MELIORA Abstract session

Multimodal Engagement And Sustainable Lifestyle Interventions Optimising Breast Cancer Risk Reduction Supported By Artificial Intelligence (MELIORA) Study

EHMA European Health Management Association

Funded by the European Union

06/06/2025

MELIORA: The problem

- Breast cancer is the leading cause of cancer incidence in Europe and globally

- By 2040, the number of newly diagnosed breast cancer cases is projected to grow by over 40%

- Approximately 30% of cases are linked to modifiable risk factors, suggesting that risk can be reduced through health behaviours

- Gaps in access to personalised, reliable health guidance persist

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MELIORA: Project overview

- 4-year project that aims to develop and implement **novel lifestyle interventions and behavioural modification studies** to **promote sustainable behaviour change for breast cancer prevention**

- 3 target groups:
  - Women at risk of breast cancer
  - Breast cancer patients
  - Breast cancer survivors

- Intervention:
  - Information & guidance
  - Virtual Coach app

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MELIORA: three-phase approach

Knowledge acquisition

Intervention development

Intervention & evaluation

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Introduction to the Virtual Coach App

The Path to a Healthier Lifestyle

- Personalised coaching
  - Recommendations
  - Articles
  - Goals
  - Videos
  - User's data
  - Food logging
  - Physical activity
  - Alcohol
  - Motivational tips
  - Self-monitoring
  - Rewards
- AI-powered
  - Food image analysis
  - Causal Recommendation Engine

Structured learning paths

Structured learning paths
- Personalised course suggestions
- Goal-oriented learning objectives
- Additional resources & materials
  - Articles
  - Videos
  - Quizzes

Welcome to the MELIORA journey

A journey of health and empowerment.

Small, mindful changes can make a big difference in achieving your healthiest self.

Let's take this journey step by step, with supportive insights and encouragement at every turn.

