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Executive Summary

Every year, millions of athletes and fitness enthusiasts face preventable injuries and costly setbacks simply because they lack real-time insight into their body's recovery needs. Coaches, trainers, and individuals alike frequently rely on guesswork and subjective feedback to gauge fatigue, hydration, and risk of overtraining, which can lead to sidelining injuries, very expensive rehab, or a simple loss of competitive edge. These problems aren't limited to professional sports; from weekend gym goers to recreational gym goers, everyone faces the same challenge of balancing training intensity, proper recovery, and injury prevention.

UNLMTD solves this problem by providing AI-powered wearable technology and an accompanying mobile app that delivers personalized workout adjustments and real-time insights into muscle fatigue, hydration levels, sleep quality, and more. By connecting biometric data to smart, actionable recommendations, UNLMTD helps users train more effectively, recover faster, and avoid injuries in the first place. Our device alerts users when they're at risk of overtraining and offers tailored recovery protocols—saving time, reducing medical expenses, and maximizing performance. What makes UNLMTD truly unique is that it goes beyond raw data; it translates those metrics into clear, practical advice that athletes, trainers, and even casual gym-goers can act on immediately. This integrated approach fills a major gap in the wearable tech market which leads to a safer, smarter way to stay active and push personal limits without the high cost of injury downtime.

Venture capital funding would empower our team to accelerate development of our advanced AI algorithms, refine our wearable hardware, and secure strategic partnerships with gyms, coaches, and rehabilitation centers worldwide. With the demonstrated market need, a proven concept validated by dozens of industry interviews, and a passionate team dedicated to sports performance and injury prevention, UNLMTD is poised to become the game-changer in fitness technology.

Personas and User Stories

Casual Gym Goer (Nabeeha)

General Behaviors/Interests

- Works out 2–4 times a week, often after work or class.
- Wants to stay healthy and fit but doesn’t always have a structured workout plan.

Skills

- Focuses on building strength over a gradual period of time
- Has a nutrition plan

Pain Points

- Often unsure if she's recovering properly or pushing too hard during workouts.
- Gets discouraged when she feels sore or tired for days after training.
- Doesn’t always know when to rest or what type of recovery is best for her.

User Stories

As a casual gym-goer, Nabeeha wants a wearable that helps her understand when to push and when to rest, so she can avoid getting injured or burning out. She goes to the gym after work or class, and sometimes doesn't know if she's doing too much or not enough.

She sometimes feels super motivated, but then gets really sore or tired and ends up skipping a few days. Other times, she goes to the gym and just goes through the motions because she’s not sure what her body needs. She doesn't have a coach and just watches YouTube workouts and does whatever she feels like doing.

If UNLMTD could display things like, “You’re still recovering—try light cardio today,” or, “You’re good to go—hit that strength session,” she'd feel way more confident. She doesn't want something complicated—just clear, simple advice that helps her stay on track, stay healthy, and feel good about her routine.

Amateur/Professional Athlete (KC)

General Behaviors/Interests

- Trains 4–6 times per week with a structured workout plan.
- Participates in local competitions or athletic events.

Skills

- Experienced in following structured training programs, including strength, conditioning, and sport-specific drills.
- Actively uses wearables or apps to track metrics like heart rate, sleep, or mileage.
- Familiar with recovery tools like foam rolling, cold plunges, and basic mobility work.

Pain Points

- Has access to lots of training data but struggles to translate it into clear recovery decisions.
- Often trains through fatigue out of habit or pressure, risking long-term injury.
- Doesn't always know the difference between soreness, fatigue, and early signs of injury.
- Needs recovery guidance that matches their individual schedule, sport, and intensity—not generic advice.

User Stories

As an amateur athlete, KC wants a wearable that can help him make smarter decisions about recovery and performance—not just collect data, but actually interpret it for him. He already tracks my training closely, but sometimes can't tell when he's overreaching or when it's safe to push harder.

There have been times he's ignored small signs of fatigue and it led to soreness, burnout, or even injury, setting him back for weeks. He wants something that can act like a digital coach, giving him clear, real-time feedback like, "take it easy today," or "you're fully recovered—go for it."

If UNLMTD could help him understand how his body is responding to training he'd be able to train more consistently, avoid setbacks, and peak when it really counts.

Personal Trainer / Coach (Andres)

General Behaviors/Interests

- Designs and monitors fitness plans for multiple clients.
- Values data-driven insights to optimize client performance.
- Frequently checks in on client progress and adjusts routines accordingly.

Skills

- Experienced in building and adapting individualized training plans.
- Proficient with tools like Trainerize, MyFitnessPal, and wearable data dashboards.
- Reads basic performance metrics (heart rate zones, training volume, HRV) to guide programming.
- Communicates effectively and tailors feedback based on client personality and goals.

