Press Release

MEDIET4ALL – WP5 Progress Report

Digital Platform, AI Recommendation and Smart Coaching

Sfax, Tunisia – December 2025

The University of Sfax (UoSFAX) reports major progress in Work Package 5 (WP5) of the MEDIET4ALL project, which focuses on the design, development and integration of the project's digital ecosystem, including artificial intelligence–based recommendation models and the MedLifestyle Smart Coach.

UoSFAX's Role in MEDIET4ALL

UoSFAX leads WP5, drawing on its strong expertise in artificial intelligence, data-driven systems and digital health technologies, as well as its experience in translating research concepts into scalable and functional digital platforms. Within MEDIET4ALL, WP5 plays a central role by operationalising Mediterranean Diet and lifestyle principles through an integrated digital ecosystem that enables personalised guidance, continuous monitoring and user-centred interaction.

Through the development of the MEDIET4ALL mobile application, AI-based recommendation and scoring models, and the MedLifestyle Smart Coach, WP5 provides the technological backbone required to support multicentre interventions, generate structured behavioural data and enable evidence-based evaluation of MedLifestyle adherence across diverse populations.

Objectives and Scope of WP5

Led by UoSFAX, WP5 focuses on the development and integration of a digital and AI-driven infrastructure to support MEDIET4ALL interventions. Its main objectives include:

- **Development of a centralised digital platform for MedLifestyle support**
    - Design and co-develop a unified mobile application integrating data collection, analysis, recommendation and coaching functionalities.
    - Provide users with a single access point to log dietary intake and lifestyle activities, receive feedback and monitor progress over time.

- Ensure scalability and extensibility for multicentre deployment and future enhancements.

- **Implementation of AI-based recommendation, scoring and coaching mechanisms**
  - Develop AI-based models to evaluate adherence to Mediterranean Diet and lifestyle principles.
  - Translate complex nutritional and lifestyle guidelines into personalised, explainable recommendations and adherence scores.
  - Integrate an AI-driven Smart Coach capable of delivering adaptive, longitudinal guidance.
- **Support of ethically compliant digital interventions**
  - Align platform development with ethical approval processes and data protection requirements.
  - Enable structured, GDPR-compliant data collection throughout feasibility and intervention studies.
  - Provide a robust digital foundation for bi-centre and multicentre interventions.

Progress and Key Results

Data Management and Governance (D5.1)
WP5 delivered a comprehensive Data Management Plan ensuring ethical, legal and regulatory compliance of all project data. The plan defines procedures for data collection, storage, access, sharing and long-term preservation, in line with GDPR and the European Charter of Fundamental Rights. As a living document, it is continuously updated to reflect evolving project needs.

E-Platform for Data Collection and Analysis (D5.2)
A central e-platform has been developed to support structured collection and analysis of user-generated data related to dietary behaviour, lifestyle practices and digital intervention use. Designed as a modular and scalable system, the platform ensures secure storage, controlled access and traceability, while supporting harmonised data handling across sites.

AI-Based Recommendation and Scoring Models (D5.3)
UoSFAX contributed to the development of AI-based models that transform user-provided data into personalised recommendations aligned with Mediterranean Diet principles. Combining rule-based logic and AI-driven components, the models evaluate adherence, generate scores and account for individual preferences, constraints and lifestyle factors, providing explainable and actionable feedback.

MedLifestyle Smart Coach Prototype (D5.4)
The MedLifestyle Smart Coach prototype was developed as an AI-driven coaching module integrating recommendation and scoring outputs into dynamic, personalised guidance. The Smart Coach monitors user behaviour over time and adapts feedback accordingly, supporting sustained engagement and long-term lifestyle change rather than one-off recommendations.

Integration into the MEDIET4ALL Mobile Application
All WP5 components are fully integrated into a centralised MEDIET4ALL mobile application, co-developed by UoSFAX and JGU. While JGU contributed conceptual and methodological expertise on tailored intervention pathways and decision-support logic, UoSFAX led the technical design and implementation, including AI integration and platform architecture.

The mobile application allows users to:

- Create and manage personal profiles
- Log dietary intake and lifestyle activities
- Receive personalised recommendations and adherence scores
- Access AI-driven coaching feedback
- Monitor behavioural progress over time

This unified architecture avoids fragmentation across tools, simplifies user interaction and supports coherent long-term monitoring. The platform is designed to be scalable and extensible, with planned future enhancements such as computer-vision–based food recognition and real-time voice-based coaching.

Challenges and How They Were Addressed
WP5 faced technical, methodological and ethical challenges related to data integration, personalisation and regulatory compliance. These were addressed through a modular platform architecture, explainable AI models for personalised guidance, longitudinal coaching mechanisms, and close coordination with WP1 to ensure GDPR compliance and alignment with ethical approvals across sites.

Observed and Anticipated Impacts

- **For end users**, the digital ecosystem is expected to enhance engagement, reduce barriers and support sustained adoption of Mediterranean Diet and healthy lifestyle practices through personalised and adaptive coaching.
- **For researchers and intervention teams**, the platform enables structured, continuous and ethically compliant data collection, strengthening scientific rigour and comparability across sites.
- **For project partners and stakeholders**, the scalable and reusable digital infrastructure represents a sustainable asset for future studies and deployments beyond the project's lifetime.

Overall, WP5 demonstrates how AI-supported digital platforms can translate Mediterranean Diet principles into accessible, personalised and scalable interventions, supporting both current MEDIET4ALL objectives and future real-world applications.

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