Paper: Charting the Digital Lifespan – An Introduction

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ABSTRACT
In this paper, we introduce a new project to the Digital Economy community that will begin in August 2013: *Charting the Digital Lifespan*. The proposal for the project was developed during the EPSRC Digital Personhood Sandpit in November 2012. It will run for 2 years, producing unique insights into the digital lifespan of UK citizens both now and in a future where our young Digital Natives approach adulthood, become parents and retire.

Categories and Subject Descriptors
• **Security and privacy~Social aspects of security and privacy** • *Security and privacy~Usability in security and privacy* • *Human-centered computing~Interaction design process and methods* • Social and professional topics~Age

General Terms
Design, Economics, Human Factors, Theory, Legal Aspects.

Keywords
Sandpit, digital lifespan, digital literacy, data mining, design, methodology.

1. INTRODUCTION
Charting the Digital Lifespan (CDL) is an RCUK funded two-year project, which emerged out of a five-day interactive residential workshop, the Digital Personhood Sandpit, run by the IDEAS Factory in November 2012. It involves partners at five UK universities: Dundee, Newcastle, Surrey, Nottingham and Heriot-Watt, with expertise in socio-technical design, interaction design, narrative, computer vision, machine learning and human perception. Examples of the breadth of their work include [1, 3, 9, 11, 12].

In this paper, we describe the process through which the research programme for this project was developed, and the areas of interdisciplinary inquiry that we will address over the next two years. We welcome engagement with the Digital Economy community as we embark on this exciting project.

2. THE DIGITAL PERSONHOOD SANDPIT
The Digital Personhood Sandpit itself arose out of a scoping workshop, held by the Digital Economy theme to explore how digital technologies can influence individual expression of self. The selected themes which emerged included overcoming barriers to the expression of digital identity, curating personal, digital narratives, and understanding how citizens could be empowered by utilizing the value of their digital self – for example through the social and cultural capital generated through the digital self. Up to £5million was allocated to fund highly innovative research ideas which took "*genuinely novel and transformative approaches*" to the identified themes [2, 13], generated by the interdisciplinary teams which evolved during the Sandpit.

3. CHARTING THE DIGITAL LIFESPAN
The interdisciplinary research programme that we have developed allows us to consider what it means to live out an entire digital lifespan. This is a vital part of understanding the changing nature of personhood in the Digital Age, an understanding which is "*increasingly important for effective policy making and implementation*" in the UK [4].

3.1 What is a digital lifespan?
Whilst it is an increasingly commonplace observation that people "live online", we have yet to experience a complete lifespan in the Digital Age, from conception to death in old age. Those who have grown up interacting with digital technology from a very early age are still young, whilst older technology adopters have identities that pre-date the Digital Age, populated with paper trails of memories. Many citizens have only a limited awareness of the permanency and consequence of posting in public and extended social circles. For example, digital posts from student or teenage years reflecting opinions or behaviour that seemed socially appropriate at that time may not reflect well in future professional life. The lifelong digital trails generated through our digitally mediated interactions echo our physical lives. However, unlike a physical life, the Digital Lifespan can persist indefinitely with no legal 'right to be forgotten' [5]. The rich personal context which the Digital Lifespan provides can be harnessed in ways an individual might not expect or desire [10].

3.2 Project aims
In this RCUK-funded research, we will produce unique insights into the digital lifespan of UK citizens both now and in a future where our young Digital Natives approach adulthood, become parents, and retire.

To help generate these insights, we will first chart the unmapped territory of the "Digital Lifespan" as it is now in the UK, exploring the ways in which virtual and physical aspects of our lives converge, diverge and clash. This chart will be grounded in a series of in-depth studies with UK citizens at three transition points in their lives: approaching adulthood, becoming parents,

and peri-retiral. The chart that we create will guide us as we look into a future where citizens increasingly live out their lives through digitally mediated interactions. We will explore the implications of this future with individuals, policymakers and industry representatives.

The knowledge and insight developed into issues surrounding ownership and management of citizens' Digital Lifespans will be used to raise digital literacy, at a key point in time where UK citizens themselves recognise that their futures will increasingly be dominated by the Internet [8]. New technologies will be designed and developed which go far beyond available online tools that bring personal digital content together in one place. Our new technologies will automatically draw out the personal context of such content, making inferential links and distilling the impressions that citizens give of themselves through digital media. These distilled impressions will be reflected back to individuals, raising digital literacy by promoting awareness of the way in which individuals digital identities are (or will in future be) perceived online over their entire lifespan.

Further, these novel technologies will equip citizens with ways to manage the impression that they give through their digital identities. Beyond individual citizens, our work will inform educators and policymakers, providing a deeper understanding of what it means to live as a UK citizen in a Digital Age.

3.3 Methodology

Studying the Digital Lifespan as an emerging and 'unmapped' phenomenon calls for a methodological orientation that embraces both the world as it is currently experienced and 'as it could be' [6]. The aim is thus to generate a rich understanding of the Digital Lifespan as it is both experienced and envisioned, and tools to support digital literacy in identity management.

The research takes a broad pragmatic, empirical approach, drawing from an Experience-Centred Design (ECD) methodology [14] to deliver outcomes that improve the lived experience of the Digital Lifespan supported by technological innovation. It is a mixed-methods, practice-based work programme, characterised by doing 'research through design' [15] to create tools for enquiry; design fictions, and technology probes enabled by social data mining software will support the generation of social, cultural and technical understandings.

4. BEGINNING

As we begin this research, we draw on approaches from digital anthropology [7] to create a foundational understanding of how people at three transition points in their lives - approaching adulthood, becoming parents and peri-retiral - are already 'living' online. We look forward to presenting our emerging understanding of what it means to live an entire digital lifespan, now and in the future, to the Digital Economy community.

5. ACKNOWLEDGMENTS

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