



PAROMA-MED

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Privacy Aware
Privacy Preserving
Distributed
Robust Machine Learning

Newsletter



Issue 2 – Jan 2024



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Editorial

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Message from the project coordinator

Dear Reader,

The enormous popularity and utilization of LLM AI models we have witnessed during the last year along with all the legal and ethical concerns that have been raised about them, have both fueled our motivation to provide results that can provide answers and solutions for this emerging landscape.

In this context our project has put significant focus on establishing sufficient communication channels with several stakeholders to address timely all the details that will ensure both data sovereignty awareness and adequate trust in our solutions. With our Delphi study targeting domain experts already ongoing, we have recently started clustering activities that will eventually allow us to reach out to citizens and perform joint exercises for the benefit of both sides. GDPR and data sovereignty concepts will be promoted and valuable feedback on ergonomic and usability aspects will be gathered.

Stay tuned for the next iterations of this newsletter for more interesting details on our outcomes.

Stay secure, stay protected, stay informed!

Sincerely,
Konstantinos Koutsopoulos

Stakeholder Confidence



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Delphi study

To get the necessary insights into important scientific aspects of how to provide and enhance trust and confidence in our project.

The study will help gathering needed information and bring together the knowledge, insights, and opinions from a panel of experts in the relevant field in order to arrive at a future prognosis about the project.

Furthermore, it allows experts to identify and prioritize the key factors that influence project outcomes.

By understanding these critical factors, project teams can focus their efforts, resources, and attention on areas that have the most significant impact, increasing the chances of success.

The objective of this Delphi study is to identify the critical factors that impact trust and confidence in a project and to develop recommendations for building and maintaining trust throughout the project lifecycle. The study is exploring the perspectives of experts to gain a comprehensive understanding of the complex dynamics associated with trust and confidence in project environments.

Study Concept

The Delphi study aims to provide a comprehensive overview of the topic of data security and more specifically focuses on exploring the factors influencing trust and confidence in the project. The study will involve experts from various relevant fields to capture their assessments and opinions on current challenges, best practices, and future developments in the field of data security and how trust in this issue can be ensured. By understanding the key drivers and barriers to trust and confidence, the study seeks to provide recommendations for fostering trust and enhancing project success.

Objective



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Delphi Study

1. Selection of a group of experts from the fields of information technology, data privacy, cybersecurity, law, ethics, medicine, and other relevant areas.

2. First round of survey: Development and distribution of the questionnaire. A questionnaire is being developed that consists of open questions about trust projects without going into PAROMA. The aim is to gain an initial insight into the topic of trust with regards of data processing in hospital settings. The questionnaire will be distributed to the panel of experts, who will provide their responses, insights, and recommendations.

3. Analysis of first round results: The experts' responses will be analyzed to identify common themes, disagreements, and trends. The results will be summarized and categorized to obtain a comprehensive overview of the experts' opinions and assessments. The analysis will focus on capturing the current factors that significantly influence trust and confidence.

6. Second round of surveys: Refinement and Validation: Based on the results of the first round, experts will be presented what PAROMA-MED is offering and experts will be asked to answer the same questions from the first round again. Thus, experts will have the opportunity to reconsider and update their initial responses.

Depending on the identified disagreements or open questions from the first round, additional questions may be included in the second round.

7. Analysis of Round 2: The responses from the second round will be analyzed to further refine the identified themes and gather any new insights or areas of consensus that may have emerged.

8. Summary of results: The results from both rounds will be summarized in a report that covers various aspects of trust in the project and provides recommendations for best practices and measures to enhance trust and confidence.

7. Review of results: The report will be presented to the experts for review to ensure that their views are accurately represented, and all relevant aspects are covered.

8. Publication and dissemination of results.

Methodology



GDPR training



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GDPR training organized by PAROMA-MED WP6 was primarily to inform and educate partners to adhere to GDPR rules and regulations as they map the process and thus develop the PAROMA-MED platform. PAROMA utilizes a data lake storage concept to store the large amount of data that are produced in the medical domain (e.g. medical images, long time-series of sensor data), to handle all types of data, including unstructured and semi-structured data such as images, video, and audio, that are required for machine learning use cases and hence the need for this training.



This training included presentations & interactive activity that covered the important requirements for GDPR, Definition, roles & responsibilities of Data subject, data owner, data processor, data controller etc. for the purpose of collecting & processing personal data. This training considered the actors of Paroma-med, their interactions, specific needs, policy definition & enforcement. This interactive activity engaged and involved all the partners who provided their feedback which is helpful to develop further ideas in platform development complying

functional GDPR. We are on our way to build efficient, ethical, trustworthy platform that aims to provide solution in healthcare while applying the principles of privacy awareness, collaboration and innovation.





