# Advaith Product Specifications

**Functional Specifications**

| **Req. ID** | **Name** | **Rationale** | **Marketing Req ID** | **Verification / Test Conditions** | **Must** | **Should** | **Nice to Have** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TRS-1 | User Registration | Necessary for personalized experience and security. | CRS-12 | Test account creation and login processes. | Must allow account creation. | Should enable social media sign-ups. | Password recovery options available. |
| TRS-2 | Equipment Finder | Facilitates access to affordable gear. | CRS-13 | Verify search and filter functionalities. | Must list available equipment. | Should categorize by type and price. | User reviews for gear. |
| TRS-3 | Location-Based Services | Increases user access to golf resources. | CRS-15 | Test GPS accuracy and proximity services. | Must accurately locate nearby courses. | Should allow for location updates. | Directions to the nearest course. |
| TRS-4 | Personalized Content | Tailors user experience based on preferences, increasing engagement. | CRS-02 | Test for content personalization on dashboard. | Must provide user-specific content. | Should offer location-based suggestions. | Personalized offers and promotions. |
| TRS-5 | Golf Lesson Booking | Ensures users can easily book lessons with certified instructors. | CRS-05 | Test booking functionality for lessons. | Must allow users to book lessons. | Should show instructor ratings. | Notifications for upcoming lessons. |
| TRS-6 | Golf Rules & Etiquette Guide | Provides beginners with essential knowledge on golf etiquette and rules. | CRS-07 | Verify availability of rules and etiquette guide. | Must include a rules guide. | Should be interactive. | In-app quiz to test knowledge. |
| TRS-7 | Beginner’s Golf Plan | Allows users to follow a structured golf learning program tailored to their level. | CRS-06 | Test plan customization based on user input. | Must offer beginner golf plans. | Should allow progress tracking. | Custom goals based on the plan. |
| TRS-8 | Social Networking | Enables users to connect with others for recreational golf or professional networking. | CRS-06 | Test messaging and connection functionalities. | Must support friend requests. | Should have group creation options. | Event invitations for users. |
| TRS-9 | Push Notifications | Keeps users engaged and informed of lessons, bookings, and events. | CRS-10 | Verify delivery of notifications. | Must send lesson and booking reminders. | Should allow users to manage alerts. | Customizable notification settings. |
| TRS-10 | User Analytics | Helps users track their progress and improve performance. | CRS-16 | Verify user data tracking and progress dashboard. | Must track performance data. | Should visualize progress over time. | Offer performance improvement tips. |

**User Interface Specifications**

| **Req. ID** | **Name** | **Rationale** | **Marketing Req ID** | **Verification / Test Conditions** | **Must** | **Should** | **Nice to Have** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TRS-11 | Intuitive Navigation | Essential for user engagement and ease of use. | CRS-01 | User testing to assess ease of navigation. | Must have a clearly defined menu structure. | Should have a search functionality. |  |
| TRS-12 | Visual Feedback | Provides users confirmation of actions taken. | CRS-12 | Test visual cues (e.g., confirmations) for actions. | Must include visual confirmations. | Should highlight active selections. | Animation for feedback actions. |
| TRS-13 | Responsive Design | Ensures usability across devices. | CRS-12 | Test on various devices (phones, tablets). | Must adjust layout for different screen sizes. | Should optimize for common resolutions. | Customizable themes for user preference. |
| TRS-14 | Multi-Language Interface | Ensures inclusivity for users from different linguistic backgrounds. | CRS-09 | Verify language options for app UI. | Must support 5 languages. | Should provide language preferences. |  |
| TRS-15 | User-Friendly Course Map | Provides users with a visual map of golf courses and their amenities. | CRS-03 | Test for clarity and usability of course maps. | Must display course maps clearly. | Should offer amenities info. | Interactive map with zoom and pan. |
| TRS-16 | Dark Mode | Enhances user comfort in low-light environments. | CRS-12 | Test app functionality in dark mode. | Must offer a dark mode option. | Should auto-switch based on settings. |  |
| TRS-17 | Progress Visuals | Helps users see their achievements visually with charts and graphs. | CRS-16 | Test performance dashboards with progress visuals. | Must display progress visually. | Should include interactive graphs. |  |
| TRS-18 | Onboarding Tutorial | Helps users quickly learn how to use the app effectively. | CRS-01 | Verify availability and accessibility of tutorial. | Must include onboarding steps. | Should have an interactive tutorial. |  |
| TRS-19 | Customizable User Profiles | Allows users to personalize their profile, improving engagement. | CRS-06 | Test profile creation and customization options. | Must include basic profile fields. | Should support profile picture upload. | Profile themes for customization. |
| TRS-20 | Confirmation Pop-Ups | Ensures that users are aware of their selections or actions before they are final. | CRS-12 | Test pop-ups for confirmation of actions. | Must have confirmation pop-ups. | Should offer undo options. |  |

