
Digital Motion (DiMo) Centre Proposal

A Data Management Plan created using DMPonline

Creator: Wolfgang Kremser

Affiliation: Other

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Project abstract:

This is the general Data Management Plan (DMP) for the proposed DiMo Centre. It states the principles under which data will be collected, processed and archived within the context of the DiMo Centre. More detailed plans that describe individual projects and their data processing activities in particular will be produced and added during the duration of the DiMo Centre.

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Data Collection

What data will you collect or create?

The datasets produced during DiMo Centre activities are diverse and depend on the specific research question at hand. Typically, research data is collected from human subjects who perform activities of sports or daily living under ecologically valid and/or laboratory conditions.

If possible, numerical data is stored in portable, tabular file formats such as CSV. Proprietary file formats are to be avoided and should be converted where possible. The planned data management infrastructure expects that each subject produces data in the low-gigabyte range. Larger datasets have to be announced to the CDO before upload.

It is in the interest of the DiMo Centre to produce high quality, sharable data. The sharing of data with a wider research community is to be considered whenever data is collected. This means first and foremost that they will be managed with [FAIR principles](#) in mind.

Where it is useful and legally possible, datasets from the previous Digital Motion COMET project will be reused. The usage of other 3rd party datasets has to be cleared first with the CDO.

How will the data be collected or created?

Research data is collected from human subjects who perform activities of sports or daily living under ecologically valid and/or laboratory conditions. The concrete data collection methodology is dependent on the research question at hand and should be documented comprehensively.

As soon as possible after data collection, the data is to be transferred into the Human Motion Data Platform (HMDP). The integration process of the HMDP forces the entry of a minimal amount of metadata such that the datasets and its lineage can be traced (see [DCAT2 vocabulary](#)). Local filenames and folder structures are eliminated in the HMDP integration process, therefore they can be freely chosen so that they allow the data integrator to correctly enter the metadata.

Documentation and Metadata

What documentation and metadata will accompany the data?

In its current form, the data integration process expects metadata according to the

DCAT2 vocabulary (<https://www.w3.org/TR/vocab-dcat-2/>). On data export, the HMDP serves these metadata as a README file alongside the requested datasets. Metadata about the data generation and collection process, e.g. methodology, is documented on a dedicated Wiki page of the DiMo Centres *Confluence* server. A link to the documentation page is added to the HMDP metadata.

Ethics and Legal Compliance

How will you manage any ethical issues?

Since the DiMo Centre conducts research with human subjects, all Centre members are expected to act with due diligence. All data collection activities must be conducted with the Informed Consent of the subjects. If required, an approval of an ethics committee must be acquired before data collection. Furthermore, all data-related activities are checked to comply with the European Union's General Data Protection Regulation.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

A licence will be formulated within the dataset-specific data sharing agreement.

Storage and Backup

How will the data be stored and backed up during the research?

The central storage for all DiMo Centre research data and metadata is the Human Motion Data Platform (HMDP, <https://hmdp-manual.salzburgresearch.at/>). HMDP is developed, operated and maintained by Salzburg Research Forschungsgesellschaft mbH. The servers that power the HMDP are located in Germany and are maintained by the Open Telekom Cloud, T-Systems International GmbH. With the appropriate HMDP user permissions, researchers can download data to their local machine for processing and analysis. Data is backed up by the Open Telekom Cloud.

How will you manage access and security?

The HMDP has a permission system that grants users access to data on a certain level. In the context of the DiMo Centre, this level is a data collection activity (e.g. a single study or experiment). Permissions can only be managed by HMDP administrators Wolfgang Kremser (wolfgang.kremser@salzburgresearch.at) and Harald Rieser

(harald.rieser@salzburgresearch.at) at Salzburg Research. Access to data is only granted with a personal request and a justified interest. An access log is kept by the HMDP. All personal data is to be pseudonymized and the *masterfile* (i.e. the mapping between pseudonym and real name) is to be kept in a separate location. If pseudonymization is not possible, the individual files have to be encrypted. Datasets on researchers' personal computers must be deleted as soon as possible.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

The decision if and how datasets are to be shared and/or archived will be made on a case-by-case basis.

What is the long-term preservation plan for the dataset?

If the data is published, it will reside in open Data Repositories (e.g. OSF, OpenAire, ...). Otherwise, the data will remain on the HMDP, with access remaining to data owners that were previously defined.

Data Sharing

How will you share the data?

The central storage for the DiMo Centre is the Human Motion Data Platform. The use of other data storages is discouraged and has to be pre-approved by the CDO. The HMDP provides unique identifiers that identify a single dataset. The data files can be downloaded via webbrowser, or via R script with the help of the HMDP R package. As soon as possible after data collection, the data steward must upload the collected (raw) data into the HMDP by entering the required metadata and documentation. After data upload, the data steward is encouraged to present the new dataset to the rest of the project consortium. Datasets may be published in dedicated data journals.

Are any restrictions on data sharing required?

By default, access to a specific set of research data is whitelisted. To gain access, researchers have to have a justified interest. Any external sharing of datasets, even for

publication purposes, has to be pre-approved by the CDO.

Responsibilities and Resources

Who will be responsible for data management?

Chief Data Officer (CDO): Wolfgang Kremser (Salzburg Research)

Deputy Data Officer: Verena Venek (Salzburg Research)

For each data collection activity, a data steward will supervise the collection and correct integration of data into the HMDP.

What resources will you require to deliver your plan?

Project Area 3.3. *Data Spaces* of the DiMo Centre hosts all data management activities.