Pain Points

- Relies on client self-reporting, which can be inconsistent or inaccurate.
- Hard to objectively track client recovery or fatigue without advanced tech.
- Struggles to scale personalized guidance across a larger client base.
- Feels pressure to deliver results while preventing overtraining and injury.

User Stories

He wants to access his clients' real-time recovery and fatigue data to make smarter and safer decisions about their training, especially when they show up tired or say they feel "fine," but their bodies might tell a different story.

He works with many clients, each recovering at different speeds. Right now, he mostly relies on conversations or visual cues, but that doesn't always tell the full story. Sometimes he pushes a client too hard without realizing they're still recovering, which can lead to burnout or injury.

If he had a tool like UNLMTD, he could see things like hydration status, muscle fatigue, or signs of overtraining before they become a problem. He could tailor each session with more confidence, build trust with my clients, and protect their long-term progress.

Data Definitions

1. User Account Description: Represents any individual who creates an account in the UNLMTD system, including casual gym-goers, athletes, personal trainers, coaches, and physical therapists.
Key Attributes:

- User ID: A unique identifier for each account.
- Name: The user's full name.
- Email: Contact email used for login and communication.
- Role: The user's role in the system (e.g., Athlete, Trainer, Coach, Therapist).
- Profile Settings: Preferences like notification preferences, privacy settings, etc.

2. Wearable Data Description: Represents biometric measurements gathered from the wearable device or a linked fitness tracker(most likely a watch)

Key Attributes:

- Timestamp: When the measurement was recorded.
- Heart Rate: Beats per minute captured in real time or at intervals.
- Hydration Level: Approximation of hydration based on sensor input or user input.
- Muscle Fatigue Indicator: An AI-derived metric indicating level of strain or fatigue.
- Movement/Steps: General activity count or movement tracking.
- Usage: Basis for generating alerts, workout recommendations, and injury risk assessments. Shared with the user's profile and used by AI algorithms to produce personalized insights.

3. Workout Session Description: A recorded event of the user engaging in exercise, which can be structured (e.g., a planned workout) or unstructured (free-form training).

Key Attributes:

- Session ID: Unique identifier for each workout.

- Start/End Time: Timestamp for when the workout began and ended.
- Workout Type: Type of exercise (e.g., cardio, weightlifting, team sport, rehabilitation drills).
- Intensity Level: Measured or user-reported intensity scale.
- Calories Burned
- Usage: Allows the system to correlate biometric data with exercise events. Provides a basis for analyzing historical trends, generating progress reports, and formulating AI-driven suggestions.

4. Recovery Plan & Recommendations Description: Personalized guidance generated by the AI to help the user optimize rest, nutrition, and rehab exercises, reducing the risk of injury.

Key Attributes:

- Plan ID: Unique identifier for a particular plan or recommendation set.
- Recommended Actions: Specific steps, such as “rest day,” “light cardio,” “stretch routine,” “increase water intake,” etc.
- Time Frame: Suggested duration for each recommendation
- Priority Level: Indicates urgency (e.g., “critical” if injury risk is high).
- Usage: Displayed in the user’s app interface or trainer dashboard. Updated dynamically based on user’s Wearable Data and Workout Sessions.

5. Alerts & Notifications Description: System-generated messages that prompt the user or a trainer about critical changes or risk factors, such as high fatigue or dehydration.

Key Attributes:

- Alert ID: Unique identifier for each alert.
- Alert Type: Categories like “Overtraining Risk,” “Hydration Reminder,” “Excessive Heart Rate,” etc. Severity: Level of urgency (e.g., low, medium, high).

- Timestamp: When the alert was triggered.
- Related Data: Reference to the workout session or biometric reading that caused the alert.
- Usage: Immediate feedback loop to encourage user action (e.g., pause workout, hydrate). Helps coaches/therapists intervene quickly if a client is at risk.

7. Progress Logs & Reports Description: Historical record of a user's performance, recovery, and compliance to recommended plans.

Key Attributes:

- Log ID: Unique identifier for each progress entry.
- Date / Range: Specific period the report covers (daily, weekly, monthly).
- Data Points: Summaries of workout sessions, average fatigue scores, hydration patterns, etc.
- AI Analysis: Optional descriptive feedback or patterns detected (e.g., "You tend to dehydrate more on evening workouts").
- Usage: Helps users and coaches track improvements, spot injury trends, and measure compliance with recovery plans. Useful for progress reviews, performance optimization, and medical consultations.

UNLMTD Software Requirements

7. Functional Requirements

7.1 User Registration & Authentication

The system shall allow users to register an account using an email and/or phone number.

The system shall support two-factor authentication via SMS verification or app-based codes.

The system shall allow users to log in, log out, reset passwords, and manage account information.

7.2 Wearable Device Integration

The system shall connect with the UNLMTD wearable device via Bluetooth.

