DETAILED CONSENT TO PARTICIPATE IN A RESEARCH STUDY
(All information is required unless otherwise noted with an *)

You are being invited to take part in the following research study: An Adaptive ACC System For Non-Verbal Individuals With Motor Impairments

Researcher(s):
The persons conducting this study are:

Dr. Christabel Wayllace
Advisor and Principal Investigator
New Mexico State University
cwayllac@nmsu.edu

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New Mexico State University
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WHAT IS THE PURPOSE AND PROCEDURE OF THIS STUDY?
Briefly describe the purpose and the procedures of study to be followed.

The purpose of the study is to evaluate the requirements for a joystick-controlled keyboard that is accessible for non-verbal individuals with muscular disabilities. The aim is to develop a tailored solution that serves as an alternative to the traditional QWERTY keyboard and grid-based Augmentative/Alternative Communication (AAC) programs. By observing the participant's movement patterns with a joystick, the study seeks to create an AAC system that aligns more closely with movements that are comfortable and natural for the participant.

As a participant, you can expect to engage in activities where your joystick movements are observed and analyzed. You will also be asked to perform communication tasks using both your regular AAC system and the custom AAC system designed for this study. The evaluation will involve copying texts to assess how well the custom AAC matches your communication needs, focusing on the number of decisions and movements required during the tasks.

WHAT WILL HAPPEN TO YOU IF YOU ARE IN THIS STUDY?

- The study will take 24 sessions, each will take about 45 minutes and will have a break of 5 minutes.
- The study will take place at the Science Hall SH173 at NMSU.
- In the first session, the researchers will explain the study to you and answer any questions you may have. You will read the consent form, clarify any doubts, and sign it.
- You will attend 4 pattern-recognition sessions: In each session, you will use a joystick to move the cursor on a screen from point A to point B passing through intermediate points. The system will record the movements.
- You will attend 18 test sessions: In each session, you will copy a paragraph of 50 to 100 words with either your AAC or the custom AAC. We will record the screen from the system to determine the amount of decisions made and the time used.
- In the last session, you will provide feedback about your experience through a discussion and a questionnaire.

WHY ARE WE ASKING YOU TO PARTICIPATE FOR THIS STUDY?

We are asking you to participate in this study to gain insights into your valuable experience regarding AAC programs and accessible input technologies. Your participation will contribute to our understanding of the impacts that AAC and accessible joystick designs have on people dependent on these technologies. At the same time, your collaboration will allow us to design a tool that addresses potential design issues on AAC tools, and help advance our knowledge in this field.

ARE THERE REASONS WHY YOU WOULD NOT QUALIFY FOR THIS STUDY?

Yes. You must be 18+ years of age to participate in this study. Additionally, you must be physically able to experiment by controlling a joystick in a circular motion, pressing down up to two buttons within the joystick, and reading the feedback from the screen the joystick is connected to (i.e. a tablet) in order to complete the experimental task being utilized by the research design. The participant must have an AAC system and be able to communicate with it.
*It is important to let the Researcher(s) know if you are in another research study. You should discuss this with the Researcher(s) before you agree to participate in another research study while you are in this study.

WHAT IS THE DURATION?

Your participation in this research will require 24 sessions of approximately 45 minutes each. There will be four types of sessions: 1) one introductory session, 2) four test sessions (divided into two groups), 3) two pattern-recognition sessions, and 4) a closing session. All sessions will be held in person at NMSU installations where accommodation will be provided on demand at any point of the experiment. The accommodation includes but is not limited to, written or verbal questions, AAC systems, keyboards, joysticks, chairs, tables, and rooms with wheelchair access.
The communication will be through verbal and written questions unless requested differently. The participant will write down their answers with the aid of their personal AAC system as they would do on their regular day. When mapping the participant's movement, a joystick matching the one in their AAC system will be provided, and it will be connected to one of the lab's computers to register the path of their movements.
The sessions list includes a tentative schedule that can be updated at the request of the participant. The sessions may require reading information, and providing opinions or preferences.

