StemSplitz

Al-Powered Fitness & Rehab Coach

Personalized, science-based training plans.

Rehab-safe. Al-optimized.

Where **exercise science meets generative AI** to deliver personalized training and rehabilitation programs at unprecedented scale.



\$96B Global Fitness Market

Yet personalized, science-based coaching remains inaccessible to most

Cookie-Cutter Solutions

Existing fitness apps provide generic, one-size-fits-all plans that ignore individual biomechanics, injury history, and specific goals.

Accessibility Gap

Quality personal trainers and physiotherapists are effective but expensive (\$50-150/session) and geographically limited.

Al Safety Issues

Generic AI chatbots create unsafe workouts lacking exercise science foundation, potentially causing injury.

Rehab-Performance Gap

No existing platform bridges rehabilitation and performance training, forcing users to choose between safety and optimization.



The Solution

Data-Driven Al Coaching at Scale

StemSplitz is the first consumer platform to combine evidence-based exercise science with advanced AI personalization for both performance and rehabilitation.



Evidence-Based Foundation

Built on ACSM and NSCA guidelines with 126+ curated exercises, each with detailed metadata, biomechanical analysis, and safety protocols.



Al Personalization Engine

Powered by Gemini 1.5 Flash, our Al considers gender, experience, goals, equipment, injuries, and frequency to generate optimal training plans.



Dynamic Rehab Integration

Revolutionary pain-safe substitution system that maintains training stimulus while avoiding problematic movement patterns.



Instant Scalability

Generate personalized, scientific training plans in seconds, making expert-level coaching accessible to millions.



Technical Architecture

Al & Data Infrastructure

Structured Exercise Database

126+ exercises with JSON metadata: muscle groups, biomechanics, equipment needs, set/rep ranges, contraindications, and video references.

Gemini 1.5 Flash Integration

Advanced prompt engineering ensures AI adherence to exercise science principles while maintaining personalization flexibility.

Smart Equipment Allocation

Algorithm optimizes exercise selection: barbells for progressive overload, cables for constant tension, bands for activation.

System Architecture



Accessibility-First Design

High-contrast UI, large fonts, skip-links, and screen reader optimization ensure universal usability across all demographics.

Export Capabilities

Generate print-ready training sheets and digital formats for offline use and integration with existing workflows.



Core Features



© Al Plan Generator

Personalized training plans considering gender, experience level, goals, available equipment, injury history, and weekly frequency.

Supported Goals: Hypertrophy, Strength, Endurance, Fat Loss, Sports Performance



Rehab Mode

Industry-first pain-aware exercise substitution system that maintains training stimulus while avoiding problematic movements.

Pain Points: Knee, Shoulder, Lower Back, Wrist, Hip, Ankle



Calorie Calculator

Three scientifically-validated formulas (Harris-Benedict, Mifflin-St Jeor, Katch-McArdle) for precise metabolic calculations.

126+

Curated Exercise Database

Personalization Parameters

Why We're Different

First Rehab-Performance Bridge

Unlike existing platforms that focus exclusively on either fitness OR rehabilitation, StemSplitz seamlessly integrates both domains with scientific rigor.

vs. Fitness Apps (MyFitnessPal, Nike Training)

- → **Scientific Foundation:** Evidence-based vs. marketing-driven
- → Injury Awareness: Pain-safe substitutions vs. generic warnings
- → True Personalization: 15+ parameters vs. basic demographics
- → Exercise Database: Curated with metadata vs. video collections

vs. Al Fitness Bots (ChatGPT, etc.)

- → Domain Expertise: Exercise science trained vs. general knowledge
- → Safety Protocols: Built-in contraindications vs. generic disclaimers
- → **Structured Output:** Formatted plans vs. conversational advice
- → **Equipment Intelligence:** Smart allocation vs. random selection



B2C Market

Primary Users

Fitness Enthusiasts: 25-45 years old, college-educated, income

\$50K+, seeking personalized, science-based training

Rehabilitation Population: Post-injury individuals needing safe

return-to-exercise protocols

Busy Professionals: Time-constrained individuals wanting efficient,

expert-level coaching

73M

US Adults with Gym Memberships

B2B Market

Institutional Clients

Universities: Exercise science programs, research applications,

student training tools

Healthcare: Physical therapy clinics, sports medicine centers,

rehabilitation hospitals

Fitness Industry: Gyms, personal training studios, corporate

wellness programs

\$4.5B

Physical Therapy Market



Subscription Tiers

Free Tier

Limited Al plans, basic calorie calculator

User acquisition & market validation

Pro Plan \$9.99/mo

Unlimited Al plans, advanced analytics, full rehab library, export capabilities

Team Plan **\$24.99/mo**

Family accounts, trainer tools, group management (up to 5 users)

B2B & Partnerships

Enterprise Licensing

Universities, clinics, gyms - bulk licenses starting at \$500/mo

API Marketplace

StemSplitz API for third-party integration - usage-based pricing

Strategic Partnerships

Wearables integration (Garmin, Apple), nutrition platforms, telehealth systems

\$2.4M



Market Opportunity

Total Addressable Market

\$96B

Global Fitness Market

\$259B

Digital Health Market

\$15.6B

Al in Healthcare

Market Trends

- → Al Adoption: 73% of healthcare organizations investing in Al by 2025
- → Personalization Demand: 91% of consumers prefer personalized experiences
- → Digital Health Growth: 38% CAGR through 2028
- → Remote Rehabilitation: \$3.4B market growing 23% annually

Serviceable Markets

\$12B

Digital Fitness SAM

\$1.2B

Al-Powered Fitness SOM



Phase 1 (Months 1-12)

Core Platform Enhancement

Advanced analytics dashboard, exercise video library, mobile app development

Wearables Integration

Real-time biometric data for adaptive training load management

Phase 2 (Year 2-3)

Al Evolution

Machine learning models for exercise selection optimization, outcome prediction

Clinical Integration

FDA-cleared rehabilitation protocols, healthcare provider dashboards

Phase 3 (Year 3-5)

Global Expansion

Multilingual platform, international exercise guidelines, cultural adaptations

Ecosystem Platform

Nutrition Al integration, sleep optimization, comprehensive wellness coaching

Research Partnerships

University collaborations, clinical trials, peer-reviewed publications

1M+

Global Users by Year 5

STEMSPLITZ

X Competitive Landscape

Platform	Al Personalization	Exercise Science	Rehab Integration	Accessibility	Market Cap
StemSplitz	V V	V V	V V	111	Startup
MyFitnessPal	×	✓	×	✓	\$475M
Freeletics	✓	✓	×	×	\$100M
Future/Trainiac	4 4	✓	×	×	\$325M
BetterPT	X	4 4	4 4	✓	\$85M

6 Our Unique Position

Blue Ocean Strategy: StemSplitz is the only platform combining advanced AI personalization with clinical-grade exercise science and rehabilitation expertise. We're creating a new category: Al-Powered Therapeutic Fitness.



The Intersection of AI, Exercise Science & Healthcare

StemSplitz represents a \$10B+ market opportunity at the convergence of three massive trends: Al personalization, digital health, and preventive medicine.

Partnership Opportunities

Academic Collaboration

Joint research on Al-driven exercise prescription, clinical outcome studies, student training programs

Industry Partnerships

Healthcare systems integration, wearables partnerships, clinical validation studies



500+

Beta Users (First Month)

4.8/5

User Satisfaction Score