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Exploitation

Collaborative Business Model workshop

Being the most effective, famous and used business model tool, the Osterwalder canvas has been adopted by the PAROMA-MED consortium to collect, summarize and report the main outcomes of the performed platform business model definition activity.

Osterwalder Business Model Canvas

The Osterwalder Business Model Canvas is nowadays the most famous strategic management template used for developing new and innovative business models and documenting existing ones. It was applied and tested in many organizations (e.g., IBM and Ericsson), being successfully used to easily describe and manipulate business models to create new strategic alternatives, and described as the "Most prominent... popular tool that makes it simple for practitioners to design business models in a creative session." It provides a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances, assisting businesses to align their activities by illustrating potential trade-offs.



The canvas has been built by effectively collecting the key findings emerged throughout the platform business model workshop arranged within the Plenary Consortium Meeting in Paris on 13rd-14th-15th November 2023 where Ericsson introduced the methodology and then ran and moderated the workshop.





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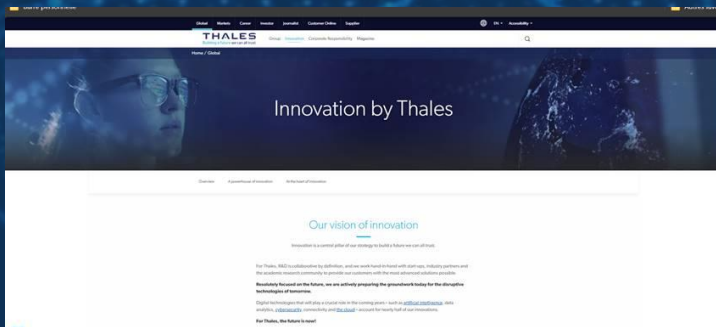
News

The consortium recently met in Paris!

Between 13rd and 15th November 2023, the PAROMA-MED partners gathered in Paris, France!



The meeting was arranged by our project partner Thales, <https://www.thalesgroup.com/>



Consortium Meeting in Paris

The fourth consortium meeting in 2023, after Heidelberg 23rd and 24th January, Genoa 4th and 5th May, and Vienna 4th and 5th July 2023 was held near the end of the first activity period of the EU-funded project “PAROMA-MED”. After the first 12 months with a main focus about the architectural and specification phases, the following one have seen a progressive implementation and validation effort. On 13rd November 2023, all partners met at the beautiful Thales Cristal Campus in Gennevilliers in the wonderful city of Paris, France, to share activities progresses and collaboratively explore optimal strategies and suitable decisions for ensuring the project's successful continuation, considering both technical and non-technical aspects.

Collaborations with other Projects





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Dissemination

MACHINE LEARNING & KNOWLEDGE EXTRACTION

Open Access Review

When Federated Learning Meets Watermarking: A Comprehensive Overview of Techniques for Intellectual Property Protection

by Mohammed Lansari^{1,2,†}, Reda Bellafqira^{1,†}, Katarzyna Kapusta², Vincent Thouvenot², Olivier Bettan² and Gouenou Coatrieux¹

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A new publication from the project PAROMA-MED is published by the partners Thales/IMT on When Federated Learning meets Watermarking: A Comprehensive Overview of Techniques for Intellectual Property Protection, published in Mach. Learn. Knowl. Extr. 2023, 1, 1–25.

This work aims to provide a comprehensive analysis of watermarking in the context of federated learning with benefits regarding an overview of recent advances and shedding light on the remaining challenges and opportunities in this field. The publication is available at: <https://www.mdpi.com/2504-4990/5/4/70>

PAROMA-MED AT EUROPEAN CYBER WEEK

From 21-23 November 2023, communication in ECW – European Cyber Week, was organized in Rennes. During this conference, PAROMA-MED partners from Thales, Mohammed Lansari presented watermarking in the context of federated learning with benefits, an overview of recent advances and shedding light on the remaining challenges and opportunities in this field. Publication from the project on this topic available at: <https://www.mdpi.com/2504-4990/5/4/70>





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Deliverables

□ WP1

- D1.1 “Requirements and Use Case Definition” - Report that provides the functional and not functional requirements for the realization of the project concepts, and also the details of the Use Cases (Task 1.1).
- D1.2 “Concept and Evaluation Framework - first version” - Report that provides the first version of the platform architecture and the related evaluation methodology.
- D1.3 “Concept and Evaluation Framework - final version” - Report that details the updated version of the platform architecture as refined in the progress of the technical work performed in the other WPs.

