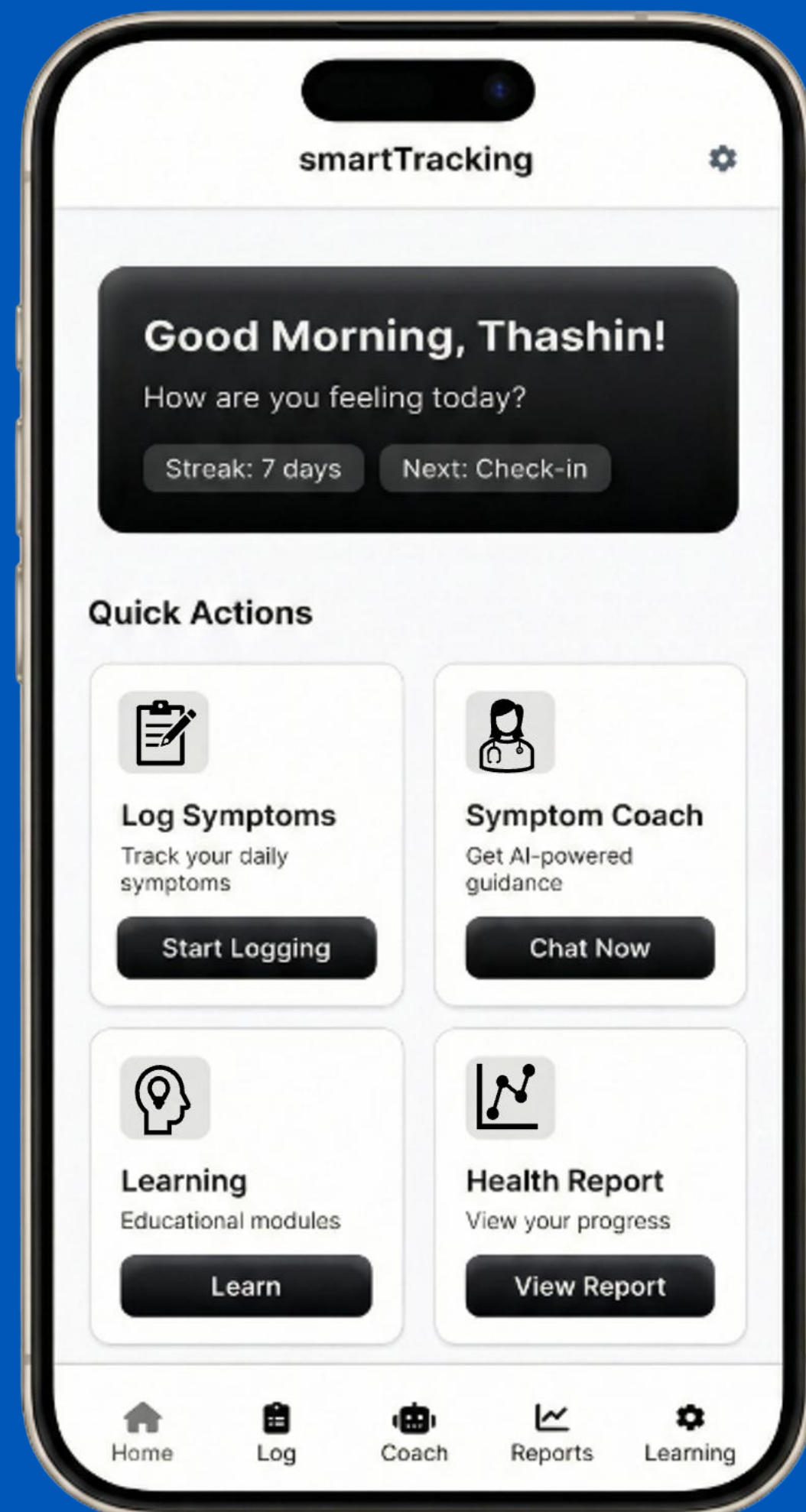




Harnessing health data for personalized prevention: Developing a human centered symptom tracking tool to advance early detection among young adults

