

Appendix 1 – Participant Information Sheet

Project Title: Evaluating 3D Reconstruction Technology for Remote Home Assessment by Healthcare Professionals

SIT-IRB Application No.: RECAS-0809

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Instructions to Participant

Please read this Participant Information Sheet carefully and ask any question that you may have about this Research. Your participation is entirely voluntary. Your decision to participate (or not) will not affect any current or future status or relationship with the Singapore Institute of Technology (“SIT”).

What is the investigational nature of this Research?

This study is an exploratory research project aimed at understanding how 3D reconstruction technology can support healthcare professionals in performing remote home assessments. The study evaluates the usability, workflow integration, collaboration experience, and perceived value of a collaborative 3D reconstruction platform for clinical home assessment tasks, comparing desktop and VR interfaces in a within-subjects design.

What is the purpose of this Research?

The purpose of this study is to evaluate whether 3D reconstruction technology can meaningfully support healthcare professionals (HCPs) in remote home assessment workflows, and to compare the desktop and VR interfaces for these tasks. The study investigates the usability of real-time 3D reconstruction for identifying accessibility issues, the technology’s integration with HCP documentation practices, and HCPs’ experience comparing desktop and VR modalities as well as 3D reconstruction versus conventional assessment methods.

Why have I been invited to take part in this Research?

You were invited because you are a practicing healthcare professional (e.g., occupational therapist, physiotherapist) with experience in home assessment or rehabilitation, whose professional expertise is essential for evaluating whether 3D reconstruction technology can meaningfully support clinical home assessment workflows.

How many participants will be involved in this Research?

The study targets up to 20 healthcare professionals (occupational therapists, physiotherapists, and other rehabilitation professionals).

What will I be expected to perform if I agree to participate in this Research?

You will participate in a single session lasting approximately 90 minutes, during which you will:

1. Complete a brief pre-study survey about your professional background and experience.

2. Receive an orientation and interactive tutorial on the 3D reconstruction platform.
3. View a 3D reconstruction of a simulated home environment primarily on a desktop display, captured in real time by a member of the research team. Time permitting, you may be offered the choice to try the same tasks using a VR headset near the end of the session, if you are comfortable doing so.
4. Perform assessment-related activities while viewing the reconstruction, such as identifying hazards, measuring dimensions, or noting areas requiring modification. You will be asked to think aloud as you work.
5. Complete post-session surveys electronically (via Qualtrics) covering usability and workload (and, if you try the VR headset, VR comfort).
6. Participate in a brief interview to share your reflections and suggestions — including, if you tried the VR headset, how the VR experience compared with the desktop experience.

What are the foreseeable risks/discomforts/inconveniences arising from this Research?

The risks associated with this study are minimal. Potential discomforts include:

- Minor screen fatigue or eye strain from viewing the 3D reconstruction interface. Breaks will be offered between conditions.
- Brief optional VR headset use (15 minutes) during the VR condition, which may cause mild discomfort or motion sickness in some individuals. You may pause or discontinue the VR condition at any time.
- Mild uncertainty about using unfamiliar technology. You will receive thorough orientation via an interactive tutorial, and the study evaluates the technology — not your performance.

You should not participate if you have physical or cognitive impairments that would significantly hinder your ability to engage with the study procedures.

What are the expected benefits from participating in this Research?

- Exposure to emerging 3D digitization and VR tools that may have future applications in rehabilitation practice.
- Opportunity to contribute your professional insights toward improving remote assessment technology.
- Hands-on experience with the desktop (and, time permitting, VR) interface of a collaborative spatial platform developed in partnership with Tan Tock Seng Hospital (TTSH).

Are there any alternative procedures or treatments available to me and if so, what are the potential benefits and risks of such alternatives?

Not applicable, as this research does not involve procedures or treatments requiring alternatives.

What are the compensation and treatment available if I suffer from an injury due to my participation in this Research?

This study is not anticipated to cause any physical injury as it does not involve any physical procedures beyond standard computer use and brief VR headset exposure.

Nevertheless, during your participation, please follow the directions of the researchers at all times. If you feel any discomfort, please notify the researcher immediately.

In the event of injury arising from participation in this Research, compensation and treatment will be considered on a case-by-case basis. For more information regarding this Research and the rights of research participants, please contact SIT-IRB Secretariat by email: irb@singaporetech.edu.sg.

Will I incur any expense as a consequence of my participation in this Research?

No expenses are anticipated for participants. Travel to the study site may be required; any associated travel costs will be communicated during recruitment.

Will I receive any payment for my participation in this Research?

All participants will receive a S\$50 voucher as a token of appreciation for their time and contribution to the study.

Will the PI collect my personal data, health information, and/or biological materials as part of this Research?

(1) **Personal Data:** Yes. Demographic data, professional background information, and contact details for scheduling purposes will be collected. The session will also be audio- and video-recorded, along with a screen recording of your interactions with the 3D reconstruction interface, so that your think-aloud commentary and actions can be analysed. Recordings are stored securely, labelled with a de-identified participant ID, and are accessible only to the research team.

(2) **Health information:** No. All participants are healthy adults.

(3) **Biological materials:** No.

(4) **Whether disclosed in publication:** Personal data will not be disclosed. All personally identifiable data will be anonymised before publishing. All data presented in publications will be aggregated or anonymized to protect participants' identities. If quotes from interviews are used, participants will be assigned pseudonyms and quotes will be reviewed to ensure they do not contain identifying information.

(5) **Records of this Research:** Personal data, health information, and/or biological materials (as applicable) collected for this Research will not be used for future biomedical research.

Under what circumstances will I be contacted for further consent?

Participants may be contacted for further consent if additional research studies related to this project are conducted and the existing data is needed, or if a follow-up session is requested.

Can I withdraw my consent to participate in this Research?

Yes. You may withdraw your consent at any time without providing any reason and without any penalty or consequence. If you withdraw, any data collected from you up to that point can be excluded from the study upon your request.

If you wish to withdraw your consent, please contact:

Adi Singhania, +65 8840 3384, aditya.singhania@singaporetech.edu.sg, or Leon Foo, leon.foo@singaporetech.edu.sg

If I wish to obtain further information on this Research or provide feedback in relation to this Research, who should I contact?

Chek Tien Tan, chektien.tan@singaporetech.edu.sg