□ WP2

- D2.1 “Access and Privacy Control Architecture and Models” - Report that presents the models and the resulting architecture for access and privacy control within the PAROMA architecture.
- D2.2 “Data Platform Architecture and Models” - Report that documents the architecture for the privacy-preserving data storage and logging as well as for the data-movement in a federated environment, as part of the PAROMA architecture.
- D2.3 “Network and Interconnect Platform - ver. 1” - Reports the network and interconnecting platform focusing about the privacy-aware Network Slices conceived, to assure an inter-connectivity privacy level compliant with the project requirements.
- D2.4 “Application Platform v.1.0” - First version of the application platform, comprising the prototypes of the produced software artefacts and of an accompanying document highlighting the development and deployment details.

□ WP3

- D3.1 “Security and Data Privacy Services vers. 1” - Report that collects and presents all the security and data privacy services defined and developed in Tasks T3.1 and T3.2. This document reports on the first iteration of the components defined and developed.
- D3.2 “Security and Privacy Awareness - ver. 1” - Report that collects and presents all the security and privacy awareness concepts and models defined and developed in Task T3.3 as well as a first prototype GUI for situational awareness.



□ WP5

- D5.1 “Roadmap for communication, dissemination, standardization activities” - Report that provides an overview of the strategy and the main actions implemented for communication, dissemination, standardization, clustering. It describes relevant targets for communication/dissemination, together with the appropriate means to reach them.
- D5.2 “Setup of communication and dissemination media” - Report about the first communication and dissemination activities, such as the public website and leaflet; it includes the project vision, objectives, activities, expected outcomes and benefits, and points of contact. Project accounts on selected social media.
- D5.3 “IPR management” - This report provides the list of background knowledge inside the Consortium, identifying specific IPR, and reporting on internal agreements for sharing knowledge and software tools.
- D5.4 “1st Report and updated plan for communication, clustering, dissemination” - Deliverables that listw the communication, clustering, standardization, and dissemination actions implemented every year by the Project.
- D5.5 “1st Exploitation, business plan, and IPR management” - Report providing information about exploitation and business planning elaborated in Task 5.3.

□ WP6

- D6.1 “Data management plan” - Defines the rules for the project participants to ensure data is findable, accessible, interoperable and re-usable, and governed by the applicable data security and ethics standards.
- D6.3 “Ethics requirements” - Report on all measures that will be implemented in the project to comply with ethics requirements: REQ Humans, REQ Personal Data, REQ Artificial Intelligence

□ WP7

- D7.1 “Project management handbook” - This report includes description of all necessary project management procedures (reporting, approvals, etc.) to be performed by consortium members and lay down the needed project management structure and corresponding project bodies.



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Contacts

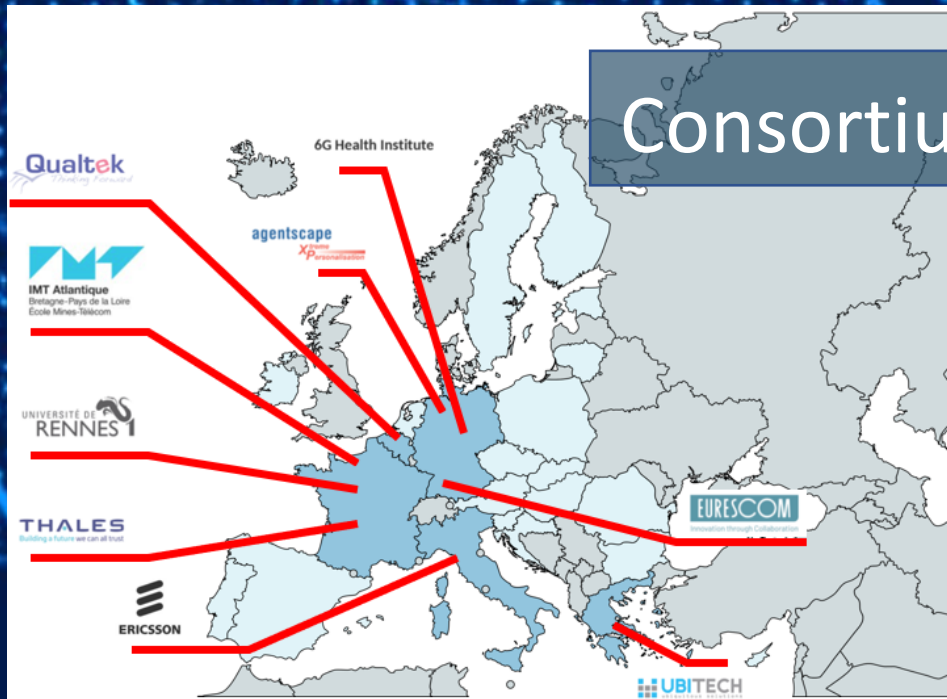


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Consortium

Socials



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