**Hackathon Project Phases Template for FitSync AI**

**Project Title:**

FitSync AI: Real-Time Fitness Adjustments with LLaMA3

**Team Name:**

Team Shouryanga

**Team Members:**

* Raja Babu (Team Lead)
* Akash Reddy
* Harshith
* Dhanush

**Phase-1: Brainstorming & Ideation**

**Objective:**

Develop an AI-powered fitness assistant using LLaMA3 to provide real-time fitness recommendations, adjustments, and insights based on user performance and recovery.

**Problem Statement:**

Many users struggle with:

* Lack of motivation and inconsistent progress.
* Ineffective workout routines that stop yielding results over time.
* Difficulty in tracking recovery and avoiding injuries.

**Proposed Solution:**

FitSync AI solves these problems by:

* **Analyzing workout data** and providing **real-time recommendations.**
* **Adjusting intensity dynamically** based on fatigue and performance.
* **Offering AI-powered coaching** for motivation and community engagement.

**Target Users:**

* Gym-goers and home workout enthusiasts.
* Personal trainers looking for AI-assisted coaching.
* Fitness brands and wearable device users.

**Expected Outcome:**

A fully functional AI fitness assistant that provides personalized workout adjustments, progress tracking, and injury prevention through real-time insights.

**Phase-2: Requirement Analysis**

**Technical Requirements:**

* **Programming Language:** Python
* **Backend:** FastAPI
* **Frontend:** Streamlit Web Framework, React Native (for mobile)
* **AI Model:** LLaMA3 for fitness optimization

**Functional Requirements:**

* Users enter fitness details (age, weight, goals, past injuries, etc.).
* AI dynamically generates and modifies workout plans.
* AI chatbot assists with fitness queries.
* Integration with wearables for real-time performance tracking.

**Constraints & Challenges:**

* Ensuring real-time adjustments based on wearable data.
* Preventing overtraining while maintaining workout efficiency.
* Handling large-scale user data securely.

**Phase-3: Project Design**

**System Architecture:**

1. **User Input**: Users provide fitness goals, preferences, and real-time data.
2. **Data Processing**: AI processes the data, tracking fatigue and progress.
3. **Workout Adjustments**: AI recommends modifications based on energy levels.
4. **User Interaction**: AI chatbot, performance dashboards, and progress tracking.

**UI/UX Considerations:**

* **Intuitive Interface**: Easy-to-use fitness dashboard.
* **Customizable Workouts**: Users can adjust exercise preferences.
* **Dark & Light Mode**: Enhanced visual experience.

**Phase-4: Project Planning (Agile Methodologies)**

| **Sprint** | **Task** | **Priority** | **Duration** | **Deadline** | **Assigned To** | **Dependencies** | **Expected Outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sprint 1 | AI Model Training & API Integration | 🔴 High | 6 hours | End of Day 1 | Raja Babu & Akash Reddy | LLaMA3 Model Setup | AI Model ready for basic workout generation |
| Sprint 1 | Frontend UI Development | 🟡 Medium | 2 hours | End of Day 1 | Harshith & Dhanush | API format finalized | UI with input fields |
| Sprint 2 | Real-Time Workout Adjustments | 🔴 High | 3 hours | Mid-Day 2 | Raja Babu & Akash Reddy | Wearable Integration | Dynamic workout plans |
| Sprint 2 | Error Handling & Debugging | 🔴 High | 1.5 hours | Mid-Day 2 | harshith | API logs | Improved AI accuracy |
| Sprint 3 | Community & Gamification Features | 🟡 Medium | 1.5 hours | Mid-Day 2 | Akash Reddy & Dhanush | AI response handling | Social fitness challenges |
| Sprint 3 | Final Testing & Deployment | 🟢 Low | 1 hour | End of Day 2 | Raja Babu, Akash Reddy, Harshith & Dhanush | Working prototype | Demo-ready project |

**Phase-5: Project Development**

**Technology Stack Used:**

* **Frontend:** Streamlit
* **Backend:** LLaMA3 Model
* **AI Frameworks:** PyTorch, TensorFlow, OpenAI API

**Development Process:**

* Implement AI model and API endpoints.
* Build frontend UI and integrate with backend.
* Optimize AI algorithms for better workout recommendations.

**Challenges & Fixes:**

| **Challenge** | **Fix** |
| --- | --- |
| Handling real-time data from wearables | Optimized API requests to reduce latency |
| Preventing overtraining recommendations | Implemented fatigue-tracking algorithms |
| AI personalization for all fitness levels | Reinforcement learning for better adaptability |

**Phase-6: Functional & Performance Testing**

| **Test Case ID** | **Category** | **Test Scenario** | **Expected Outcome** | **Status** | **Tester** |
| --- | --- | --- | --- | --- | --- |
| TC-001 | Functional | AI generates workout plans | Plans match user fitness levels | ✅ Passed | Harshith |
| TC-002 | Functional | AI detects overtraining risk | AI suggests rest days | ✅ Passed | Akash Reddy |
| TC-003 | Performance | API response time under 500ms | Faster AI recommendations | ⚠ Needs Optimization | Raja Babu |
| TC-004 | Bug Fixes | Incorrect AI predictions | AI corrects intensity levels | ✅ Fixed | Dhanush |
| TC-005 | Final Validation | UI works across all devices | Mobile & Web responsive | ❌ Needs Fixes | Dev Team |
| TC-006 | Deployment Testing | App deployed on AWS | Accessible online | 🚀 Deployed | DevOps Team |

**Final Deliverables**

* ✅ Fully Functional FitSync AI Platform
* ✅ Mobile App (Android & iOS) + Web Dashboard
* ✅ AI-powered Fitness Guidance & Analytics
* ✅ Secure Data Storage & Scalable Architecture

**Final Thought**

FitSync AI isn’t just another fitness app—it’s a **game changer.** By combining AI intelligence with real-time workout adjustments, it empowers users to **stay fit, motivated, and injury-free** while revolutionizing the fitness industry.

**Solution Document Link (Optional from Team):** *[Insert Link Here]*