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Online Appendix to: Exploring Participants' Representations and Shifting Sensitivities in a Hackathon for Dementia

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APPENDICES

A EVENT PROGRAMME

Below, we provide our detailed event programme that we used for our advertisement and schedule material. Here you will find our event overview and the event schedule.

A.1 Event Overview

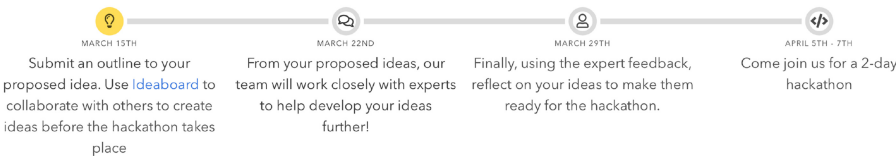
A big focus in dementia and technology research has been to tackle the cognitive deficits that often accompany the condition. Virtual reality has been used in the assessment and rehabilitation of cognitive processes in dementia since the 1990s, and more recently it's been used to deliver exergames. These developments are no doubt exciting - however, the potential for virtual reality as an expressive and creative medium to allow people with dementia to experience new, exciting, stimulating, and potentially therapeutic environments, entirely separate from the stress of cognitive assessment, should also be addressed.

This event, organized by [anonymized] and held in central [City], will provide an environment for innovative and creative ideas to emerge surrounding how we might create enriching shared experiences for people living with dementia. At the beginning of this two-day hackathon, we will help to "matchmake" participants and aid in the formation of multidisciplinary teams (ready-formed teams are also welcome!). Saturday morning will see the event introduced by keynotes from industry, research, and practice experts. Teams will be provided with creative material and qualitative data gathered from people living with dementia, as well as research from experts in the area of technology and dementia, in order to inspire them to create assets and environments that might enrich the shared experiences of those affected by the condition. After a solid 24 hours+ where participants are free to ideate, design, hack, and make to their hearts' content, teams will have the opportunity to demonstrate, and present their reasoning behind their design choices to a team of expert judges in dementia care and research, who will award a monetary prize to the winning team.

First Prize: £1,000

Second Prize: £500

A.2 Event Schedule



**Pre-hackathon
(In-person),
Friday, April 5, 2019**

**Day 1
Hackathon,
Saturday, April 6, 2019**

Team Formation

Team formation will be held at [Anonymized]

Pre-registration will be held on Friday before the hackathon starts to bring participants together for team formation. We will also do an overview of the ideas created on ideaboard. Feel free to choose one of these ideas or start from scratch and create your own. Coming to the Friday event will help designers and developers understand what is expected over the weekend and get to know everyone who is taking part in the hackathon.

Recommended team size: 3–6

- 6pm: Meet and Greet/registration
- 7pm: Team Formation
- 8pm: Food/Drinks in town (at own cost)

Hackathon

The hackathon will begin Saturday morning with all teams formed (any teams not organized, will be organized on the morning). The day will start out with three keynote speakers talking about their experiences in designing technology for people living with dementia. Afterward, teams will have free rein to work on their designs for over 24 hours.

INTRODUCTIONS

- 8am – 9am: Breakfast and registration (if you haven’t registered on Friday)
- 9am – 10am: Keynote Presentations

HACKING STARTS

- 10am – 11am: Start working on your idea
- 10:30am – 11am: WhatsApp reflection period*
- 11am – 11:15am: tea, coffee, and biscuits
- 11:15am – 12pm: Online Q&A with Howard
- 12pm – 1pm: WhatsApp reflection period*
- 1pm – 2pm: Lunch to be served
- 2pm – 2:30pm: Pitch your idea to the room + Get feedback from Experts
- 4:30pm – 5pm: Pitch Back
- 6:30pm: Dinner

Day 2, Judging, Sunday, April 7, 2019	Judging Sunday morning will give teams time to finalize their ideas and set up for judging. Each team will present their idea and creations to a panel of judges comprised of domain experts, and designers. Prizes will be awarded based on creativity, originality, and project demonstration. • 9am – 10am: Breakfast • 9am – 10am: WhatsApp reflection period* • 11am – 11:30am: Tea, coffee, and biscuits • 12pm – 1pm: Lunch to be served • 1pm – 2pm: WhatsApp reflection period* • 2:15pm – 4pm: Team presentations • 4pm – 4:20pm: Judges scoring and WhatsApp reflection period* • 4:20pm – 5pm: Awards and closing
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*Whatsapp reflection period was when the facilitators sent prompts for the participants to submit an audio recording answer. We describe this in more detail in our data collection and analysis stage.

B TEAMS' IDEAS

This section presents the nine teams' final ideas alongside their proposed ideas. Note that while teams were asked to develop VR experiences, "Augmented World" suggested developing an AR experience. They had initial concerns that VR may not work with people with dementia (we expand upon this further in our findings).



Fig. 1. DemVR final prototype ideas.

Table 1. Teams' Proposed Ideas Versus Final Ideas

Proposed Idea (I) – Ideaboard (E) – Proposed during the event	Final Idea (presented at the end of the hackathon)
(a) Garden Life (<i>seven undergraduate computing students</i>)	
Journey through the story of your life using media that links memories with locations. (I)	A VR garden and dog companion for those living in isolation without access to these in real life.
(b) Chatter Bench (<i>two designer/researchers</i>)	
A chat-based VR experience that will consider the importance of sensitivity and aesthetic design. (E)	Shared VR experience where users “sit” and talk on a virtual bench
(c) Augmented World – (<i>six undergraduate computing students</i>)	
A bespoke chronological AR timeline connected to experiences of the users past and family. (I)	An AR app that “enhances” environmental objects to facilitate meaningful social interaction by connecting virtual objects to overlay on the real-life object.
(d) VR Hallucinate – (<i>six members from developer, researcher, UX backgrounds</i>)	
Gamified experience to visualize hallucination-like effects to raise awareness of potential deficits. (E)	A gamified hallucination game but to educate family, friends, and the public.
(e) Looking VR Back – (<i>four members from marketing, developer, and biomedical backgrounds</i>)	
Using sounds, scents, colors to support reminiscence. (I)	Same idea – with a personalized example relating to [city] football game in 1969 for those with dementia in [city].
(f) Mindful Forest – (<i>two undergraduate computing students</i>)	
Fantasy shared experience where families can add videos to trigger memories. (E)	A forest-like environment with gentle music and scenery. Families and friends can add videos to help with memory stimulation.
(g) Sensory Tide – (<i>six members from developer, researcher, and film backgrounds</i>)	
Replacing VR headset with full-dome projections (I) and the experience focused on designing for the moment, as opposed to improving cognitive deficits. (E)	Beach “viewfinder” experience with multi-sensory features such as seaweed, and heated fan and sand under the feet of the user.
(h) World Share – (<i>three filmmakers</i>)	
Tablet-based app allowing users to travel across the world and take part in tours and explore other scenic outdoor locations. (E)	Consisting of two items – tablet as the controller for interaction, and a headset for the experience. Users can request for events, or family to record specific experiences.
(i) VR Motion – (<i>four members from developer and researcher backgrounds</i>)	
Care home oriented, an experience to celebrate the abilities of the individual instead of trying to bridge the abilities they have lost. (E)	A shared virtual world where people with dementia can take part in group activities such as songs to sing along, guess the place, and solve the riddle.

C **BRANDING FOR RECRUITMENT**



Fig. 2. DemVR flyer.