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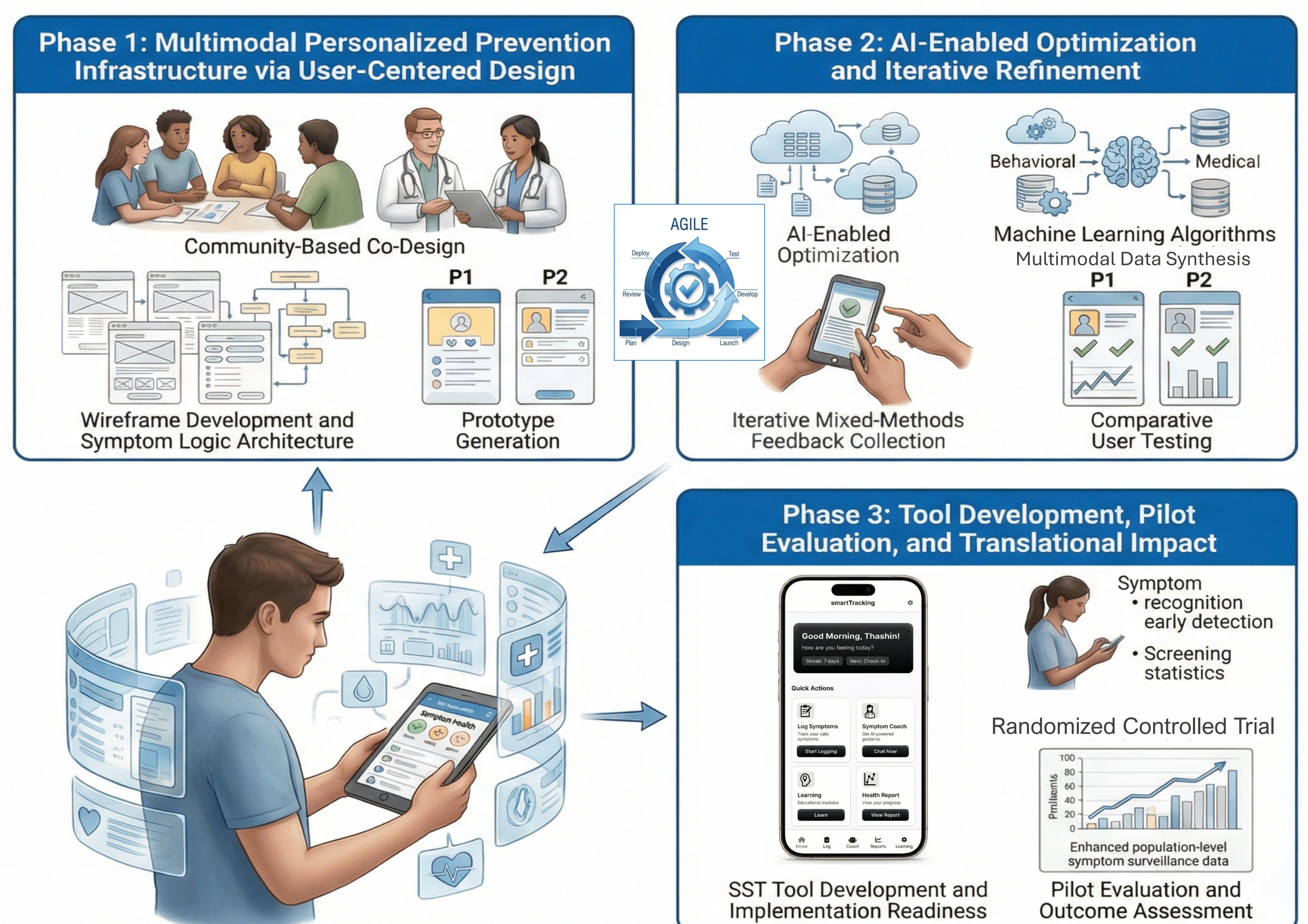
*Your Health
in Your Hands*

Smart Symptom Tracking Development Process

Intro. Early-onset colorectal cancer (EOCRC) is rising rapidly in adults under 45. Yet screening guidelines remain tailored to older populations and rely on clinical access points that younger populations often cannot meet. Young adults face unique early detection diagnostic barriers due to symptom dismissal, communication hurdles, and a lack of personalized risk-appraisal tools.

Project Goal. Develop an innovative, data-driven **Smart Symptom Tracking (SST)** tool that longitudinally translates gastrointestinal (GI) symptoms into clinically-actionable prevention.

Method. To bridge the early-detection gap for young adults (18–44) and build the SST tool, we employed an **8-step, multi-method developmental approach** across three **AGILE-based phases**. This data-driven framework integrates behavioral science and human-centered computing to move from community co-design to AI-optimized clinical readiness:



Project Impact & Key Takeaways

The SST tool leverages AI to iteratively transform longitudinal patient-led symptom logs into a translated clinical health report, empowering young adults to bypass the communication barriers that frequently delay the detection of EOCRC.

Translational Scalability: The AGILE-based pipeline ensures the SST tool is primed for clinical integration, moving **personalized prevention into the pre-diagnostic detection**.

Data-Driven Discovery: Generates a dynamic **big-data resource** to uncover population-level patterns, directly informing the next generation of individual predictive EOCRC models.