

LUNA TWIN

SELECTED PROBLEM STATEMENT ID(S) : GEN01
TEAM NAME : TRINOTYPE
TRACK NAME : GEN AI
INSTITUTION / COLLEGE NAME :
ST.JOSEPH'S COLLEGE OF ENGINEERING

Problem & Context

★ The Problem

- ✓ PCOS causes hormonal imbalance, irregular cycles, inflammation, and metabolic issues.
- ✓ Symptoms fluctuate unpredictably, leaving women confused about “why” their body changes.
- ✓ Existing apps show metrics but **do not explain** internal body effects.
- ✓ PCOS is under-discussed, affects many women, and is often misunderstood.

★ Why It's Important

- ✓ Over 10% of women of reproductive age experience PCOS.
- ✓ Lack of clarity leads to stress, misinformation, and poor self-management.
- ✓ Understanding internal-body impact helps users make better lifestyle decisions.



Cycle



Hormones



Stress



Inflammation

Proposed Solution & Key Assumptions

Solution Approach

- ✓ We propose a 3D PCOS digital twin platform that visualizes internal organ changes based on user inputs.
- ✓ Users select lifestyle inputs in a futuristic form, updating a glowing 3D digital twin in real-time.
- ✓ The 3D digital twin shows dynamic aura and organ effects, to make personal health clear and engaging.

Key Assumptions

- ✓ Users prefer visual, interactive feedback over static charts or numbers.
- ✓ A personalized digital twin provides more **relatable** insights into PCOS management.
- ✓ Visualizing real-time internal organ effects helps users connect lifestyle choices to **health** outcomes.

Inputs → Processing → Outputs



Proposed Solution

Welcome, Sarah

Balanced Bloom Persona
Well-balanced hormones, regular cycles, and lower inflammation. Keep maintaining balanced habits.

Hormone Balance

Cycle Regularity

Stress Index

Energy Level

Inflammation

What-If Simulation

Chat With Twin

Outputs

Feeling calm today!
Your hormones are in balance, and inflammation has reduced.

Innovation & Prototype Overview

What Makes Our Idea Unique & Non-Obvious



Organ-Level 3D PCOS Digital Twin (FIRST OF ITS KIND)

- Visualizes internal body changes in real time—not just numbers



Aura-Based Health Visualization

- Interactive aura glows to show how hormones, inflammation, & stress impact organs



Interactive Organ Feedback (Clickable Digital Twin)

- Tap on brain, chest, or abdomen → shows organ's issues + tips to improve



Persona-Driven Micro-Narratives

- Generates easy-to-understand stories about health changes



What-If Simulations with Future Twin Projection

- Shows outcomes like healing glow & organ improvement

How Our Prototype Supports the Idea

- ✓ **3D Twin Dashboard** showing real-time organ glows + health indicators
- ✓ **Lifestyle Input Form** instantly updates the twin
- ✓ **Clickable Organ Interface** that explains issues + improvement tips
- ✓ **What-If Simulation Page**



How Our Prototype Supports the Idea

- ✓ **3D Twin Dashboard** showing real-time organ glows + health indicators images
- ✓ **Lifestyle Input Form** instantly updates the twin
- ✓ **Clickable Organ Interface** that explains issues + improvement tips
- ✓ **Persona & Narrative Engine** adapts based on health

Impact & Future Scope

★ Intended Users

- ✓ Women experiencing PCOS who want clearer insights into their body
- ✓ Healthcare students, educators, and digital health innovators
- ✓ Wellness platforms offering lifestyle-based PCOS support

★ Expected Impact

- ✓ Makes PCOS more understandable through visual internal-body feedback
- ✓ Reduces anxiety by showing "why" symptoms change
- ✓ Encourages healthier habits through real-time organ-level visualization
- ✓ Empowers users with explainable, personalized insights
- ✓ Bridges the gap between complex physiology and simple narratives

★ Limitations

- ✓ Uses synthetic data, not real medical records
- ✓ Visual organ effects are conceptual, not clinically accurate
- ✓ Lifestyle impact is rule-based, not medically diagnostic



Intended Users

Women with PCOS, healthcare and wellness communities



Expected Impact

Clear PCOS insights, healthier habits, empowered users



Limitations

Synthetic data, conceptual effects, rule-based



Future Improvements

Better models, wearables integration, AI forecasting

★ Future Improvements

- Better models, organ models & 'physiological' (thyroid, diabetes, stress disorders)