**Performance Specifications**

| **Req. ID** | **Name** | **Rationale** | **Marketing Req ID** | **Verification / Test Conditions** | **Must** | **Should** | **Nice to Have** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TRS-21 | Load Time | Essential for user satisfaction and retention. | CRS-16 | Measure load times under various network conditions. | Must load within 3 seconds. | Should perform optimally on Wi-Fi and mobile data. | Offline mode for certain features. |
| TRS-22 | App Stability | Ensures the app runs without crashes or bugs. | CRS-16 | Test app stability under stress conditions. | Must remain stable with heavy traffic. | Should handle up to 10,000 concurrent users. |  |
| TRS-23 | Scalability | Ensures the app can grow as user numbers increase. | CRS-16 | Test the ability to handle increased loads. | Must support 50,000 users. | Should scale to 100,000 users. |  |
| TRS-24 | Offline Caching | Provides users with access to key content even without data. | CRS-14 | Test app performance without data connectivity. | Must cache lesson videos and maps. | Should store recent activity logs. |  |
| TRS-25 | Battery Optimization | Prevents excessive battery drain while using the app. | CRS-16 | Measure battery usage under various functions. | Must consume minimal battery. | Should have an energy-saving mode. |  |
| TRS-26 | Real-Time Data Updates | Provides users with up-to-date information on lessons, tee times, and events. | CRS-08 | Test data refresh intervals. | Must refresh data within 10 seconds. | Should auto-refresh at intervals. |  |
| TRS-27 | High Availability | Ensures app availability during peak times. | CRS-16 | Test for downtime during peak traffic. | Must be available 99.9% of the time. | Should have 24/7 monitoring. |  |
| TRS-28 | User Feedback Collection | Ensures user feedback is collected without affecting app performance. | CRS-12 | Test feedback forms for smooth functionality. | Must allow seamless feedback input. | Should prompt feedback after key actions. |  |
| TRS-29 | In-App Video Streaming | Ensures smooth streaming of tutorial videos. | CRS-07 | Test video streaming across networks. | Must stream without buffering. | Should adapt quality based on bandwidth. |  |
| TRS-30 | Memory Usage | Ensures app does not consume excessive device memory. | CRS-16 | Test memory usage during intensive operations. | Must use less than 150 MB of memory. | Should release unused resources. |  |

