HERMES

D1.1
Project management documentation

Project Title	Trustworthy Multi-Objective and Multi-Stakeholder Recommenders
Contract No.	09103-03-V04-00336
Project start date	1.7.2024
Duration	24 months

Funded by
the European Union
NextGenerationEU

PLÁN OBNOVY

Grant agreement no.:	09I03-03-V04-00336
Project acronym:	HERMES
Project website:	https://kinit.sk/project/hermes
Project full title:	Trustworthy Multi-Objective and Multi-Stakeholder Recommenders
Project start date:	July 2024 (24 months)
Work Package:	WP1 – Project Management
Version:	1.0
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Project funded by VAIA - Research and innovation authority, under the call 09I03-03-V04, Grant agreement no. PPM_09I03-03-V04-00336		
Dissemination Level		
PU	Public	x
NP	Non-public, only for members of the consortium (including the Agency Services)	

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1. Introduction

This document is the first version of the HERMES project management documentation, including the Data management plan (DMP) and the Risk management plan (RMP). Both documents are considered to be living documents: it is and it will be updated continuously, to address ongoing issues and extended by information on data used in experiments. The DMP includes: (1) What data will be collected/generated; (2) What standards will be used; (3) What types and format of data will be created; (4) How will metadata be generated; (5) How will the data be documented; (6) What data will be exploited, shared, made open; (7) How and by whom will data be curated and preserved. The RMP includes the: (1) Roles and responsibilities of HERMES team members, including host organization representatives; (2) Risk register.

2. Data management plan

A successful implementation of the project will require several data types:

- Regulations and Legislation requirements. The research team of the project will include experts on law, which will provide up-to-date information on the regulation and upcoming legislation. The European and National initiatives will be monitored during the project.
- Stakeholders' requirements and expectations. The stakeholders (including consumers, producers, and providers) will be approached to discuss and to collect the requirements and expectations on MOS recommender systems. The existing industry network of PI and the host institution will be used.
- Datasets for MOS recommender systems offline and online evaluation. The publicly available datasets for recommender systems will be used to evaluate proposed methods and to maximize the dissemination potential and the reproducibility of the research. Moreover, based on the recommender system community standards and best-practices, the project has an ambition for online evaluation (a relevant real-world application will be sought).

2.1 General principles of data management

All the data produced during the project, will be collected, processed, and stored respecting the GDPR (General Data Protection Regulation) requirements as implemented at the Host organization. All the data will be securely stored and anonymized where possible under the supervision of the Host organization Data Protection Officer. For the purpose of the anonymization, the OpenAire Amnesia[1] tool will be used.
The HERMES project foresees processing data types as follows:

1. Research Data
    a. The research project data – data collected under the WP2 and WP3.
    b. Other scientific data. These include, e.g.:
        i. Publicly available datasets used for evaluation of the recommender system methods,
        ii. Publicly available dataset used for evaluation of multi-objective optimization methods,
        iii. Submissions of research papers and associated research artifacts scientific venues
2. Information artifacts sharable within the Host organization
    a. Webinar recordings - video recordings of four planned webinar activities
3. Project website and other propagation outputs (WP4)
4. Other publicly available project documentation – other documentation created within the project as internal documents or documents used as deliverables of the project.
5. Personal data for the purpose of communication (e.g., emails) or as a necessary part of tasks related to stakeholder requirements collection

The HERMES project will comply with the FAIR (Findable, Accessible, Interoperable, Reusable) principles. The standard repositories for storing research outputs will be used, ensuring assigning the permanent identifiers and project acknowledgement. Access to the

[1] https://amnesia.openaire.eu/

research outputs will be granted via the described means under Creative Commons CC BY-NC license and will be allowed to be freely used, modified, and shared, for non-commercial reasons. All publicly released data and models will employ standard interoperable formats (as required by the public repositories).

The research data produced under the project as well as data used for the evaluation of the proposed methods, will be publicly available on the Zenodo platform[2]. Moreover, the DMP on the OpenAire ARGOS[3] platform is created, and will be publicly available, when a first dataset will be utilized and used.

2.2 FAIR data

Following the Open science directive of the Host organization, the research data will be managed according to the FAIR principles[4]:

- To be Findable:
    - F1. (meta)data are assigned a globally unique and eternally persistent identifier.
    - F2. data are described with rich metadata.
    - F3. (meta)data are registered or indexed in a searchable resource.
    - F4. metadata specify the data identifier.
- To be Accessible:
    - A1 (meta)data are retrievable by their identifier using a standardized communications protocol.
        - A1.1 the protocol is open, free, and universally implementable.
        - A1.2 the protocol allows for an authentication and authorization procedure, where necessary.
    - A2 metadata are accessible, even when the data are no longer available.
- To be Interoperable:
    - I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
    - I2. (meta)data use vocabularies that follow FAIR principles.
    - I3. (meta)data include qualified references to other (meta)data.
- To be Reusable:
    - R1. (meta)data have a plurality of accurate and relevant attributes.
        - R1.1. (meta)data are released with a clear and accessible data usage license.
        - R1.2. (meta)data are associated with their provenance.
        - R1.3. (meta)data meet domain-relevant community standards.

