

## Participant Information Sheet

**Project Title:** The Co-design of Virtual Reality for the Management of Adult Neurogenic Communication Disorders: Client Perspective

**Lay Title:** The co-design of virtual reality for the management of communication disorders in people with neurological impairment: Client perspective

### Investigators

- **Dr Atiyeh Vaezipour**, Research Fellow, Recover Injury Research Centre, The University of Queensland
- **Ms Danielle Aldridge**, Senior Research Officer, Recover Injury Research Centre, The University of Queensland
- **Emeritus Professor Deborah Theodoros**, honorary professor at the RECOVER Injury Research centre, The University of Queensland
- **Dr Sebastian Koenig**, Experimental Psychologist, Director, Katana Simulations Pty Ltd.
- **Dr Clare Burns**, Senior Lecturer at the School of Health and Rehabilitation Sciences, The University of Queensland
- **Professor Trevor Russell**, Director of RECOVER Injury Research Centre, The University of Queensland

### Introduction

You are invited to participate in the research project titled: "Virtual Reality in the management of adult neurogenic communication disorders: Patient perspective". You have been invited to participate in this research because you:

- Are an adult (18 years of age or older) with communication difficulties resulting from neurological impairment.
- Have adequate mobility and balance to walk/manoeuvre a wheelchair, with minimal assistance.
- Have sufficient English language skills to understand and answer interview questions.

This Participant Information Sheet/Consent Form tells you about the research project. Knowing what is involved will help you decide if you want to take part in the research or not.

Participation in this research is completely voluntary – you are not required to participate in this research if you do not wish to do so. If you do agree to participate, you can withdraw from participation at any time during the project without comment or penalty.

### What are the aims of the research?

The main aim of this study is to trial prototype Virtual Reality (VR) applications called SIM:Kitchen and SIM:Supermarket with adults who have neurogenic communication difficulties (i.e. communication difficulties resulting from neurological impairment). The SIM:Kitchen application consists of a simulated VR kitchen environment in which the participant is asked to perform a variety of activities (e.g. describing the virtual kitchen) and engage in conversation with an adult and a child (characters within the virtual kitchen). SIM:Supermarket is a simulated VR supermarket environment

in which the participant is asked to order various products (e.g. deli products) and communicate with the cashier at the checkout.

This study aims to explore the perspectives of adults with neurogenic communication disorders about the usability and usefulness of VR technology within the context of communication rehabilitation.

It is hoped that benefits and barriers to potential uptake of this technology will be identified so that the technology can be further developed to meet the specific demands of the end-users.

### What is involved?

If you decide to participate in this study, your participation will involve attending a 1-1.5-hour face-to-face session at RECOVER Injury Research Centre at Herston Campus.

You will be asked to wear VR goggles (see photo below) and trial the *SIM:Kitchen VR application* that could potentially be used in the management of adult neurogenic communication disorders. You will remain seated for all activities performed wearing the VR goggles.

Initially, you will have approximately 10 minutes to become familiar with wearing the VR head set/goggles in the VR environment. Following this period of familiarisation, you will be asked to complete a series of tasks within the VR kitchen environment (approximately 20 minutes). During the trial you will be video-recorded so that your behaviours while interacting in the VR kitchen can be analysed later. This information will help us to better understand how different people feel when interacting with VR.



Figure 1. Participant familiarising with VR goggles

Once your trial of the equipment is complete, you will be assisted to complete a brief questionnaire (approximately 10 minutes) and semi-structured interview (approximately 30 minutes) asking about your familiarity with technology, your experience of the VR SIM:Kitchen and SIM:Supermarket applications, and your opinions about the usability and usefulness of VR technology for communication rehabilitation. You will also be asked what changes you think could be made to improve the VR SIM:Kitchen and SIM:Supermarket applications, and what barriers there are to effective use of VR for rehabilitation of communication disorders. This interview will be audio-recorded for future analysis.

### Are there any costs to participate?

No payment is required to participate in this research, nor will you receive any remuneration. Should you require assistance to travel to and from the Recover Injury Research Centre, a taxi can be arranged at no cost to you.

### Potential Benefits

There will be no direct benefit to you from participating in this research. However, the information collected in this study may assist in improving our understanding of how VR could best be used in communication rehabilitation in the future. The outcome of this study will inform the future development of VR for improving the management of adult neurogenic communication disorders.

As a participant of this study, you will be asked to provide your email address should you wish to receive a de-identified summary of the overall results of this research at the completion of the project. The findings of this study will also be included in a published paper within a peer-reviewed journal and/or presented at national/international conferences. If you would like information regarding the results of this project, please check the box when giving your signed consent (below).

