Plan Overview

A Data Management Plan created using DMPonline

Title: Testing Pilot Behavior for Helicopter flight using VR headsets

Creator:Sheharyar Ali

Principal Investigator: Sheharyar Ali

Data Manager: Sheharyar Ali

Project Administrator: Olaf Stroosma

Contributor: Olaf Stroosma

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2021)

Project abstract:

This project aims to test and see how pilots change their behaviour when they have to control a helicopter, using a VR headset for visual cueing. The experiment consists of pilots having to perform a disturbance rejection tasks for a helicopter with simplified dynamics and varying Fields of View (FoVs).

ID: 152752

Start date: 05-02-2024

End date: 27-09-2024

Last modified: 31-05-2024

Testing Pilot Behavior for Helicopter flight using VR headsets

0. Administrative questions

1. Name of data management support staff consulted during the preparation of this plan.

The research plan was submitted as part of the Research Methodologies course headed by Ines Uriol Balbin. The research plan, along with the data management techniques in it, were reviewed in that course

2. Date of consultation with support staff.

2024-01-04

I. Data description and collection or re-use of existing data

3. Provide a general description of the type of data you will be working with, including any re-used data:

Type of data	File format(s)	How will data be collected (for re-used data: source and terms of use)?	Purpose of processing	Storage location	Who will have access to the data
Pilot Control inputs, Pilot error, forcing function values	.csv	Output from Unity simulations	To understand and predict pilot behaviour for different testing conditions	SURF drive	Principal researcher (Sheharyar Ali) and Supervisor (Olaf Stroosma)
Participants' name, email, age	.csv	Collected from online registration form	Participants' name and age email is used for administrative purposes. Age is used to analyse behaviour for certain demographics	Project storage device	Principal researcher (Sheharyar Ali)

4. How much data storage will you require during the project lifetime?

- < 250 GB

II. Documentation and data quality

5. What documentation will accompany data?

- Methodology of data collection
- README file or other documentation explaining how data is organised

III. Storage and backup during research process

6. Where will the data (and code, if applicable) be stored and backed-up during the project lifetime?

- Project Storage at TU Delft
- SURFdrive
- OneDrive
- Another storage system - please explain below, including provided security measures

Code for the simulation created (which contains none of the data collected) will be on a private repository on Github

IV. Legal and ethical requirements, codes of conduct

7. Does your research involve human subjects or 3rd party datasets collected from human participants?

- Yes

8A. Will you work with personal data? (information about an identified or identifiable natural person)

If you are not sure which option to select, first ask your Faculty Data Steward for advice. You can also check with the privacy website . If you would like to contact the privacy team: privacy-tud@tudelft.nl, please bring your DMP.

- Yes

8B. Will you work with any other types of confidential or classified data or code as listed below? (tick all that apply)

If you are not sure which option to select, ask your Faculty Data Steward for advice.

- No, I will not work with any confidential or classified data/code

9. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your Faculty Contract Manager when answering this question. If this is not the case, you can use the example below.

The datasets will be anonymised and the results of the pilot behaviour will be published in the Tu Delft repository. Participants have the ability to request their data to be removed and not used at any time. At that point, the prinicpal researcher (Sheharyar Ali) will remove their data from the storage locations

10. Which personal data will you process? Tick all that apply

- Email addresses and/or other addresses for digital communication

- Gender, date of birth and/or age
- Data collected in Informed Consent form (names and email addresses)

11. Please list the categories of data subjects

TU Delft Students, TU Delft staff,

12. Will you be sharing personal data with individuals/organisations outside of the EEA (European Economic Area)?

- No

15. What is the legal ground for personal data processing?

- Informed consent

16. Please describe the informed consent procedure you will follow:

Participants will be given an informed consent form before the start of the experiments. The form is made using the TU Delft informed consent template provided by the Human Research Ethics Committee. This will ensure we have their consent to process the data we collect. The procedure is outlined below:

- Participants sign informed consent form
- The Participant ID will be on the consent form
- The form will be scanned and sent, via my TU Delft email, to my supervisor
- He will put it in safe storage and will send me a confirmation when this is done
- All hard and soft copies of the form will then be deleted
- The data will then be anonymised and the participant's data will only be referenced by their ID
- If a participant decides to withdraw their consent between the end of the experiment and the publication date of your thesis, they contact me. I forward their request to my supervisor who uses the informed consent form pool to retrieve their participant ID. Using this, I can remove that data set from my analysis. That’s the only reason we retain the name/ID link on the informed consent form.

17. Where will you store the signed consent forms?

- Same storage solutions as explained in question 6

18. Does the processing of the personal data result in a high risk to the data subjects?

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a Data Protection Impact Assessment (DPIA). In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data during your research (check all that apply).

If two or more of the options listed below apply, you will have to complete the DPIA. Please get in touch with the privacy team: privacy-tud@tudelft.nl to receive support with DPIA.

If only one of the options listed below applies, your project might need a DPIA. Please get in touch with the privacy team: privacy-tud@tudelft.nl to get advice as to whether DPIA is necessary.

If you have any additional comments, please add them in the box below.

- None of the above applies

22. What will happen with personal research data after the end of the research project?

- Anonymised or aggregated data will be shared with others

25. Will your study participants be asked for their consent for data sharing?

- Yes, in consent form - please explain below what you will do with data from participants who did not consent to data sharing

The final report will explain that some participants refused to consent to their data being used for processing. Their data will be deleted from the storage locations

V. Data sharing and long-term preservation

27. Apart from personal data mentioned in question 22, will any other data be publicly shared?

- All other non-personal data (and code) produced in the project

29. How will you share research data (and code), including the one mentioned in question 22?

- All anonymised or aggregated data, and/or all other non-personal data will be uploaded to 4TU.ResearchData with public access

30. How much of your data will be shared in a research data repository?

- < 100 GB

31. When will the data (or code) be shared?

- At the end of the research project

32. Under what licence will be the data/code released?

- CC0

VI. Data management responsibilities and resources

33. Is TU Delft the lead institution for this project?

- Yes, the only institution involved

34. If you leave TU Delft (or are unavailable), who is going to be responsible for the data resulting from this project?

My supervisor, Olaf Stroosma (O.Stroosma@tudelft.nl)

35. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

4TU.ResearchData is able to archive 1TB of data per researcher per year free of charge for all TU Delft researchers. We do not expect to exceed this and therefore there are no additional costs of long term preservation.