

CONSENT TO PARTICIPATE IN NON-BIOMEDICAL RESEARCH

Remote Memorable Augmented Reality Tour Guiding Experience

You have been asked to participate in a research study conducted by Elena Chong Loo, Bowen Wu, Amani Toussaint, Valeria Yang, Emily Mattlin, and Joseph A. Paradiso from the Media Lab at the Massachusetts Institute of Technology (M.I.T.). The results of this study will be written in academic articles. You were selected as a possible participant in this study because you responded to our community call soliciting participants. You should read the information below, and ask questions about anything you do not understand, before deciding whether to participate.

The information below provides a summary of the research. Your participation in this research is voluntary and you can withdraw at any time.

- **Purpose**

Provide insights into what makes a memorable augmented reality tour guiding experience.

- **Study Procedures**

You will be presented with 5 projects during the remote gallery tour guiding experience and will be tested on how much you remember from the presented projects 5 mins, 24 hours, and 72 hours after the experience.

- **Risks & Potential Discomfort**

You might experience some discomfort from holding up your mobile device.

You should read the information below and ask questions about anything you do not understand before deciding whether or not to participate.

· **PARTICIPATION AND WITHDRAWAL**

Your participation in this study is completely voluntary and you are free to choose whether to be in it or not. If you choose to be in this study, you may subsequently withdraw from it at any time without penalty or consequences of any kind. The investigator may withdraw you from this research if circumstances arise.

· **PURPOSE OF THE STUDY**

Augmented Reality (AR) is poised to become ubiquitous in the next few decades. It is believed that AR will have a profound effect on our daily life. The purpose of this study is to provide insights into the effect of different augmented reality elements on our ability to recall past information. More specifically, we want to identify which AR elements better augment our memory retention during a short tour guiding experience.

· **PROCEDURES**

If you volunteer to participate in this study, we would ask you to do the following things: You will return the signed digital copy of this consent form back to the researchers after all your questions have been addressed, and you will receive your subject number during the online meeting with the researcher. You can start the experiment any time you desire but should make sure you try to keep the same time available for filling out the next two questionnaires (24hr and 72 hr after the experiment).

During the online meeting, the researcher will provide the android application and instruct you on how to install it and when to use it.

During the experiment, you will open a questionnaire with all the instruction on it. In the first questionnaire, you will be prompted to use the app to trigger a digital agent who will be giving you a gallery tour guiding experience. The agent will guide you through each one of them and explain what they are. You can visually see an image on your computer screen. After the introduction of the five projects, the questionnaire will instruct you to delete the app and to start answering the questions. Afterwards, another questionnaire will be sent to you in 24 hours and 72 hours later for testing your memory retention across time. In the questionnaires, you will also be given a chance to provide feedback on the experience.

For the in-person experiment that will be run later, the procedure is as follows:

You will arrive at the Media Lab room E14-548 and will be taken to an office for a briefing about the experiment and protocol. You will then go over the consent form and will be given time to ask any question you have about the study. After you sign the consent form, the researchers will help you put on a wristband for monitoring your electrodermal activity (EDA) and heart rate signals. You will be directed to the experience and will put on an augmented reality headset to start.

During the experiment, a digital agent will be giving you a tour of a hallway with 10 different projects in it. The agent will guide you through each one of them and explain what they are. You can visually see a physical poster hanging on the wall with an image, a title and a short description. After the introduction of the 10 projects, the agent will indicate the end of the experience. You will contact the researcher conducting the experiment to start the questionnaire that will test how much you remember and what you think about the experience. Afterwards, another questionnaire will be sent to you in 24 hours, 72 hours, and two weeks later for testing your memory retention across time. In the questionnaires, you will also be given a chance to provide feedback on the experience.

· **POTENTIAL RISKS AND DISCOMFORTS**

During the experiment, the researchers might be collecting electrodermal activity (EDA) and heart rate signals. This data will help provide objective measures of perception during interaction and will not be used for clinical purposes. The researchers are not clinicians.

If you have never used an augmented or virtual reality headset or mobile application before, you might find it disorienting and uncomfortable at times. If you express and voice your discomfort to the researcher, we can adjust it or stop the experiment.

