Product Requirements Document for PumpBeats : Music Streaming Application

Product Requirements Document (PRD) for PumpBeats

Platform: Android
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Date: 17-03-25

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1. Executive Summary

Purpose:
PumpBeats is a music streaming application specifically designed for gym-goers, athletes, and fitness enthusiasts. The application aims to provide curated playlists and music that align with various workout types, intensity levels, and individual user preferences. Notable features include adaptive BPM (beats per minute) syncing, motivational audio cues, workout-specific playlists, and personalized music recommendations based on workout habits.

Target Audience:

- Fitness enthusiasts who engage in regular workouts and require high-energy playlists.
- Casual gym-goers seeking music that complements different workout types.
- Users who find motivation from music during challenging workouts.
- Individuals utilizing fitness tracking devices and seeking music that responds to real-time data.

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2. Goals and Objectives

Primary Goal:
To develop a music streaming service that enhances user workouts by providing music that adapts to workout intensity, offers motivation, and facilitates seamless user interaction with curated playlists based on fitness activities.

Key Objectives:

- **Engagement**: Maintain user interest through dynamic and curated playlists, adaptive BPM, and motivational content.
- **Personalisation**: Offer music recommendations based on workout history, preferences, and real-time data such as heart rate or pace.
- **Retention**: Promote daily usage by developing features that align with the user's workout schedule, preferences, and fitness goals.
- **Monetisation**: Implement a premium subscription model that provides additional features such as offline mode, exclusive playlists, and early access to new functionalities.

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3. User Personas

- **Core User**: *Fitness Fanatic*
  - Age: 18-40
  - Engages in workouts 5-6 times per week, primarily focusing on HIIT, weight lifting, and cardio.
  - Requires music that matches their pace and sustains energy throughout workouts.
  - Frequently modifies playlists based on workout type.
- **Secondary User**: *Casual Gym-Goer*
  - Age: 25-45
  - Works out occasionally, primarily preferring low-intensity exercises such as yoga or light cardio.
  - Appreciates motivational playlists to ease into workout routines.
- **Newbie**: *New Gym Enthusiast*
  - Age: 18-30
  - Recently joined the gym and requires guidance in selecting appropriate playlists based on workout type.
  - Desires easy-to-follow music that gradually increases in intensity.

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4. Product Features

Core Features:

1. **Workout-Specific Playlists**:
   - Curated playlists for various workout categories (e.g., HIIT, strength training, cardio, stretching).
   - Categories organized by intensity levels (low, medium, high).
   - Integration with workout tracking features to dynamically suggest music for each activity.
2. **Adaptive BPM Tracks**:
   - Songs automatically adjust their beats per minute (BPM) to align with the user’s pace.
   - BPM synchronized with workout intensity; for instance, BPM increases during running and decreases for cooling down.
   - Integration with fitness wearables (e.g., heart rate monitors, smartwatches) to measure real-time data for BPM adjustments.
3. **Personalised Music Recommendations**:
   - A machine learning algorithm that suggests music based on workout history, listening preferences, and real-time workout conditions (e.g., mood, type of exercise).
   - Integration with a user’s workout log to recommend playlists tailored to their routine.
4. **Offline Mode**:
   - Users can download playlists and tracks for offline listening, particularly beneficial in gyms with poor connectivity.
   - Cache tracks locally, allowing users to store playlists for offline use with the option to sync when online.
5. **User-Created Playlists**:
   - Enable users to create, edit, and share custom playlists based on their workout preferences.
   - Option to add a "Workout Companion" tag to playlists for community sharing.

Secondary Features:

1. **Motivational Audio Cues**:
   - Short voice prompts (e.g., "Push harder!" or "You're halfway there!") that provide motivation during challenging workout moments.
   - Audio cues adjustable based on workout intensity (e.g., more frequent cues during high-intensity intervals).
2. **Social Sharing and Community**:
   - Users can share their workout playlists on social media or within the app.
   - Community-created playlists for shared fitness goals (e.g., weight loss, marathon training).
   - Leaderboards and activity tracking where users can follow their friends' activities.

