TASK-3

1. Requirement Analysis

- Identify target audience: Fitness enthusiasts, athletes, and health-conscious individuals.
- Define key features:
  - Heart rate & oxygen level monitoring
  - Step tracking & calorie burn analysis
  - Sleep tracking & stress management
  - Mobile app integration with real-time analytics
- Set regulatory compliance (FDA, ISO, etc.).
- Finalize budget, timeline, and technical requirements.

---

2. System Design

- **Hardware Design:**
  - Select chipset, sensors (accelerometer, gyroscope, ECG, SpO2, temperature).
  - Design water-resistant casing and ergonomic strap.
- **Software Design:**
  - UI/UX wireframes for mobile app and smartwatch interface.

    - Backend architecture for data processing & cloud storage.
    - Security encryption for user data privacy.

---

3. Implementation (Development)

- **Hardware Manufacturing:**
    - Prototype circuit board and sensor integration.
    - 3D print casing for design validation.
- **Software Development:**
    - Develop firmware for sensor data processing.
    - Create mobile apps (iOS & Android).
    - Implement AI-powered health insights & alerts.
    - Unit testing for hardware-software interaction.

---

4. Integration & Testing

- Integrate hardware with software.
- Conduct various tests:
    - Functional Testing: Step counting, heart rate monitoring accuracy.
    - Performance Testing: Battery life, Bluetooth connectivity.
    - Stress Testing: Long-term durability, water resistance.

- Security Testing: Data encryption & GDPR compliance.

---

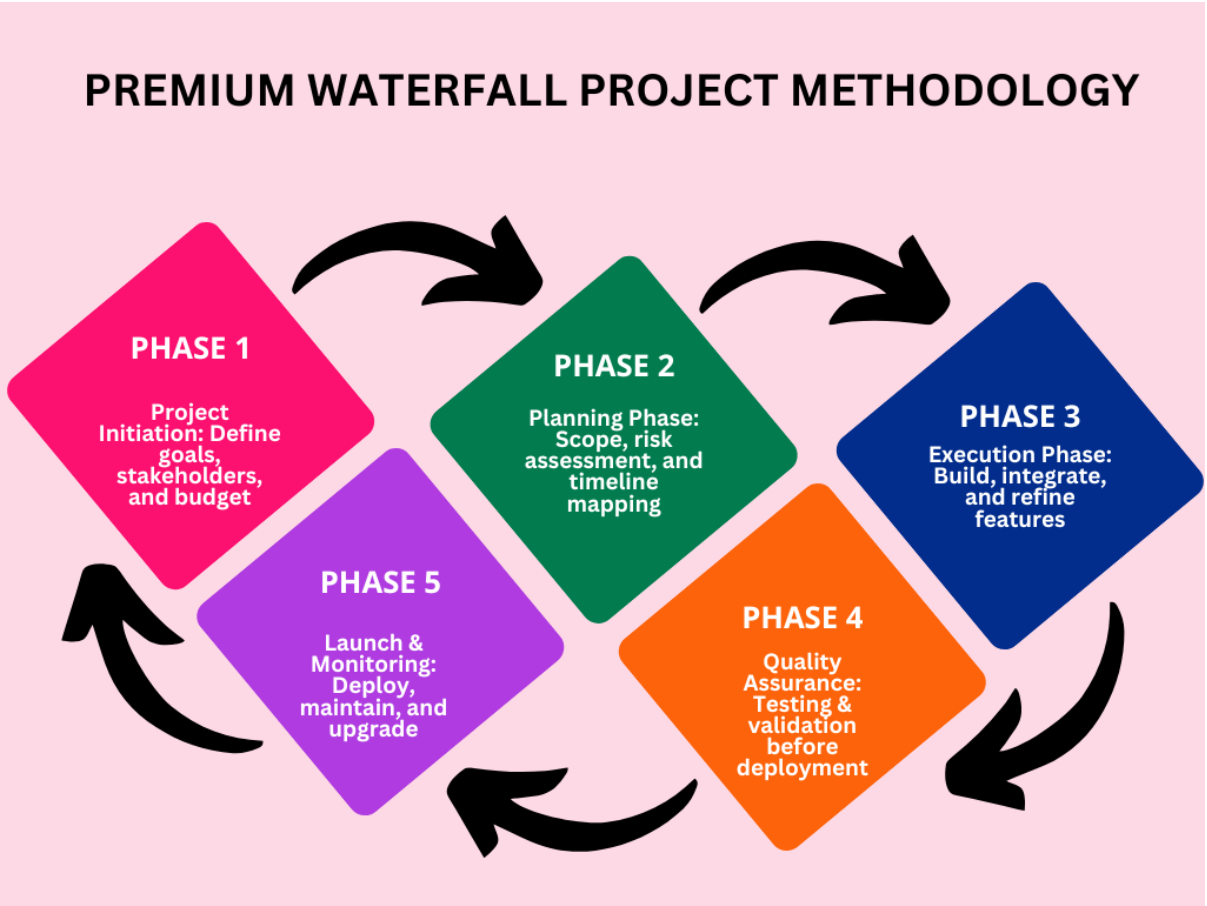
5. Deployment

- Manufacture final product batch.
- Soft launch for beta testers & collect feedback.
- Full-scale production & distribution.
- Launch marketing campaign & retail partnerships.
- Release mobile apps on App Store & Play Store.

---

6. Maintenance & Support

- Continuous firmware updates for improved accuracy.
- Regular app updates for bug fixes and new features.
- Customer support and troubleshooting.
- Gather user feedback for future product versions.


PREMIUM WATERFALL PROJECT METHODOLOGY
PHASE 1
Project Initiation: Define goals, stakeholders, and budget
PHASE 2
Planning Phase: Scope, risk assessment, and timeline mapping
PHASE 3
Execution Phase: Build, integrate, and refine features
PHASE 4
Quality Assurance: Testing & validation before deployment
PHASE 5
Launch & Monitoring: Deploy, maintain, and upgrade