Introductory session:

Number of sessions: 1
Task Description: This session has the goal of making the participant familiar with the researchers, the experiment, and the logistics. The consent form will be signed, and any further questions that might arise will be answered. This task will be divided into two parts with a break in between for the participant.
Date:
1 Session over the week of September 3rd to September 6th
Consent Form: 10 minutes
Logistics acknowledgment: 10 minutes
Debrief: 10 minutes
Estimated time: Approximately 45 minutes

Pattern Recognition Sessions (2):

Number of sessions: 4

Task Description: These sessions have the goal of recognizing the joystick patterns that are more natural to the participant. This task will be divided into two parts with a break in between for the participant.

Dates:

1 Session over the week of September 9th to September 13th
1 Session over the week of September 16th to September 20th
1 Session over the week of September 23rd to September 27th
1 Session over the week of September 30th to October 4th

Accommodation assessment: 5 minutes
Task part 1: 15 minutes
break: 5 min
task part 2: 15min
Debrief: 5 minutes
Estimated time: Approximately 45 minutes

Test Sessions:

Number of sessions: 9

Task Description: These sessions will occur twice per week from the month of September until the end of November. During this session the participant will copy a paragraph with either their AAC or the custom AAC. In this session we will record the screen from the user system into the AAC system to determine the amount of decisions made and the time used. This task will be divided in two parts with a break in between for the participant.

The expected task duration is based on the participant's experience to transcribe paragraphs between 50 to 100 words in their personal AAC system. Ten additional minutes are provided to complete the task in addition to the break.

Dates:

9 sessions over the weeks from September 24 to November 22

Accommodation assessment: 5 minutes
Task part 1: 15 minutes
break: 5 min
task part 2: 15min
Debrief: 5 minutes
Estimated time: Approximately 45 minutes

Closing session:

Number of sessions: 1

Task Description: This session has the goal of collecting the participant's feedback on the experience of the custom AAC, discussing ideas and insights on the overall experiment.This task will be divided in two parts with a break in between for the participant.

Date:

1 session over the week between November 25 to November 29

*Accommodation assessment:*5 minutes
Task part 1: 15 minutes
break: 5 min
task part 2: 15min
Debrief: 5 minutes

Estimated time: Approximately 45 minutes

WHERE IS THE STUDY GOING TO TAKE PLACE?
The research procedures will be conducted at New Mexico State University 1305 Frenger St, room SH 173, Las Cruces, NM 88003.

WHAT IF NEW INFORMATION IS LEARNED DURING THE STUDY THAT MIGHT AFFECT YOUR DECISION TO PARTICIPATE?

You will be informed if the Researcher(s) learn new information that could change your mind about staying in the study. You may be asked to sign a new informed consent form if the information is provided to you after you have joined the study.

WHAT ARE THE BENEFITS, RISKS, COSTS, and COMPENSATIONS OF PARTICIPATION?

Benefits
Beyond the first-hand experience and increased understanding of science and research gleaned through participation in this study, no individual benefit is predicted. The benefit to society is unknowable beyond the increased understanding of human-device interaction.

Risks
It must be noted that while we do not anticipate any risks associated with participating in this study, risks can never be entirely eliminated, even if they are minimal. Please take into account the following potential risks:

Emotional Discomfort: Engaging in discussions or answering questions during the study may elicit unexpected negative emotions such as sadness, anxiety, or discomfort. Participants should be aware that these emotions can arise during the research process. While every effort will be made to establish a safe and supportive environment, participants will be informed about the potential for experiencing discomfort.

Distressing Memories: Participation in the study may evoke distressing memories or experiences, which could potentially cause emotional distress. Researchers are committed to creating a supportive environment, but participants should be aware of the possibility of encountering such memories. Efforts will be made to provide appropriate support and resources to participants who may require assistance.