## Risks

The experiment is designed to address our aims in a way that minimises risk, inconvenience and discomfort. There is no direct risk to you from participation in this research except inconvenience by dedicating time to attend a session at RECOVER Injury Research Centre. There is potential for some individuals to experience mild discomfort while wearing the VR goggles. Specifically, people who suffer from motion sickness and/or migraines may experience discomfort interacting in a simulated environment. Should you feel dizziness or discomfort, the session will be ceased immediately and only re-commenced at your request.

We help to ensure your comfort and safety and you can take as many breaks as you wish during the session. If you do decide to participate, you are free to withdraw from the session and/or answering interview questions at any time without any explanation or penalty, and without affecting your relationship with the University of Queensland nor the research team.

Should you choose to withdraw from the study after data collection has commenced you will be asked if you would like this data to be excluded from the results of the study and destroyed. This decision is entirely up to you and will not affect your relationship with the University of Queensland nor the research team.

## Confidentiality and Privacy

The data related to your answers will be de-identified and remain confidential at all times and will not be released to a third party without your written permission or as required by law. The recorded videos will include your face and remain identifiable to research team; however, you will be able to withdraw your video data by quoting your unique anonymous identifier. The data will be stored securely at the RECOVER Injury Research Centre, The University of Queensland. It is anticipated that the results of this research project will be published but your identity will not be revealed.

Note, after the VR experiment, we may ask you to consider consenting to the release of your image/video. This consent will have implications for your privacy and confidentiality. Please refer to the UQ image release information and consent form for further details. We will only ask you to consider consenting to release your image/video after your participation in the project.

## Disclosure of Interest

The Virtual Reality application that will be evaluated as a part of this program of research, has been developed based on the agreement between Dr Sebastian Koenig, a director of Katana Simulations Pty Ltd, and RECOVER Injury Research Centre. This agreement has been approved by UQ Research License Agreement and Procurement Plan. Dr Sebastian Koenig has the unique skills of both software engineering, neuropsychology, and international research and clinical expertise. Given the financial interest of Dr Koenig in this particular VR application, he will not be involved at all in the recruitment, data collection or analysis. Katana simulation will declare commercial conflict of interest in publications.

## Ethical Clearance and Contacts

This study adheres to the Guidelines of the ethical review process of The University of Queensland and the National Statement on Ethical Conduct in Human Research. You are free to discuss your participation in this study with project staff, Dr Atiyeh Vaezipour [a.vaezipour@uq.edu.au](mailto:a.vaezipour@uq.edu.au). If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Coordinators on +617 3365 3924 / +617 3443 1656 or email [humanethics@research.uq.edu.au](mailto:humanethics@research.uq.edu.au).

## Participant Online Consent Form

**Project Title:** The co-design of virtual reality for the management of adult neurogenic communication disorders: Client perspective

### Investigators:

**Dr Atiyeh Vaezipour**, Research Fellow, RECOVER Injury Research Centre, The University of Queensland  
**Professor Deborah Theodoros**, Director of RECOVER Injury Research Centre, The University of Queensland

**Ms Danielle Aldridge**, Senior Research Officer, RECOVER Injury Research Centre, The University of Queensland

**Dr Sebastian Koenig**, Experimental Psychologist, Director, Katana Simulations Pty Ltd.

**Dr Clare Burns**, Senior Lecturer at the School of Health and Rehabilitation Sciences, The University of Queensland

**Professor Trevor Russell**, Director of RECOVER Injury Research Centre, The University of Queensland

### Declaration by Participant

- ❖ I have read the Participant Information Sheet and I understand the purposes, procedures and risks of the research described in the project.
- ❖ I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- ❖ I understand that if I have any additional questions I can contact the research team.
- ❖ I understand that information collected about me will remain confidential and that research data collected for the study may be published or may be provided to other researchers in a form that does not identify me in any way.
- ❖ I understand that I may not receive any direct benefit from participation in this project.
- ❖ I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without explanation or penalty.
- ❖ I understand that I can contact the Manager Research Ethics, at the University of Queensland Human Research Ethics Office, on (07) 336 53924 or [humanethics@research.uq.edu.au](mailto:humanethics@research.uq.edu.au) if I have any concerns or complaints about the ethical conduct of the project.
- ❖ I agree to audio-visual recordings being made of me while I am using the virtual reality equipment for the purpose of later analysis. (Remember, you will be able to withdraw your video data by quoting your unique anonymous identifier at any time.)

We may wish to present some of the videos from this study at scientific conventions. Please tick the box below if you are willing to allow us to do so with your video. You can still participate in this study if you do not give us permission to use the video in this manner.

- ☐ I hereby give permission for the video made of me for this research study to be used at scientific conventions.

### Please acknowledge your agreement or disagreement to participate in the study.

- ☐ Agree  
☐ Disagree

**Participant's name (printed)** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

If you would like to be contacted for further research related to this research project (you will be provided with a separate participant Information form) please provide your contact details:

---

I would like to receive a summary of the results of the study related to this research project via email:

---