- **POTENTIAL BENEFITS**

You will be contributing to extend our understanding of what makes a memorable augmented reality tour guiding experience.

- **PAYMENT FOR PARTICIPATION**

You will be given a \$15 Amazon gift card for your participation in the entirety of this study.

- **PRIVACY AND CONFIDENTIALITY**

The only people who will know that you are a research subject are members of the research team which might include outside collaborators not affiliated with MIT. No information about you or provided by you during the research will be disclosed to others without your written permission, except: if necessary, to protect your rights or welfare, or if required by law. In addition, your information may be reviewed by authorized MIT representatives to ensure compliance with MIT policies and procedures.

Personal identifiable data such as name, age and gender requested in the questionnaires will be stored separately and each questionnaire will be coded with your subject ID to reflect your participation during the study and in any academic publications thereafter.

As part of your participation, we will collect certain personal information about you, including: gender, age, augmented and virtual reality usage, gaze, heart rate, and electrodermal activity (EDA).

The purpose of the data collection is to understand which kind of augmented reality elements will enhance our memory retention and augment a tour guiding experience. The information you provide will only be available to the researchers listed in this consent. Your data will be secured through the following methods: After the academic articles are submitted, the original media and questionnaires will be deleted/shredded and no copies will be saved. During the course of the analysis following the study, the written questionnaires will be stored in a locked cabinet at the Media Lab (E14-548) and we will be the only individuals with access to them. All electronic devices (computers) that will be used to collect, and store research data will be secured with encryption, password protection, and restricted access.

This information will be retained until the publication of the academic articles. You have the right to withdraw your data from the study at any time. To do so, contact Elena Chong Loo (elenack@media.mit.edu). If you withdraw from the study, no new information will be collected about you or from you by the study team.

When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. If photographs, videos, or audio-tape recordings of you will be used for educational purposes, your identity will be protected or disguised.

If you consent, we would also like to publish quotes from your completed questionnaire, publish our observations and reproduce photographs in print form in related academic articles.

You may decline this and still participate in the study. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law.

The photographs will only be taken with you wearing a headset which covers most of the face. We will be the only individuals with access to them. You have a right to review the original media and any edited versions created thereof for educational purposes.

If you consent to the following, please print your initial next to the checkboxes.

☐ _____ I allow my face video/photo to be published without being identified.

☐ _____ I allow the researchers to publish my answers from the questionnaire without being identified (anonymous direct quote).

· IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact us.

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· **EMERGENCY CARE AND COMPENSATION FOR INJURY**

If you feel you have suffered an injury, which may include emotional trauma, as a result of participating in this study, please contact the person in charge of the study as soon as possible.

In the event you suffer such an injury, M.I.T. may provide itself, or arrange for the provision of, emergency transport or medical treatment, including emergency treatment and follow-up care, as needed, or reimbursement for such medical services. M.I.T. does not provide any other form of compensation for injury. In any case, neither the offer to provide medical assistance, nor the actual provision of medical services shall be considered an admission of fault or acceptance of liability. Questions regarding this policy may be directed to MIT's Insurance Office, (617) 253-2823. Your insurance carrier may be billed for the cost of emergency transport or medical treatment, if such services are determined not to be directly related to your participation in this study.

· **RIGHTS OF RESEARCH SUBJECTS**

You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you feel you have been treated unfairly, or you have questions regarding your rights as a research subject, you may contact the Chairman of the Committee on the Use of Humans as Experimental Subjects, M.I.T., Room E25-143B, 77 Massachusetts Ave, Cambridge, MA 02139, phone 1-617-253 6787.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE
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I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

For participants in the EEA: By signing this consent form, I acknowledge my understanding and consent to the collection, storage and transfer (if applicable) of my personal information to the United States.

Name of Subject

Name of Legal Representative (if applicable)

Signature of Subject

Date

Legal Representative (if applicable)

Date

SIGNATURE OF PERSON OBTAINING INFORMED CONSENT

In my judgment the subject is voluntarily and knowingly giving informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Name of Person Obtaining Informed Consent

Signature of Person Obtaining Informed Consent

Date