Year 8 pupils from North Cambridge Academy. This is one of our strategic partnership schools with whom we create long-term sustainable relationships aimed at developing cultural capital in underserved communities. Through her fellowship, she has developed an interest in investigating how digital technologies might be used to develop new routes for engaging with underserved or reluctant audiences. She is also a skilled and prolific academic/ heritage blogger, most recently for the UCM blog and the CEEF project's website.

If awarded, the funding would be used to extend Glen's existing contract with the Museum and her time would be solely devoted to the delivery of this project. Funding would expand public museological practice to a new and innovative setting. Now is the ideal time to do this project and it is an opportunity we are unlikely to have again in the future: we are bringing together Glen's unique skill-set (clinical experience, proven outreach record, world-class research background, familiarity with Fitzwilliam Museum collections and experience working with creative partners) with our developing partnership with MIAB and providing new routes to engaging audiences in both clinical and youth settings.

Non-staff funds (£1,207) 2 boxes purchased from MIAB at £150 each. This is a discounted rate (see below) and will enable us to leave one box at the dialysis unit ahead of our initial visit. (£360 inc VAT)

Design, printing and materials costs for additional objects to be added to the collection based on feedback from DU users and children/young people (£500).

Subscription to MIAB content management system to allow us to prototype our own collections of 3D objects with technical support (6 months x£12=£72)

Return travel costs from Fitzwilliam to the Dialysis Unit (8 visits x £15 = £120)

Return travel costs from Fitzwilliam to ChYpPS events (4 x £20.00 = £80.00)

2 high-power battery packs to enable us to run the Boxes when 'out in the field' at the DU and in parks/recreation grounds (£100)

Catering costs for best practice and creative sharing event (20 x £2.35 = £47)

Costs for incentives for participants, based on object costing 50p on average per participant (£200)

In kind

This project can only proceed because of the existing relationships that we have carefully fostered with MIAB, and the long-term partnerships we have with ChYpPS and the Dialysis Unit at Addenbrooke's. Our partners at Addenbrooke's are frequent contributors to Health Sector conferences discussing the outcomes of bringing together cultural heritage and Health and Wellbeing initiatives. This project will add value to this research by contributing to, and diversifying, this research context.

Glen will attend training sessions with the Education Team at both the Dialysis Centre (2/5/19) and the museum (17/5/19). These sessions, which will be offered free to Glen, and are designed to make new members of the delivery team familiar with current practice, as well as to evaluate and push forward this practice. During this time we will collaborate with medical staff, counsellors, and the delivery team to decide on the most appropriate materials for the needs of the patients.

Our creative industry partner, Museum in a Box, will provide us with a substantially discounted rate (40%) on all materials, including Boxes and 3D-printed objects for use with the Boxes.

Equipment for self-produced videos: The Fitzwilliam owns equipment and software for the production of two HD or 4K resolution films (cameras, microphone, video editing software) and in-house expertise from within the Digital and IT team that Pett leads (also encompassing the museum's photographic and audio-visual team.) These will be broadcast on the Fitzwilliam Museum social channels and websites and be used to inform people within 1 minute of what the project encompasses, and also bring new skills to Glen's armoury.

Dissemination: the already established Creative Economy project website (<https://creative-economy.fitzmuseum.cam.ac.uk>) will provide a platform for blog posts, alongside the University of Cambridge Museums platforms. The PI and staff on this project will present regularly on these interventions at high profile conferences on the

digital museological/humanities circuit

In-kind staff time

Daniel Pett will provide project oversight, ethics approvals and mentorship to Glen. He will provide assistance with programming (code), technical and training knowledge in the use of 3D technologies and be the advocate for these works within the UCM programme (where he is the digital lead.)

Dr Joanne Vine will provide project administrative and accounting expertise, alongside the Fitzwilliam's finance team.

Jacqui Strawbridge, Gallery Educator, and Outreach and Access Officer at the Fitzwilliam has provided expert into this project and will continue to do so as the project develops. The Fitzwilliam takes a leadership role around culture, health and wellbeing in the museum sector: as part of the Fitzwilliam's Learning team, Strawbridge has worked to support our active partnerships with education, community and health sector organisations, enabling us to create routes to knowledge exchange and impact by establishing meaningful engagement between current research and these groups. We have not costed for her time in this project, demonstrating the Museum's commitment to this project and target audience groups.

Dr. Kate Noble, who has been Co-I on a recently-completed AHRC cultural value project, Measuring the Cultural Value of Programmes with Children and Young People will provide input and support on the evaluation methodology at the outset of this project and, as required, for its duration.

Professor Steven Connor has agree to be the Project Adviser. He brings particular expertise in medical humanities, which will be invaluable in thinking through how this impact project could develop in the future, as well as providing a solid wider research context for the activities.

12. Signature of Support from Head of Department/Faculty

Title: Mr Surname: Syson First Name: Luke Department/ Faculty: Fitzwilliam Museum

13. Additional Funding

Please provide details of any existing/recent/prospective internal or external funding for research related to the project. Please specify funder, title of project, PIs, start/end date and value. Awards are not conditional on past or current funding. This information is sought to help identify links between impact awards and research funding. (maximum 300 words):

This project will draw on recent funding won by the PI, Mr Daniel Pett, Head of IT and Digital, Fitzwilliam Museum which encompasses the following grants. Several of these have direct bearing on this proposed research; for example the creation of Glen's role via the Creative Economy Fellowships, pump priming for 3D work, citizen science with a diverse audience. These demonstrate that this is not an isolated research concept, but is part of an over arching thematic journey to discover new ways of sensual and visual engagement with traditional museological research. The following grants are therefore offered as evidence of linkage between the proposed topic and previous and ongoing work.

AHRC, Fitzwilliam Museum, Creative Economy Engagement Fellows, 1 January 2019 - 31 December 2019 (£201,558) Cambridge University Knowledge Transfer Facilitator Pump Priming Grant, Fitzwilliam Museum, Do (not) Touch: Using 3-D modelling to explore tactile interaction with museum collections and how this can affect the visitor perception and reaction to the museum's 'Do Not Touch' policy, 1 August 2018-31 July 2019 (£17,837) Marlay Fund/Fitzwilliam Museum, for procurement of a structured light scanner to enable 3D research, June 2018 (£19,200) AHRC, Institute of Archaeology & British Museum, follow-on funding grant for Crowd- and Community-fuelled Archaeological Research (<http://micropasts.org>) May 2015 - October 2015 (£76,395) AHRC Institute of Archaeology/ British Museum, Co-Investigator with Andrew Bevan (PI) and Rachael Sparks, Crowd- and Community-fuelled Archaeological Research (<http://micropasts.org>), October 2013 - March 2015 (£318,000)