

<http://codex-research.net/>

**Application Guidelines.:**

For further information about CODEX please contact our CODEX Agent: Anna Huang: Email: [annahuang530@hotmail.com](mailto:annahuang530@hotmail.com).

To discuss your research proposal please contact Professor Mike Phillips, the CODEX Director (email: mike.phillips@plymouth.ac.uk) or Dr Gianni Corino, Network Coordinator (email: g.corino@plymouth.ac.uk), with an outline Research Proposal.

We will work with you to develop a final Research Project proposal which will typically be no longer than 4 x A4 pages (Arial 11-point font), and include:

* Research Project Title
* Outline of the general topic or area of research;
* Explanation of key terms and references;
* Indicative research questions or identification of the problem;
* The disciplinary field or fields in which the research will contribute to;
* The context and disciplinary field(s) in which the research sits;
* The significance and potential impact of the research;
* Proposed research methodology and why (ie, how this will answer your research questions);
* References and identification of relevant literature, practitioners, and influential works.
* Ethical and intellectual property issues.
* A portfolio representing relevant creative skills and practice.

We will work with you to help develop your initial proposal. Please use the following template to begin this process. Please note the word count limits for each section and the outline examples below.

**Initial Research Proposal Template:**

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| **#1: Proposed Research Project Title:** |
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| **#2: Draft Proposal (500 words):** This should describe your proposed PhD project and include an identification of the field or research problem and state your research aims and objectives. |
| Write your proposal here - 500 words max |

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| **#3: Indicative research questions (250 words):** Identifying appropriate research questions can be refined over time, but please propose a maximum of 3 interrelated questions that respond the context of your proposal. |
| Write your resaerch questions here - 250 words max |

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| **#4: Research Methodology (350 words):** How will you carry out your research and answer your research questions? CODEX encourages a practice-based approach, but you may draw on appropriate methods form other disciplines. |
| Write your methodology here - 350 words max |

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| **#5: References (300 words):** Please identify relevant international literature, significant practitioners, and influential works which reflect the transnational/cultural ambitions of CODEX. |
| Write your reference here - 300 words max |

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| **#6: Ethical and intellectual property issues (200 words):** Please identify potential ethical and intellectual property issues and how they can be addressed. Research on humans and their data will require an ethics protocol. [https://www.plymouth.ac.uk/research/human]. |
| Write your Ethical and IP issues here - 200 words max |

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| **#7 Motivation (300):** Please explain your motivation for undertaking this research. Describe your experience and skills and how these relate to your ability to realise the proposed research aims and objectives and carry out the proposed methodology |
| Write your motivation here - 300 words max |

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| **#8 Portfolio:** For a practice-basedwe also ask for a portfolio representing relevant creative skills and practice. This should demonstrate that you have the necessary skillset to deliver your proposed research. We would prefer this to be a website or a pdf that visually demonstrates projects, designs, models, images, compositions, software, etc. It could also be a play list of videos in vimeo, youtube or SoundCloud or other online media platform. |

**Example Project Proposals [#1&2]**

**Below are two indicative proposals that give a sense of the scale and scope of an initial research proposal for discussions with the CODEX team.**

**#1: Title: Prototyping Emotive-and-Empathic Data Experiences as practice**.

We are in the midst of a conflux of sophisticated personal, wearable and interconnected technologies, Big (and small) Data and powerful computational and analytical tools (Hof 2013). This hyper-connected environment renders the accessibility and availability of the individual (objects and environments) ubiquitous. Each transactional, behavioural, emotional and now biological activity is recorded. This growth in data is nourishing the potential of emergent technological prototypes (and prototyping practice) to exploit, enhance, challenge and stimulate the perception and experience of an individual.

Parallel to this conflux, the historical practice of prototyping is converging with a production paradigm where the boundaries between production, distribution and consumption are interpenetrating. Such processes are adopted through incorporating ethos of open source, user-centred and collaborative developments where the emphasis is on the productive and processual aspects of experimentation. These facilitate an exponential development of shared, co-designed, hacked and modified prototypes that exist in a beta flux of constant redevelopment. Within this paradigm there is a shift “…in emphasis from the experimental as a knowledge-site to the experimental as a social process.” (Jiménez p. 382, 2013). From the midst of this beta culture the connected self/body emerges as a central figure to harness and take back control of the potential of their personal data dimensions.