2.3 Personal data

When processing personal data, we will ensure compliance with data protection regulations including Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal

[2] https://zenodo.org/
[3] https://argos.openaire.eu/
[4] https://fairaware.dans.knaw.nl/

data and on the free movement of such data, repealing Directive 95/46/EC (General Data Protection Regulation). This will be done with cooperation of the Data Protection Officer at the Host institution.

All data (including personal data) will be securely stored. In case of publishing any datasets for the wider scientific community (e.g., as the part of the Open science initiative), we will publish only anonymised data (using publicly available anonymization tool AMNESIA). We will also comply with other legal requirements, e.g., we will not publish content that might be protected by the copyrights or if publication of such content would breach the terms and conditions of the source where the content was collected.

3. Risk management plan

Risk management is an iterative, adaptive, and continuous process. The current Risk register is based on the risks identified in the Project proposal, updated to the date of Grant agreement, which happened after one year (which needs to be also reflected in the risks). Further risks will be identified and added to the register, based on the procedures described below.

3.1 Roles and responsibilities

In this section, we identify the roles and responsibilities of research team members as well as the relevant roles of the host organization structures, primarily covering the project management and support activities.

3.1.1 Management team

The management team is responsible for ensuring the smooth implementation of the research project as described in the project proposal. It is responsible for ensuring that all requirements and obligations towards the funding authority are met during the project implementation.

Additionally, the management team of the HERMES project is responsible for ongoing risk identification, monitoring and preparing the mitigation results, if new risks are identified. The risks are monitored in cooperation with the research team members and the principal investigator.

The management team is composed as follows:

- The Principal investigator of the project, Michal Kompan
- The Project manager, Paulína Ševíková
- The Web and User data processing team lead, Jakub Šimko
- The legal and financial department of Host organization representative

3.1.2 Principal investigator - WPs Leader

The Principal investigator as the WP leader is responsible for the implementation of the work and tasks within the respective work-packages. He is responsible for the identification and management of the risks on a daily basis, and he escalates identified risks to the management team.

3.1.3 Advisory committee

The advisory committee from the Host organization, consisting of the senior research staff will be established to support the Principal investigator and the HERMES project. Members of the advisory committee include senior researchers from three topics - user modeling, natural language processing and ethics and human values in the technology. The responsibility of the advisory committee is to consult the research problems and directions of the project and specifically to identify the potential risks of any nature, and report such risks to the Management team.

The advisory committee is composed as follows:

- Host organization director general, researcher in user modeling, prof. Mária Bieliková
- Host organization deputy director, researcher in natural language processing, assoc. prof. Marián Šimko
- Host organization Ethics and human values in technology team, dr. Juraj Podroužek

3.2 Risk management action plan

In order to apply proactive risk management to increase the probability of the successful project implementation, the continuous process consisting of 3 steps, is introduced from the beginning of the project:

1. Risk identification
2. Risk evaluation
3. Risk treatment and monitoring

Each of the identified risks is assessed on the scale (low, medium, high) in terms of the risk likelihood and severity and related work package. Next, measures are proposed based on the assessment of impact intensity, which are then implemented and executed. The risks response strategies are as follows:

- Accept - no further action is required, risk is monitored
- Mitigate - reduce the the likelihood or/and severity of the impact
- Avoid - eliminate the source or reason for the risk

The ongoing monitoring is implemented during the project, based on the roles and responsibility defined in thes plan.

3.3 Risk identification

Likelihood	Severity	Description	WPs	Proposed measures for risk mitigation
low	medium	Validation on methods will show inconsistent results.	2, 3	Project will follow the standard evaluation methodologies, including the feedback from all relevant stakeholders. The results will be discussed within the HERMES research team and in the next phase with the wider research community at the host institution.
low	high	Not enough data available for training and evaluation.	2, 3	Standard and widely used datasets will be used. Hosting organization industry partners will be approached to make available datasets from real applications.
medium	medium	Low involvement of multi stakeholders in the	2	Existing research collaborations and established networks of PI and

		collecting requirements and validation phase.		hosting organization will be used to ensure a sufficient number of participants.
low	medium	Changes in legal requirements and regulation of recommender systems.	2, 3	Constant monitoring will be ensured to cover any ongoing discussions and proposals. The output of the project will contribute to the broader problems in the field independently of the regulations.
low	medium	Difficulty in integrating diverse research disciplines effectively.	2	Experience of the advisory committee in the interdisciplinary research will be exploited, regular interdisciplinary workshops and knowledge sessions will be held.
low	medium	Problems related to the technical issues in the development and deployment of RS methods.	2, 3	Iterative incremental approach will be applied to software development. The potential issues will be discussed with the Research engineering team at Host organization.
low	high	Low communication and dissemination impact during the project.	4	Continuous monitoring on fulfilling the KPIs will be introduced. Existing channels and networks will be exploited.
medium	high	Major health or war crisis.	All	The project management and the implementation are overseen as a hybrid style of work, which will allow immediate switch to the remote and virtual environment.

4. Conclusions

The first version of the HERMES project management documentation reflects time shifts introduced by the delays in the grant scheme evaluation and grant agreement signature. The activities were adjusted to reflect the actual situation and to set the timeline of the project to be successfully finished in time, avoiding foreseen or minimizing unpredictable circumstances. The regular update of this document will be realized under the Task 1.1 Project Management, with cooperation of the Project office at Host organization.