

Product Requirements Document (PRD)

Product Name: ProJersey

Project Type:

AI-Powered Direct-to-Consumer (D2C) Sports Kit Design and Fulfillment Platform

1. Executive Summary

ProJersey is a next-generation AI-powered platform that allows individuals, teams, and organizations to design custom sports jerseys and kits. Users can generate high-end production-ready mockups through a prompt-based UI, customize them with logos, names, numbers, and purchase the physical product directly. The platform integrates a robust frontend UX, AI design backend, e-commerce, and fulfillment logic into a seamless D2C pipeline.

2. Core Functional Modules

2.1. User Authentication and Identity Management

- OAuth via Google, Apple, or Email
- Anonymous session tracking with cookie/session fallback
- Account creation required **before ordering**, optional before image generation
- Dashboard access for authenticated users only

2.2. Design Prompt System

- Unified design form
 - Dropdown for sport: Soccer, Basketball, Cricket, Rugby, Esports
 - Base set selector: Jersey, Jersey+Shorts, Jersey+Shorts+Socks, Full Kit (headwear)
 - Color pickers (primary/secondary)
 - Sleeve, collar, fit, material options per sport
- Dynamic prompt generation via ChatGPT API
- 6 free prompt generations/month (non-carrying)
- Subscription tier: \$9/mo, unlimited generations, 15% discount, faster queue

2.3. Image Generation Backend

- Prompt sent to fine-tuned Flux 1.1 Pro Ultra hosted on Replicate
- ControlNet applied for consistency (e.g., canny edges)
- Optional logo/text overlay via Control Layer
- Async image generation with UI loader, retry/fallback system
- Placeholder system for slow renderings ("Your kit is cooking...")

2.4. Kit Editor Module

- Figma-like editor:
 - Add name, number, logo via drag-drop
 - Zones: Chest (L/R), Back, Sleeves
 - Editable preview canvas (front/back toggle)
 - Final edits saved to session before ordering

2.5. Product Page & Ordering System

- Unified product page with:
 - "Single" vs "Team" order toggle
 - Male/Female/Youth size charts by sport
 - Dynamic logic: Only show relevant inputs for selected sport
 - Quantity selection for each size (editable matrix)
 - Dynamic add-ons: Socks, headwear, packaging, etc.
 - Smart pricing calculation based on selections
 - Order summary (PDF generated, stored, emailed)

2.6. Checkout & Fulfillment

- Stripe integration for payments
- Auto-email with receipt + design summary
- Manual fulfillment backend:
 - Order status (Pending, Production, Shipped)
 - Status editable by admin team
 - Tracking ID update support

2.7. Dashboard

- Tabs: Designs | Orders | Favorites | Subscriptions
- View/edit/save previous designs
- Download PDFs of past orders
- Reorder from saved kits

2.8. Admin Panel

- View all orders & designs
 - Update statuses
 - Monitor prompt/API usage
 - Export high-performing prompts (for training future model)
 - Analytics: Most popular designs, sports, SKUs
-

3. User Flow Overview

1. User lands → Fills out design form
 2. System generates prompt → Flux generates front & back images
 3. User customizes kit (logo, name)
 4. User previews, selects quantities
 5. Checkout (login if not already)
 6. Payment → Order summary (PDF) → Admin notified
 7. Status updates + shipping tracked
-

4. Tech Stack

Frontend:

- React + TailwindCSS
- Zustand for state management
- Figma-like drag/drop library (e.g. Konva.js or Fabric.js)
- Mobile optimized layout

Backend:

- FastAPI (Python)
- Replicate API (Flux model)
- Stripe SDK
- Postgres DB
- Firebase for auth/session mgmt

Hosting:

- Replit (initial MVP)
- Replicate (model hosting)
- Custom Render fallback
- AWS/GCP for scale (future)

5. UX Guidelines

- Brand Tone: Clean, modern, performance-oriented
 - Primary Font: Sora / Inter
 - Color Palette: Black, white, neon accent (green/yellow)
 - UX:
 - Animated loaders ("Your design is warming up")
 - Micro-interactions: hover, active states
 - Progress bar for image creation
 - Light mode/dark mode toggle (optional)
-

6. Monetization & Growth Strategy

6.1. Subscription Tier

- \$9/mo
- Unlimited generations
- 15% discount
- Priority rendering

6.2. Free Tier

- 6 image generations/month
- No discount
- Delayed queue
- CTA to upgrade shown after usage limit

6.3. Bulk & B2B

- Discounts by quantity tier
- White-label mode
- CSV order uploader
- Access to custom branding modules

6.4. Referral

- Share link = 1 free generation per signup
- 3 referrals = 1 order discount coupon

7. Security & Scalability

- Prompt validation & logging (company-side)
- User-generated logos scanned (virus/malware scan if uploaded)
- Secure payment and data storage
- Caching layers for popular SKUs/prompts

8. Future Enhancements

- AR try-on using WebAR
- Marketplace for public designs
- NFT-proof-of-ownership for unique kits (exploratory)
- 3D Kit Viewer for advanced UX

Final Note:

ProJersey is not just a customization tool, it's a vertically integrated AI-driven sportswear experience designed to streamline idea-to-product conversion in minutes.