SKIP

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Health Data and Progress Tracking
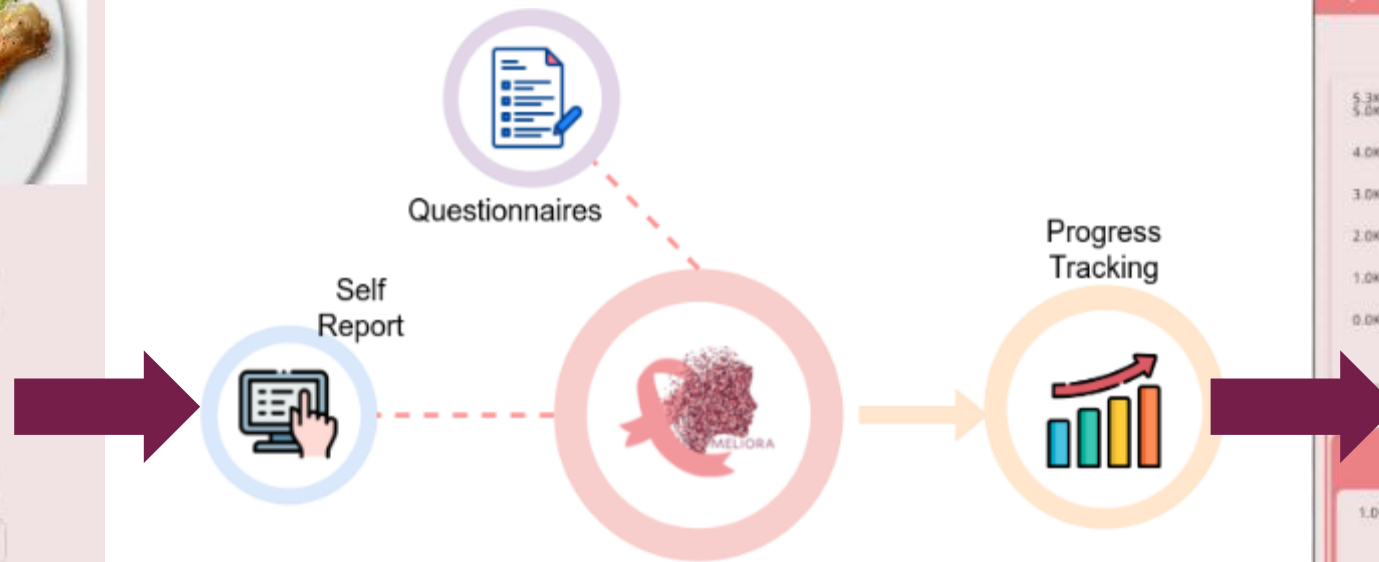
Goal Setting and Gamification
