

Medicine Adherence & Augmented Reality

DHI Exploratory Team

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Purpose of document	Project Macmillan Exploratory brief
Event detail (delete row if appropriate)	Exploratory at the Appleton Tower the 4 th September 2014 with participants from DHI, NHS, UoG, UoE, Virtual Genie, Celesio, Onarach, Telescot, Royal Pharmaceutical society and the Scottish government to discuss AR in asthma care.
Project detail (delete row if appropriate)	(project name, project owner(s), dates, organisation(s) involved)

Related projects	Project Macmillan Exploratory Report - DHI040914E0002
Keywords	chronic illnesses; medication; Augmented Reality; AR; Mobile devices; mHealth; Asthma care;

Project Macmillan Exploratory

Medicine Adherence & Augmented Reality

Appleton Tower, Edinburgh University

4th September 2014

Topic Background

Non-adherence to medication is common among patients treated for chronic diseases. Approximately 30–50 % of patients with chronic illnesses do not take their medication as prescribed.¹ The Scottish Government is working with NHS Boards, health care professionals and other partners to ensure the efficient and effective use of medicines, in order to:

- Deliver better care outcomes for patients
- Reduce the incidence of avoidable hospital admissions
- Improve the efficiency and effectiveness of treatment

According to the Scottish Government (2012) “Improving adherence in medicine taking is an important part of effective medicines use - that is, supporting the patient with the right level of information and advice in taking his/her medicine as prescribed by a doctor or other trained healthcare prescribers (such as a pharmacist or specialist nurse).”²

Using Mobile devices with social share functionality we believe offers an innovative opportunity to deliver approved healthcare education and compliance information through the use of Augmented Reality to achieve these high level aims. Providing critical, timely information in easily accessible & engaging ways using 3D, animation and video, to enable patients to make informed choices about their healthcare needs, thus reducing demand on strained NHS resource.

¹ Sabate, E. Adherence to long-term therapies: evidence for action, v 7. Geneva: World Health Organization; 2003. p. 48–9.

² <http://www.scotland.gov.uk/Topics/Health/NHS-Workforce/Pharmacists>

The proposal is to test the use of AR to deliver precise discernment of information from trusted sources, by using this technology to link medicines, packaging, pharmacy bags or support literature, directly to approved information and help the patient access the same.

Using this approach will also offer significant data and learning opportunity to increase understanding and patient preferences and behaviours with regards to technology in support of adherence.

DHI Background

The Digital Health Institute - offers a fusion of health, design, technology and business knowledge from the network of its partners that span health and care providers, third and private sectors, higher education and business development agencies. This partnership offers a strong supply of diverse innovation opportunities that can flow and iterate through its innovative business model 'explore', 'experience' and 'exploit'.

A DHI Exploratory - engages a wide range of national and international organisations to develop priorities for action informed by the most current, diverse and relevant research, innovation and knowledge sources. This provides a crucial horizon scanning capability, allowing Scotland to design and innovate for the future. The Exploratory runs activities to stimulate the development of ideas that, in the fullness of time, will deliver opportunities developed both inside and outside the DHI.

Purpose

The purpose of this Exploratory is to scrutinise, develop and focus a project aiming to deliver multimedia information to the enquiring patient from trusted sources, using mobile phone based augmented reality technology to link this information to medicines, packaging, and pharmacy bags or support literature. This project ultimately aims to prove that such a platform would improve adherence behaviour.

Output

Questions currently outlined for discussion include:

- 1) What do we know about medicine adherence?
- 2) Can we learn from a walk through 'customer journey'?
- 3) What other technological interventions are known in this area? And what lessons can we learn from them?

- 4) The current proposal is to design and test the augmented reality platform for people with asthma in the West of Scotland. What do we know about adherence in asthmatics? Is this the right group and setting for initial trials?
- 5) What methodologies may support the design and evaluation of this solution?

The output would form a brief for subsequent DHI project work. This would ideally support user-focused design workshops followed by live deployment and evaluation.

Participants

Exploratory participants will include clinicians and academics from asthma and medicine adherence disciplines, as well as representatives from industry and third sector organisations.

Travel expenses will be paid on request for reasonable UK based travel.

Participant Preparation

General participants – overall we are looking for participants to bring their expertise to bear, constructively challenging and developing themes to help take the project forward.

Academic participants – We would ask academic participants to bring material providing some context from the medicine adherence / asthma literature.

The project owners will be looking to involve an academic in the design and evaluation parts of the project (subsequent to the Exploratory), and so this is a good opportunity to build a consortia ahead of a submission of an academic funding request to the DHI.

Agenda

10.30	Arrival, Tea & Coffee	
	Session 1 – Setting the Scene	
11.00	Welcome & Participant Introductions	<i>All</i>
11.10	DHI Introduction	<i>Toni Dedeu, Knowledge Exchange & Research Manager, DHI</i>
11.20	The Current Proposal	<i>Virtual Genie & Celesio</i>
11.40	Open Discussion	<i>All</i>
13.00	Lunch	
	Session 2 – Study Definition	
13.45	An open discussion developing the format of the subsequent study.	<i>Focused on academic input</i>
16.00	Wrap Up	
16.20	Close	