Workout Movement Tracker App Requirement Summary
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The Workout Movement Tracker App acts as a personal trainer by tracking the posture of the user as they workout.

The Workout Movement Tracker App has two main use cases: personalized workout plan generation and real-time form tracking during exercise. For the personalized workout plan, the user logs in and fills/updates their profile, including their height, weight, fitness level, and goals. The application generates a personalized workout plan based on the user's body type and goals. On the other hand, real-time form tracking analyzes the user's form while performing an exercise and provides feedback for improvement, which helps prevent injuries and maximize results.

For the functional requirements, the user inputs their bodily measurements, fitness goals, expertise, and progress, which the application uses to suggest a personalized workout plan. The application will utilize the camera on the user's device to track their body movements and analyze their form during an exercise. The user will input their progress over time, including metrics such as weight loss and strength gains, and adjust the workout plan accordingly. The data requirements include the application utilizing an object model to represent the user information. The data model includes user profiles, tracking information, exercise routine, and progress data. The application must respond to user input within 10 seconds, whether providing personalized recommendations or form feedback. The application shall perform form tracking and provide feedback with over 95% accuracy. The application must handle at least 100 users performing different operations simultaneously.

The dependability requirements exist to ensure that the application is of high-enough quality that the user can depend on it to perform the advertised tasks. The user should be able to rely on the app fully for their fitness and exercise needs. The main dependability requirements are reliability requirements, availability requirements, robustness requirements, and safety requirements. Each of these requirements plays a key role in the overall maintaining of the app as a platform that can be relied upon as a useful addition to user's lives. The reliability requirements exist to ensure that the application is able to load all user data and other data that is required for its functionality. There are certain functions of the application which should always be available regardless of connectivity and/or network availability. The availability requirements exist to make sure that the app will be available during regular hours that people exercise during. The robustness requirements exist to make sure that there are backups in place to ensure that the app will still work when network issues arise. The safety requirements exist to ensure that the app provides users with necessary safety information.

The maintainability and supportability requirements exist to make sure that the app can be maintained and have a long-life. The main requirements are in the categories of maintenance, supportability, adaptability, scalability, and longevity. The first two ensure that the app is well-maintained and updated to support new features. The adaptability requirements ensure that the app can be run on the latest and most current versions of mobile platforms. The scalability

requirements exist to ensure that the app can support a large number of users. The longevity requirements ensure that the app will be able to run for years.

The security requirements require the user data to be kept private from everyone other than the user themselves and the product data to be private from anyone other than the maintenance team. They also require all the information to be accurate and well protected from outside threats by creating backup databases for the user and product data.

The usability and humanity requirements require the product to be easy to use from the immediate get go. The product should be able to change languages and currencies and be usable by only looking at the screen. The product should use terms that are understandable by anyone, even a 11 year old. The product should include documentation such as user manual, posture documentation, and technical specifications. The product should create a tutorial on how to use the product on the initial run of the product.

The look and feel of the product should be so that it attracts workout enthusiasts and feels reliable and authoritative as a personal trainer.

For the operational and environmental requirements, the product will be used by people on their smartphones or tablets while in the gym, at home or outside. The main communication will be through visuals. The application minimizes the need for audio so that the user can get the full benefit with visuals. The product will connect with the camera application and the health application of the user devices. The connection with the camera and health application allows our product to retrieve footage and health related data, which will contribute to the best outcome. The product will be distributed through application stores. Any other additional supportive platforms will also be distributed through application stores to keep the consistency. There will be minor bug fixes and changes released each month and major content updates and maintenance released at least once a year for the product. For each release, the core structure should be almost the same as the previous releases. Each release should improve the product without causing errors to previous features.

For the cultural and political requirements, the product must not provide any discrimination to anyone. The product must not violate or offend any religious or ethnic groups. The product is open for everyone around the world. The company maintains full control of the product. The product is accessible with the majority of operating systems and won't be limited to the common one in the United States.

For the legal requirements, the product provides privacy to the user information and comply with the Data Protection Act. The product will not provide any illegal action in any way. The product shall comply with the standard of basic performance and data protection. Basic functionality of software should be available.

Requirements acceptance tests are created to ensure the product meets the requirements. There are a total of 36 tests. Each test will check a specific aspect of the requirement. The product must pass all the tests before being distributed to the users.