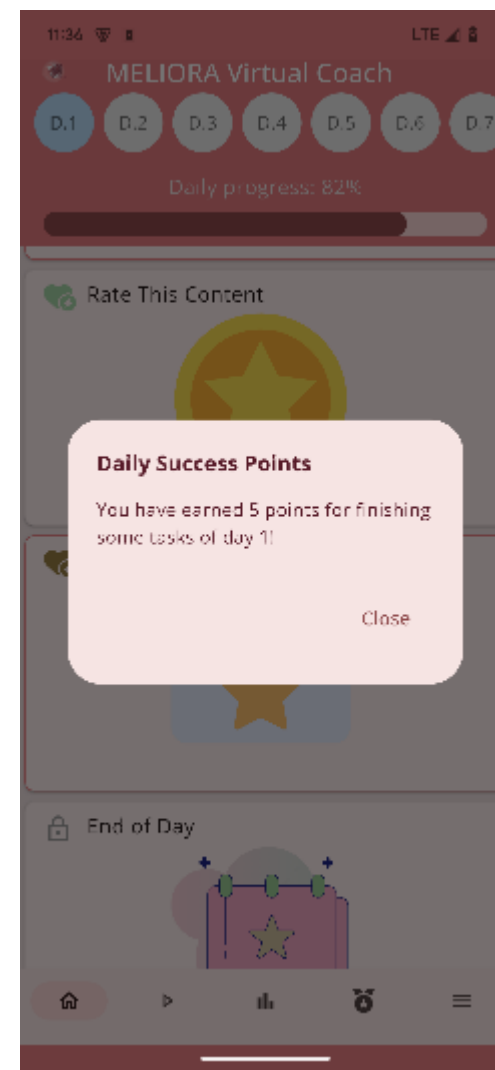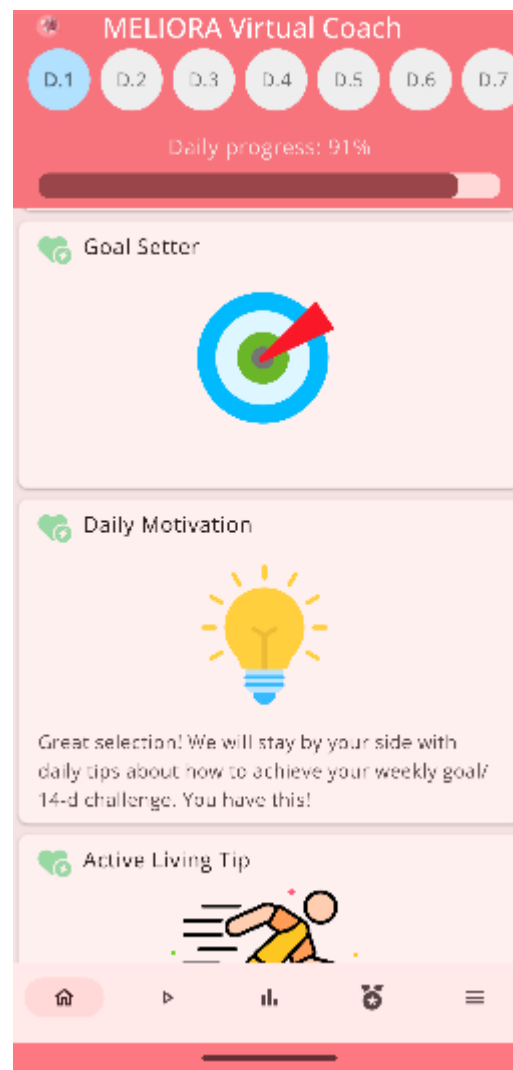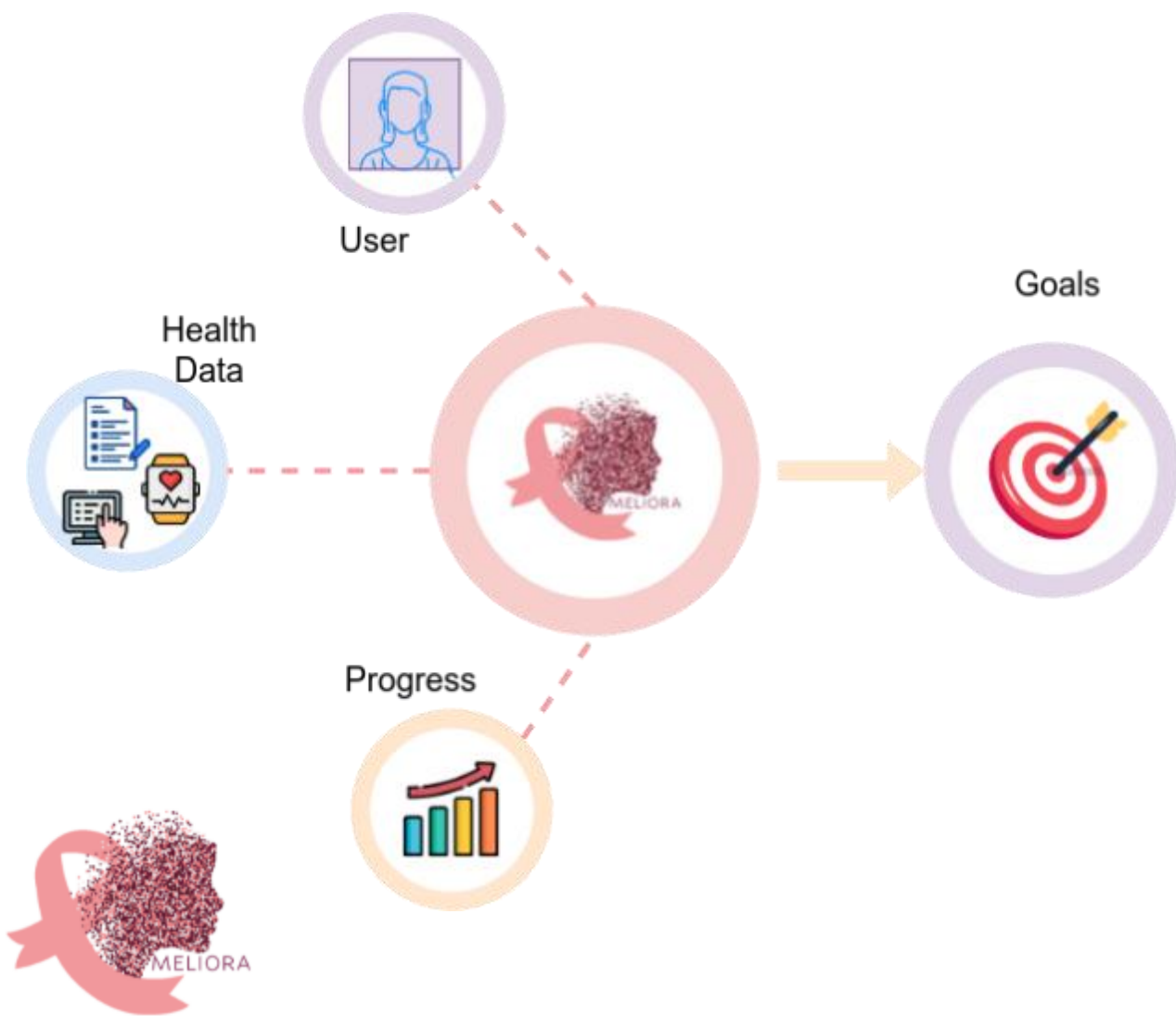
Tutorials and Quizzes