3. **Fitness Wearable Integration**:
    - Sync with fitness trackers such as Fitbit, Garmin, Apple Watch, and others to gather real-time data for personalized music adjustments.
    - For example, as the user's heart rate increases, the BPM of the playlist adapts automatically.
4. **Progress-Based Playlists**:
    - Playlists that evolve according to the user's fitness progress. For instance, when a user achieves a fitness milestone (e.g., a new personal best), the playlist adjusts to reflect the new achievement.
    - Adaptive playlists for different workout phases (warm-up, high-intensity, cool-down).

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5. User Stories

- **As a user**, I want to select a playlist based on my workout type (e.g., HIIT, strength, yoga) so that I can enjoy music that complements my training style.
- **As a user**, I want the app to adjust the music BPM according to my running pace, ensuring I maintain my rhythm throughout the run.
- **As a user**, I want to receive motivational audio cues during challenging parts of my workout to stay inspired.
- **As a user**, I want to download music so I can enjoy my favourite playlists even without an internet connection.

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6. Technical Requirements

6.1 Platform Requirements

- **Target SDK**: Android 13 (API Level 33) or higher for optimal compatibility with new devices and features.
- **Supported Devices**: Smartphones and tablets with a minimum of 2 GB of RAM and Android 5.0 (Lollipop) or higher.
- **Supported Screen Sizes**: Phones, tablets, and foldable devices with screen sizes ranging from 4.7" to 10.5" to ensure responsiveness.

6.2 Backend and API Integrations

- **Music Streaming API**: Integration with third-party music libraries (e.g., Spotify, YouTube Music, or proprietary API).
- **Fitness Data API**: Integration with fitness trackers (e.g., Fitbit API, Apple HealthKit) for heart rate and pace-based features.
- **Database**: A cloud-based database such as Firebase or AWS to store user data, playlists, workout logs, and preferences.
- **Real-Time Data**: Utilization of WebSocket or REST API for real-time syncing of BPM based on heart rate or pace.

6.3 Security and Privacy

- **Data Encryption**: Implementation of SSL/TLS encryption for data transmission and AES encryption for user data storage.
- **User Authentication**: Google and Facebook OAuth for easy login and registration, along with email/password options.
- **Compliance**: Adherence to GDPR regulations to ensure the protection of user data, particularly concerning location data and fitness logs.

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7. User Interface (UI) and User Experience (UX)

7.1 UI Design

- **Home Screen**: Displays the most relevant playlists based on workout type, time of day, or user activity. Sections such as "Top Workouts" and "Recently Played" should be prominently featured.
- **Player Screen**: A full-screen view showcasing the album cover, track details, play/pause controls, and BPM visualization.
- **Playlist View**: A list of songs in a playlist, along with BPM, duration, and an option to download each song.

- **Settings**: An intuitive settings section for managing notifications, music preferences, and wearable device integration.

7.2 UX Flow

- **Onboarding**: An introductory walkthrough that familiarizes users with the app's core features (music recommendations, BPM syncing, workout playlists).
- **Workout Mode**: Users select their workout type (HIIT, running, etc.), and the app dynamically suggests playlists.
- **Adaptive BPM**: As users progress, the app automatically adjusts the BPM of songs to match their intensity.
- **Offline Mode**: A playlist download feature that enables users to listen without internet connectivity.

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8. Non-Functional Requirements

- **Performance**: The application should load playlists within 2 seconds, minimize buffering during playback, and allow for background audio playback with minimal impact on device performance.
- **Scalability**: The backend should be capable of supporting up to 1 million concurrent users during peak hours.
- **Reliability**: The application should maintain 99.9% uptime, with fallbacks in place for offline functionality when users are in areas with poor network connectivity.
- **Security**: Ensure robust data security practices, including encryption for sensitive information such as login credentials and payment methods.

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9. Analytics and Metrics

- **User Retention**: Monitor user retention over 1 week, 1 month, and 3 months.
- **Playlist Completion Rate**: Track the percentage of playlists completed by users to gauge engagement.
- **Feature Usage**: Assess how frequently adaptive BPM, offline mode, and motivational audio cues are utilized.
- **Subscription Conversion Rate**: Monitor the rate at which users convert to premium subscriptions.