Plan Overview

A Data Management Plan created using DMPonline

Title: Balancing Operational Efficiency and Guest Experience in Queues at the Efteling

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Balancing Operational Efficiency and Guest Experience in Queues at the Efteling

0. Administrative questions

1. Provide the name of the data management support staff consulted during the preparation of this plan and the date of consultation. Please also mention if you consulted any other support staff.

N.A.

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

- Yes, leading the collaboration – please provide details of the type of collaboration and the involved parties below

TU Delft is the lead institution for this Master's graduation research project. The research is conducted by a TU Delft student within the Faculty of Industrial Design Engineering and supervised by TU Delft academic staff. The project is carried out in collaboration with the Efteling. This partner institution provides earlier obtained insights and access to the context.

I. Data/code description and collection or re-use

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

Type of data/code	**File format(s)**	**How will data/code be collected/generated?** *For re-used data/code: what are the sources and terms of use?*	**Purpose of processing**	**Storage location**	**Who will have access to the data/code?**
Observational notes	.docx	Field notes taken by the student during site visits, observations, or intervention sessions	To document contextual observations, visitor interactions, and reflections relevant to the research.	TU Delft One Drive	Student
Photographs	.jpg / .png	Photos taken with student's password protected phone during testing sessions. Images will avoid identifiable faces or anonymize these upon use.	To document interactions in context, and interactions with prototypes.	Temporarily stored on the recording device and transferred as soon as possible to TU Delft OneDrive for secure storage. Files will be deleted from the device after successful transfer.	Student

II. Storage and backup during the research process

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

- < 250 GB

5. Where will the data/code be stored and backed-up during the project lifetime? (Select all that apply.)

- TU Delft OneDrive
- Another storage system – please explain below, including provided security measures

Research data will primarily be stored on TU Delft OneDrive, which provides secure institutional cloud storage and automatic backup. Photographs are taken during research activities, for example to document prototype interactions, they will initially be stored temporarily on the student's password-protected phone. These files will be transferred to the secure TU Delft OneDrive storage as soon as possible after collection. After successful transfer and verification, the files will be deleted from the local device to minimise the risk of unauthorised access.

III. Data/code documentation

6. What documentation will accompany data/code? (Select all that apply.)

- Data – Methodology of data collection

IV. Legal and ethical requirements, code of conducts

7. Does your research involve human subjects or third-party datasets collected from human participants?

If you are working with a human subject(s), you will need to obtain the HREC approval for your research project.

- Yes – please provide details in the additional information box below

Yes. This research involves human participants, including ride employees and visitors who voluntarily and anonymously participate in interviews related to the research. Ethical approval will be requested from the TU Delft Human Research Ethics Committee (HREC) before data collection begins.

8. Will you work with personal data? (This is information about an identified or identifiable natural person, either for research or project administration purposes.)

- Yes

I will work with photos on which participants might be identifiable.

9. Will you work with any other types of confidential or classified data or code as listed below? (Select all that apply and provide additional details below.)

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

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

10. 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.

The intellectual property rights are framed by a graduation agreement between Delft University of Technology, Efteling and myself.

11. Which personal data or data from human participants do you work with? (Select all that apply.)

- Photographs

12. Please list the categories of data subjects and their geographical location.

visitors of the context (theme park) mailny coming fron the European Union, mainly NL and BE. Also employees from NL.

13. Will you be receiving personal data from or transferring personal data to third parties (groups of individuals or organisations)?

- No

16. What are the legal grounds for personal data processing?

- Other – please see guidance and explain below

Personal data are collected under the legal basis of legitimate interest. The purpose of collecting photographs is to document and analyse how visitors interact with a prototype in a real-world theme park environment as part of a graduation research project. The photographs support the observation of interaction patterns, visitor flow, and behavioural responses, and allow observations to be reviewed and verified after data collection.

The research focuses on interactions with the prototype rather than on individual visitors. The collection of photographs is therefore necessary to achieve the research objectives, while alternative methods such as written notes alone would not adequately capture the spatial and behavioural aspects of the interactions being studied.

The impact on the privacy of visitors is limited. Data collection takes place in a public visitor environment where people can reasonably expect to be visible to others. No names, contact details, or other directly identifying personal information are collected, and individual persons are not the subject of analysis.

Several measures are taken to minimise privacy risks. Photographs are limited to those necessary for the research, and where possible focus on the prototype and surrounding interactions rather than on individual visitors. Close-up photographs of identifiable individuals are avoided where possible. Any photographs used in reports, presentations, or publications will be anonymised by blurring identifiable individuals. The photographs will be stored securely on TU Delft systems and will only be accessible to the student researcher. Data will be retained only for the duration necessary to complete the research and will be deleted afterwards in accordance with applicable data management requirements.

Based on the limited privacy impact, the public setting of the observations, the research necessity of the photographs, and the measures taken to protect participants' privacy, the legitimate interests of the research project are considered to outweigh the minimal risks to data subjects.

19. Does the processing of the personal data result in a high risk to the data subjects? (Select all that apply.)

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 in your research project.

If any category applies, please provide additional information in the box below. Likewise, if you collect other type of potentially sensitive data, or if you have any additional comments, include these in the box below.

If one or more options listed below apply, 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.

- None of the above apply

23. What will happen with the personal data used in the research after the end of the research project?

- Anonymised or aggregated data will be shared with others

24. For how long will personal research data (including pseudonymised data) be stored?

- Personal data will be deleted at the end of the research project

Personal data (photos) will be destroyed after anonymisation.

V. Data sharing and long term preservation

27. Apart from personal data mentioned in question 23, will any other data be publicly shared?

Please provide a list of data/code you are going to share under 'Additional Information'.

- All other non-personal data/code produced in the project

29. How will you share research data/code, including those mentioned in question 23?
Select all that apply and provide additional details below.

- I am a Bachelor's/Master's student at TU Delft and I will share the data/code in the body and/or appendices of my thesis/report in the TU Delft Repository

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

- < 100 GB

31. When will the data/code be shared?

- As soon as corresponding results (papers, theses, reports) are published

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

- Other – please explain below

Copyrighted thesis

VI. Data management responsibilities and resources

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

My supervisor Laurens Kolks, Assistant Professor, Department of Human-Centered Design, with email adress L.A.G.Kolks@tudelft.nl

34. 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/code 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.

35. Which faculty do you belong to?

- Faculty of Industrial Design Engineering (IDE)