Every user can explore educational material on how to achieve their personal goals.

Each resource includes articles and videos to provide users with the knowledge and guide them on the path to achieving their goals.

Upon completion, users may answer a series of questions to assess their understanding of the material
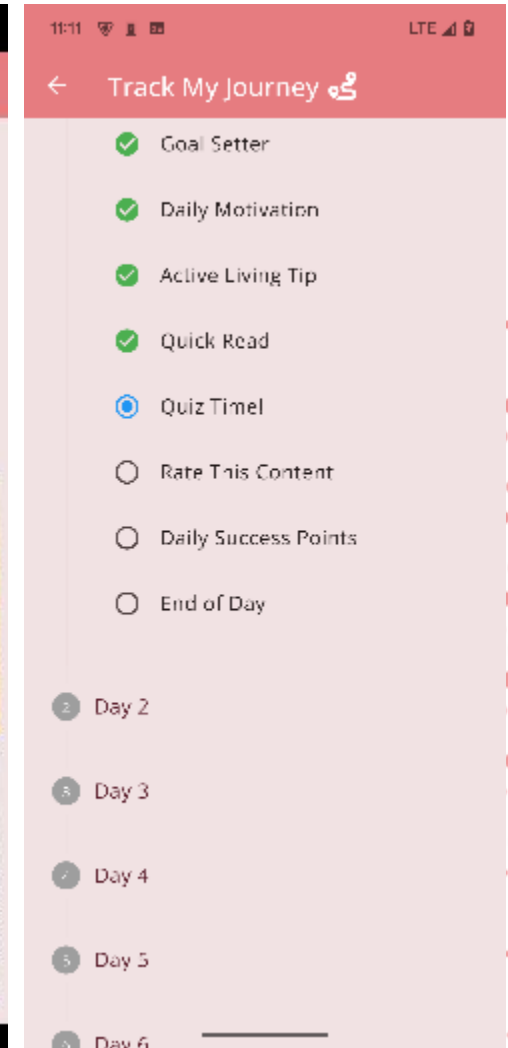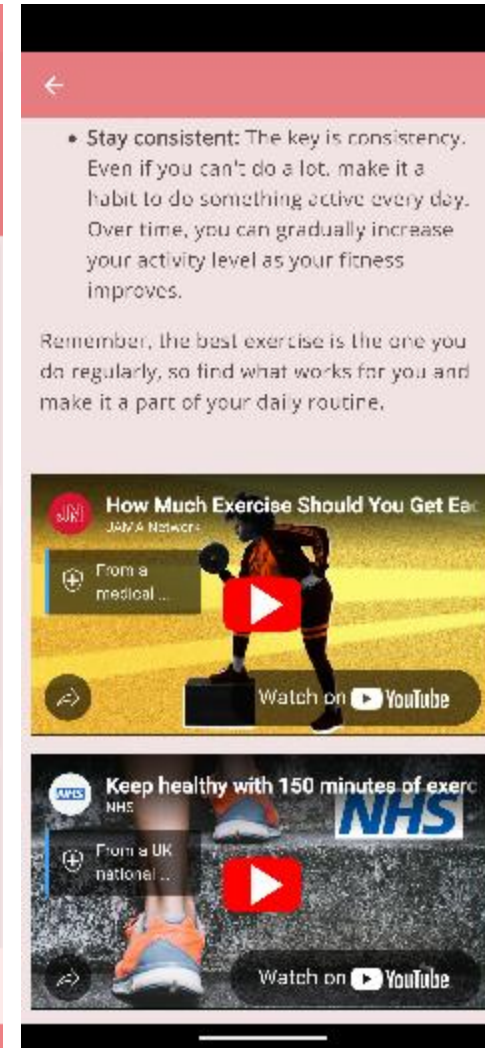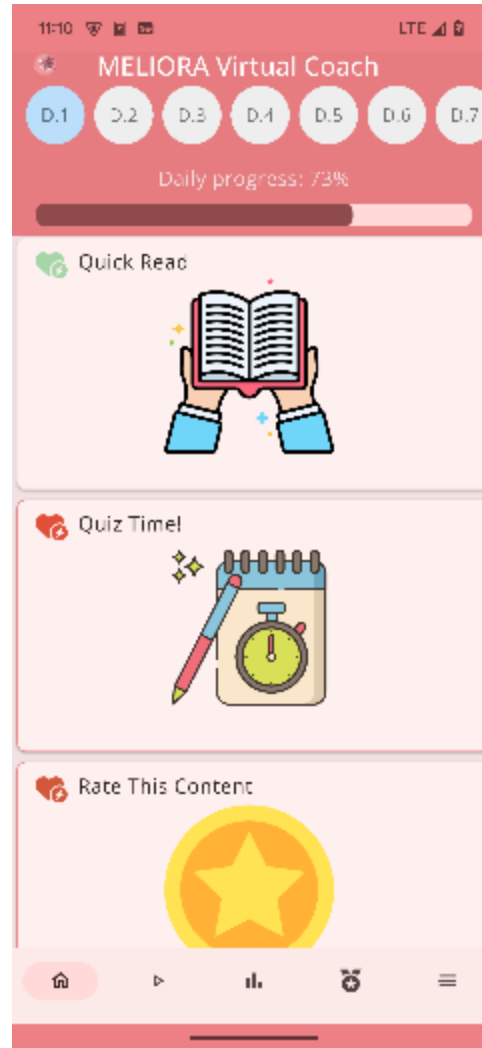
Anticipated Outcomes: Evidence for Change

- Robust evidence base from three targeted literature reviews:
  - Lifestyle guidelines for breast cancer prevention
  - Effective behaviour change techniques
  - Technology-enabled interventions
- Stakeholder-informed, context-sensitive intervention co-designed with input from lived experience
- Expected participant outcomes:
  - Increased physical activity
  - Improved dietary behaviours
  - Reduced alcohol consumption and sedentary time
- Sustainability of behaviour change assessed at 6-month follow-up

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Beyond MELIORA: A Model for Future Prevention

- Innovative AI intervention
- Aims to support behaviour change and prevention
- Anticipated transferability to other at-risk groups
- Informs future health policy and planning

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THANK YOU

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MELIORA EU Horizon Project