The potential of personal data-driven prototypes, which transform cultural experiences through deeper emotive and empathic augmentations, are a real possibility. However, much of the industrial work within this area is devoted to delivering better services, security and advertising, in particular for commercial gain through commodification of such prototypes (and related data) (Bihanic Ed., 2015). The research proposed here will therefore focus on the following:

* the potential of such emergent data-driven prototype practice to transform and stimulate (open) innovation in technology enhanced cultural experiences and creative/artistic forms of engagement.
* the use of personal biological data captured by connected wearable intimate devices.
* the position of the individual in this milieu of the beta culture in terms of ability to control, apply and augment personal data.
* how can prototyping as practice may be instrumental in researching the above.

Methods employed will address and investigate questions of design, development and theoretical approaches to an essentially practice based investigation. The Research Methodology employed within this project will integrate a range of interdisciplinary research approaches, embracing digital design, qualitative data analysis and visualization, action oriented and participatory ethnographic methods. It will inform primary research conducted through the identification and mapping of existing (data-driven) prototypes and sites of prototyping alongside open-ended interviews with actors within these.

Alongside this a range of prototypes / interventions will be co-created across the fields of visual arts, literature, gaming, theatre and architecture. Prototyping itself is here expressed as an important currency of explanation and description in art-technology contexts, where the emphasis is on the productive and processual aspects of experimentation.

The creation of prototypes will deploy an iterative design process that will engage users as codesigners in a participatory design model supported by an evaluation process. Collectively these processes establish an open participatory ‘techno-ethnography’, mechanisms for evaluating engagement and participation through a rich mix of qualitative and quantitative data.

The digital outcomes will be open sourced prototypes and software systems which would enable individuals to harvest and share real time personal bio-data from ‘connected’ technological sensors already integrated in their daily life (mobile phones, wearables, social media etc.) as well actual data-driven prototypes for cultural experiences.

The overall intention is to contribute knowledge around the potential of prototypes (and the process of prototyping) to transform cultural experiences through the use of personal data. Furthermore, it is to determine how such knowledge could become a surrogate for new cultural experiences and processes, which democratise ownership and creative application of personal data.

**References:**Bihanic, David (Ed.) (2015) Empowering Users through Design: Interdisciplinary Studies and Combined: Interdisciplinary Studies and Combined Approaches for Technological Products and Services. London: Springer   
Jiménez, Alberto C. (2013) 'The prototype: more than many and less than one.' Journal of Cultural Economy Vol 7 (4): 381-398   
Hof, Robert D. (2013) ‘Deep Learning’. MIT Technology Review. [Online] Accessed: December 10, 2014. http://www.technologyreview.com London: Routledge   
Moholy-Nagy L., 1946, *Vision in Motion*. p12. Paul Theobald & Co (June 1947)  
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**#2: Title: A study of immersive environments in cultural learning and engagement.**

The ways in which people access knowledge are changing. We no longer need to visit museums to access knowledge of a place – we can access information on our own personal devices. The future of museums lies in the visitor experiencing knowledge rather than gathering it and immersive environments have become a key growth area in exhibition design. The British Museum’s Head of Interpretation, Stuart Frost, regards immersive experiences as key to future museum exhibition learning. (Frost, S. 2012) The originality in my research is that the immersive environment is used as a tool for deciphering collection data not as a piece of edutainment.