The system shall receive real-time data from the wearable, including:

- Muscle fatigue (via EMG or motion sensors)
- Heart rate and HRV
- Hydration level (via sensor or user input)
- Movement patterns (acceleration, deceleration, direction changes)

7.3 Real-Time Recovery Monitoring

The system shall analyze biometric data in real time and update the user dashboard accordingly.

The system shall generate alerts and recommendations when recovery thresholds are crossed.

The system shall display a recovery score or status based on multiple inputs.

7.4 AI-Driven Recommendations

The system shall generate customized workout or recovery suggestions based on a user's data history.

The AI engine shall learn from past sessions and adapt feedback based on trends.

The system shall allow users to input subjective feedback to further refine recommendations.

7.5 User Dashboard

The system shall present a visual summary of key metrics.

Users shall be able to filter and view historical performance data.

7.6 Coach / Trainer Access (Optional)

The system shall allow athletes to share their recovery data with a coach or trainer.UNLMTD Software Requirements

Coaches shall be able to view multiple athletes' dashboards and receive alerts or recommendations.

Coaches shall be able to adjust training plans or make comments visible to the athlete.

7.7 Notifications & Alerts

The system shall send push notifications or in-app alerts for fatigue, hydration, and recovery targets.

Notifications shall be customizable by the user.

7.8 Profile Management

The system shall allow users to update personal information, training goals, and health history.

Users shall be able to customize preferences for notifications, language, and display settings.

8. Non-Functional Requirements

8.1 Usability

The application must provide a clear and intuitive user interface.

Users should access personalized recommendations within 5 seconds of opening the app.

8.2 Reliability

The system must maintain at least 99% uptime and ensure accurate data storage.

Real-time alerts must be consistent and dependable.

8.3 Performance

Data sync latency should not exceed 1 second.

The system should support up to 10,000 active users simultaneously.

8.4 Scalability

Must support multiple user roles and future feature expansion.

8.5 Security

All data must be transmitted securely using HTTPS/TLS.

Two-factor authentication or SMS verification must be used for login.

8.6 Interoperability

Must support integration with popular fitness wearables via open APIs.UNLMTD Software Requirements

App should work across iOS, Android, and web platforms.

8.7 Maintainability

The codebase must be modular and well-documented.

Feature updates should be deployed with minimal downtime using CI/CD pipelines.

High-level system requirement

1. Front-End
    a. NextJS (JavaScript/TypeScript) for building interactive web interfaces. We can use libraries like mantine, Chakra, Ant design, and MUI
    b. React Native for native mobile apps on iOS/Android.
2. Back-end
    a. NextJS API requests, routing, and server logic.
    b. MongoDB database, non-relational
3. Cloud Hosting
    a. We can use AWS services if we use their DynamoDB as they work well together
    b. Supabase for authentication, push notifications, and app analytics if needed.
4. AI
    a. OpenAI or Google's Gemini API's as well as training our own models in the future
5. Device integration
    a. Bluetooth or proprietary SDKs to gather real-time heart rate, movement, and hydration sensor data from the UNLMTD wearable
    b. Mobile Integration to transmit sensor data to the cloud in real time or via scheduled syncs.
6. Security & Authentication
    a. We can send codes to UNLMTD user's phones. (DUO)

Comparison

	Value Proposition	Value Proposition	Value Proposition	Value Proposition
UNLMTD	85% of users reported feeling more in control of their recovery (based on interviews).	Reduces need for extra recovery tools (ice baths, massage guns), potentially saving $50–100/month.	Coaches report saving time by using automatic fatigue tracking instead of manual check-ins.	Reduces injury risk and improves performance consistency (based on coach interviews + recovery science).
Competitor #1 (WHOOP)	High satisfaction, but primarily targeted at general wellness.	Subscription cost adds up over time.	Offers recovery scores, but lacks sport-specific fatigue data.	No team dashboard or in-game performance insights.
Competitor #2 (Oura Ring)	Well-rated sleep tracking, less useful during active training.	Expensive upfront + subscription.	Focused on recovery, but doesn't track sport-specific load.	Lacks athletic application beyond lifestyle tracking.
Competitor #3 (STATsports)	Good tracking for movement/load, but limited to pro/college teams.	High cost ($300–500/unit + software fees).	Tracks workload but not hydration or muscle fatigue.	Good for external load, but no internal recovery feedback.

UNLMTD stands out because of our sport-specific, real-time feedback given to users in a simple and efficient way, offering suggestions to their hydration, workouts, sleep patterns, and nutrition for the week. With our customization options and easy-to-use dashboard, UNLMTD provides tailored feedback to users in just seconds which helps users save up to 2 hours of planning. In unison with gyms, personal trainers, and coaches, UNLMTD can increase revenue for struggling businesses as well as help organizations track player statistics for optimized performance.