**Security Specifications**

| **Req. ID** | **Name** | **Rationale** | **Marketing Req ID** | **Verification / Test Conditions** | **Must** | **Should** | **Nice to Have** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TRS-31 | Data Encryption | Protects user data and privacy. | CRS-21 | Test encryption methods for user data. | Must encrypt all sensitive user data. | Should follow industry standards for security. | Transparency report for users on data handling. |
| TRS-32 | User Authentication | Ensures secure access to accounts. | CRS-21 | Validate authentication methods (passwords, 2FA). | Must implement secure login processes. | Should provide recovery options for lost passwords. | Option for biometric logins (e.g., fingerprint). |
| TRS-33 | Session Timeout | Prevents unauthorized access when users leave the app idle. | CRS-21 | Test session expiration after inactivity. | Must time out after 10 minutes of inactivity. | Should notify users before session ends. | Option to extend session. |
| TRS-34 | Secure Payment Gateway | Ensures safe handling of payments for lessons and equipment purchases. | CRS-11 | Test payment processes for compliance with security standards. | Must use SSL encryption for payments. | Should support PCI-DSS compliance. | Two-factor authentication for payments. |
| TRS-35 | Activity Log | Tracks user activity to detect potential security breaches. | CRS-21 | Test logging of user actions within the app. | Must track login attempts and account changes. | Should store activity logs for at least 30 days. | Notify users of suspicious activity. |
| TRS-36 | Data Backup | Ensures data is not lost in case of system failure. | CRS-21 | Test backup and restore processes. | Must back up user data daily. | Should have real-time backup. |  |
| TRS-37 | GDPR Compliance | Complies with global data protection regulations, ensuring user privacy and consent. | CRS-21 | Test for GDPR compliance in data storage and processing. | Must obtain user consent for data collection. | Should allow users to request data deletion. | Transparent privacy policy. |
| TRS-38 | Role-Based Access Control | Ensures that only authorized personnel have access to sensitive areas of the system. | CRS-21 | Test admin vs user access levels. | Must limit admin access to sensitive data. | Should offer tiered roles for different personnel. | Log any changes by admins. |
| TRS-39 | Secure Data Transfer | Ensures that data transfer between the app and server is secure. | CRS-21 | Test SSL/TLS encryption during data transmission. | Must use HTTPS for all data transmission. | Should prevent man-in-the-middle attacks. | Encryption for stored data. |
| TRS-40 | Privacy by Design | Ensures that privacy is embedded into the system's design, not just an afterthought. | CRS-21 | Validate system architecture for privacy-first approach. | Must ensure no excessive data collection. | Should minimize data retention. | Offer data anonymization features. |

**Integration Specifications**

| **Req. ID** | **Name** | **Rationale** | **Marketing Req ID** | **Verification / Test Conditions** | **Must** | **Should** | **Nice to Have** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TRS-41 | Social Media Integration | Increases user engagement through sharing. | CRS-?? | Test integration with major social platforms. | Must connect with popular social media. | Should enable content sharing. | Suggested hashtags for social posts. |
| TRS-42 | Payment Processing | Facilitates secure transactions for lessons and equipment purchases. | CRS-11 | Validate payment methods and security protocols. | Must support major payment options. | Should allow for payment history tracking. | Users can save payment methods for convenience. |
| TRS-43 | Facebook Marketplace Integration | Allows users to find and connect with local sellers for golf equipment. | CRS-?? | Verify functionality to search and connect with listings. | Must enable browsing for golf equipment. | Should allow direct messaging with sellers. | User ratings for sellers and equipment. |
| TRS-44 | Tee Time Booking Integration | Enables users to book tee times directly through the app. | CRS-08 | Test booking flow for tee times and course availability. | Must allow direct tee time bookings. | Should display real-time availability. | Option to book multiple tee times at once. |
| TRS-45 | Calendar Integration | Syncs user bookings and lessons with their preferred calendar apps. | CRS-?? | Test calendar sync functionality. | Must sync bookings with iOS/Android calendars. | Should offer reminders for upcoming events. | Sync with Google Calendar and Outlook. |
| TRS-46 | Maps API Integration | Allows users to locate nearby golf courses and receive directions. | CRS-03 | Verify location accuracy and map functionalities. | Must integrate with Google Maps API. | Should provide directions to the courses. | Real-time traffic info in maps. |
| TRS-47 | Cloud Storage Integration | Enables seamless data storage and retrieval for user content. | CRS-?? | Test cloud storage functionality for saving user data. | Must store user data in the cloud. | Should allow cross-device sync. | Offline access to stored data. |
| TRS-48 | Equipment Rental Platform Integration | Allows users to rent golf equipment from third-party vendors. | CRS-04 | Test equipment rental functionality. | Must integrate with rental platforms. | Should allow price comparison for rentals. | Ratings for rental equipment. |
| TRS-49 | Email Integration | Sends users confirmation emails for bookings and rentals. | CRS-10 | Verify email delivery for transactions. | Must send booking confirmations. | Should allow users to customize email preferences. | In-app chat for customer support. |
| TRS-50 | In-App Messaging Integration | Allows users to communicate with golf instructors, sellers, and other users. | CRS-06 | Test messaging flow between users. | Must enable secure in-app messaging. | Should allow users to send media attachments. | Group chat functionality. |