Functional Requirements Specification (FRS)

Project: WaterTrack App – User Engagement & Hydration Analysis

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Prepared by: Business Analyst

# 1. Introduction

## 1.1 Purpose

This FRS defines the core functional requirements for the Power BI dashboard used to monitor hydration behavior through the WaterTrack App. It will guide the development and testing teams in building visual reports that meet business goals and improve user health engagement.

## 1.2 Scope

In Scope:  
- Tracking average water intake.  
- Comparing user intake with daily goals.  
- Identifying consistency patterns (streaks vs. missed days).  
- Segmentation by age and gender.  
- Visual representation of user engagement and goal achievement.

Out of Scope:  
- Mobile app features.  
- Backend hydration tracking logic.  
- Integration with wearables (e.g., fitness bands).

## 1.3 Intended Audience

• Business stakeholders  
• Data analysts and Power BI developers  
• QA/Testers  
• Product Managers

# 2. System Overview

## 2.1 System Description

The WaterTrack App Power BI dashboard presents hydration data from the app’s users. It helps stakeholders identify trends, improve user engagement strategies, and personalize notifications based on behavior.

## 2.2 High-Level Architecture

• Data Source: WaterTrack App database (CSV, SQL, or Excel format).  
• Tool: Power BI for dashboard creation.  
• Output: Interactive visualizations for hydration analysis.

# 3. Functional Requirements

## 3.1 Functional Area: Hydration Tracking

|  |  |
| --- | --- |
| Req ID | Requirement |
| FR-001 | The system shall display average water intake per user by age group in a line chart. |
| FR-002 | The dashboard shall visualize the number of users meeting different DailyGoal(ml) values in a donut chart. |
| FR-003 | The system shall provide a gender distribution of users via a pie chart. |
| FR-004 | A bar chart shall show streak vs missed days for each user to track consistency. |
| FR-005 | A KPI card shall show the overall average water intake (ml) across all users. |
| FR-006 | A matrix visual shall compare goal achievement across age groups using calculated column GoalStatus. |
| FR-007 | A scatter chart shall compare AvgIntake(ml) and StreakDays to classify user behavior types. |

# 4. Data Requirements

## 4.1 Data Input/Output

• Inputs: UserID, Name, Gender, Age, DailyGoal(ml), AvgIntake(ml), StreakDays, MissedDays  
• Outputs: Visual dashboards, goal status flags, segmented user insights

## 4.2 Data Storage

• Stored in Power BI dataset  
• May connect to Excel or SQL Server  
• Refresh frequency: Daily or as needed

# 5. User Interface & Interaction

* UI-001: All visuals shall use clean and consistent formatting (title, units, color scheme).
* UI-002: Users shall be able to filter dashboards by Age, Gender, and GoalStatus using slicers.
* UI-003: Tooltips should show user-specific details on hover in charts.
* UI-004: Visuals must support export to Excel/PDF for management reporting.

# 6. Integration

Not applicable for this dashboard-focused project. No external APIs required.

# 7. Non-Functional Requirements

* NFR-001: Dashboards must load in under 3 seconds.
* NFR-002: All user data must be anonymized for privacy.
* NFR-003: Solution must support scalability for datasets with over 10,000 users.
* NFR-004: Follow Power BI accessibility standards for color and contrast.

# 8. Assumptions, Constraints & Dependencies

## 8.1 Assumptions

• The source data is clean and refreshed regularly.  
• All user fields (like AvgIntake, Goal) are available for each record.

## 8.2 Constraints

• Power BI free license may limit sharing options.  
• App data schema must not change frequently.

## 8.3 Dependencies

• Timely data delivery from the development team.  
• Stakeholder feedback for visual validation.