The study will explore use of immersive environments as instruments for learning and engagement within arts and heritage organisations, investigating the possibility that an immersive environment could form a conduit of direct connection between visitors and museum collections and investigate how immersive environments can be used as a method to access and explore historical data and the museum collection. An immersive environment will be created to map the intangibility of a museum collection with all of its stories, connections, locations and people, allowing the visitor to explore it as they would astronomical data in a planetarium. The study will develop methods of allowing the visitor to add to this data map their oral histories, images and objects building on previous research into interactions with spherical displays (Benko, H, Wilson, A.D, Balakrisihnan, R,) to consider whether a collection database in an immersive cinema will aid curators in building a collection and extracting narrative strands for interpretation to the visitor. The study will explore how narratives or stories can be extracted, layered and created within the recording of historic data and mapping connections between collection objects and create a series of prototype immersive environments which allow the visitor to explore the museum collection and relevant historic data. This proposed resource will aim to inform future museum collecting. Furthermore, this study will enable curators to extract narrative strands for gallery display with original objects. This will involve collaboration with museums such as Bristol Museums, Plymouth City Museums, Birmingham Museums Trust and Fulldome UK and their partners to access resources. My work history with these institutions has given me a privileged relationship and agreed access to resources.

The process will be user driven, both in terms of the museum and the audience. It would involve participatory design methods, using information gathered from existing collection databases, 3D scanning collection objects, community engagement, user participation and collaboration with museum curators. The design process will be iterative and participatory, using grounded research techniques, involving creating a series of prototypes consisting of digital artefacts, digital on gallery interventions and immersive experiences. Keys points of this research include: evaluation of current use of immersive environments as learning tools in exhibitions, exploration of immersive solutions for displaying museum collection data, research into possibilities for interaction between visitor and museum collection through exposing and mapping links within museum collections and research into how stories can be created, layered and extracted from and within museum collection databases. Outputs will include: development of methods and design strategies for organisations to curate their collections in emerging technologies by taking a section of a museum collection and building a data base including digital information and 3D scans of objects and displaying this data in the form of a virtual map showing connections between objects, oral histories, archival information, images and locations then display this map in an immersive environment that the visitor can interact with, creating an exhibition digital display solution that allows information taken from this database to be added into a smaller display using current museum best practise in interpretation and text hierarchies. The immersive experience will be highly aesthetic influenced by current best practise in data art visualisations.

The provisional structure of study is: Year One - Conduct research and evaluation of current best practise in immersive learning environments, gather museums’ collections data including 3D scans, oral histories, images, written sources, location and personnel and plan ways to organise data links and begin prototyping methods of ordering and displaying this data in an immersive environment. Year two: continue prototyping immersive collections-based environments, develop methods for user interface and begin small scale on gallery testing through digital interventions within public museum spaces. Year 3: implement testing and evaluation using i-DAT developed techno-ethnographic techniques for audience evaluation while working towards the set-up of a final immersive exhibition.

**References:**

Benko, H., Wilson, A. D., and Balakrishnan, R. Sphere. 2008. Multi-touch interactions on a spherical display.   
Boeke, K., *Cosmic View: The Universe in 40 Jumps.* J. Day. 1957.  
Frost, S. 2012. Bridging cultures, sharing experiences: An evaluation of Hajj: journey to the heart of Islam at the British Museum.  
Fuller, R. B., (1962). *Education Automation*, Southern Illinois University, Carbondale, IL, p. 49. Hill, pp. 107-127.   
Grau, O., *Virtual Art, From Illusion to Immersion*. The MIT Press. 2003. pp349.  
McConville, D., 2007. *Cosmological Cinema: Pedagogy, Propaganda, and Perturbation in Early Dome Theaters*. Technoetic Arts , 5 (2), 69-85.  
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**Full Application and Interview**

Once your research proposal has been discussed you will need to submit a full University of Plymouth PGR Application. This will be supported by an interview which will be held by video conference or in person in China.

Your supervisory team will also be organised for an enrolment in October of each academic year.

**Pre-sessional English Language Courses:**

The CODEX international Postgraduate Research network requires IELTS 6.5. The University of Plymouth offers Pre-sessional English Language Courses to help you develop your academic English language skills. A schedule of courses can be found here: Pre-Sessional Courses 2018.  
For further information please visit: [www.plymouth.ac.uk/elc](http://www.plymouth.ac.uk/elc)  
or email: [presessional@plymouth.ac.uk](mailto:presessional@plymouth.ac.uk)