If you believe you are hurt, distressed, or if you get sick because of something that is due to the study, you should immediately contact the Researcher(s) and/or the Office of Research Integrity and Compliance at New Mexico State University 575-646-7177 ovpr@nmsu.edu.

Costs

There are no costs associated with taking part in this study.

Compensations

Participants in this study will receive compensation of $15 as a token of appreciation for their time and contribution to the research. The compensation will be provided in the form of an Amazon gift card, which will be delivered to participants in person at the time of the study. It is important to note that participants will receive compensation, regardless of whether they complete the entire study or not. This is done to recognize the value of their time and effort in participating in the research.

WILL YOU BE GIVEN INDIVIDUAL RESULTS FROM THE STUDY?

For this study, you will be given individual results. If you give consent for Researcher(s) to contact you, please initial below.

___ Yes___ No

If you later decide that you do not wish to be contacted about results or findings, inform the Researcher(s) using the contact information provided at the end of this form.

CONFIDENTIALITY

The Researcher(s) will keep your name and other identifying information private to the extent that we can. The Researcher(s) will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. You should know that there are some circumstances in which the Researcher(s) may have to show your information to other people.

The findings and results of the study may appear publicly as data for/in dissertations, books, journals, creative or digital work, news articles, presentations, conferences, or other places. The Researcher(s) will take careful steps to keep your information confidential (or anonymous). All personal identity data will be kept separate from the corresponding experimental data. No personal identifiers beyond this consent form will be collected.

WHERE WILL INFORMATION BE STORED AND FOR HOW LONG?

The information collected during the study will be stored in password-protected computers, behind locked doors, within the office at 1305 Frenger St, room SH 173, Las Cruces, NM 88003 for the duration of no less than three years, as required by federal regulations.

(see Appendix: Participant information to be stored for future research (e.g., registry, database, contact list)

IF YOU HAVE QUESTIONS OR CONCERNS OR WANT TO WITHDRAW:

Participation in this study is strictly voluntary. You may withdraw from the study at any time without penalty.

If you choose to leave the study, you have the right to decide whether data collected up to that point that can be linked to your identity will remain in the study database or should be removed.
The Researcher(s) conducting the study may need to remove you from the study. This may occur for a number of reasons. You may be removed from the study if you are not able to follow the directions,

they find that your participation in the study is more risk than benefit to you, or the agency paying for the study chooses to stop the study early for a number of scientific reasons.

The Researcher(s) at New Mexico State University, Department of Computer Science in charge of this study is Manuel M. Mares Solano who may be reached at manuems@nmsu.edu.
*The Researcher(s) is (are) a student(s), and their faculty supervisor is Dr. Christabel Wayllace who may be reached at cwayllac@nmsu.edu.

If you experience negative consequences (including mental/emotional distress) as a result of this study, please contact:
Aggie Health and Wellness Center
3080 Breland Dr, Las Cruces, NM 88003
Walk-ins available Monday – Friday, from 8-11:30am and 1-5pm
575-646-1512
campus_health@nmsu.edu

If you have any questions, suggestions or concerns about your rights as a participant in this research study, contact the Office of Research Integrity and Compliance at New Mexico State University 575-646-7177, or ric_admin@nmsu.edu.

A copy of this form is available for you to keep.

INFORMED CONSENT SIGNATURE PAGE

You are a participant or are authorized to act on behalf of the participant. This consent includes the following:

- **Key Information Page**
- **Detailed Consent**

You will receive a copy of this consent form after it has been signed.

_____ _____

Signature of research subject *or, if applicable,*
**research subject's legal representative*

Date

_____

Printed name of research subject *and, if applicable,*

_____

**Printed name of research subject's legal representative*

**If applicable, please explain Representative's relationship to subject and include a description of representative's authority to act on behalf of subject:*

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_____ _____

Printed name of [authorized) person obtaining informed consent

Date

_____

Signature of Principal Investigator or Sub/Co-Investigator
