Business Requirements Document

(Guide S50 Version 1.0)

for

ParkTrack CIT

Version 1.0.0

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1. DOCUMENT REVISION LOG

Table 1 Document Revision Log

Date	Author	Version	Reason for Change
9/1/2024	Cultura, Artezuela, Destura	1.0.0	Compose a draft for the applicaton, ParkTrack CIT.

2. DOCUMENT REVIEWERS

Table 2 Document Reviewers

Name & Title	Role	Approval Date	Version

3. APPROVER & SIGNOFF

Table 3 Client Acceptor (Project Sponsor)

Name & Title	Role	Approval Date	Version
Signature:			

4. INTRODUCTION (Analysis Description)

4.1. DOCUMENT PURPOSE

The purpose of the Business Requirements Document (BRD) is to present the stakeholder requirements needs for a parking tracker management web application completely, accurately and unambiguously in a technology-independent manner. This information is captured and written by the Business Analysis team during the project Analysis phase.

Business language is used to describe the requirements authored in this document and is the definitive specification of the user requirements. The BRD is the primary input to the design and development phases and is the primary specification for User Acceptance. This document is intended to be read by all responsible for the management of the project development initiative including business users, user representatives and sponsors, and other interested parties.

4.2. DOCUMENT SCOPE

As determined during the Analysis phase of the project, the scope of this document is limited to describing the ParkTrackCIT stakeholder business needs including stakeholder categories (who, e.g. primary and secondary users), the business data relationship map (what, e.g. data model), the event-response table (when, e.g. state diagrams), business policies (why, e.g. business rules), and the process map (how, e.g. use cases). The approved and signed version of this document will serve as the basis for subsequent phases of the project.

4.3. DOCUMENT AUDIENCE

Document Audience	Location
Business Owners	The primary audience for this document must ensure that the business requirements for ParkTrackCIT are documented with complete accuracy and clarity, leaving no room for ambiguity.
Data Architects	This document will be used to comprehend the data-related requirements for user interactions, parking management, and user status tracking within ParkTrackCIT, guiding the design of the necessary data structures.
Application Architects	This document will serve as a reference for designing application-level solutions that meet the specific needs of parking management and user interaction within ParkTrackCIT.
Technical Architects	This document will be informative for understanding the overall requirements, ensuring that the technical architecture supports the business goals and user interaction features of ParkTrackCIT.
End-Users	End-users should be able to comprehend the requirements easily from this document, as it is presented in a technology-independent manner that reflects how they will interact with ParkTrackCIT.

4.4. BUSINESS ANALYSIS APPROACH

The objective of the Analysis phase of the ParkTrackCIT project was to document the list of requirements related to parking management and user interactions at the university and to provide supporting documentation in sufficient detail for the next phase of work. The Analysis phase included both a review of existing information the identification of new or modified requirements to ensure effective functionality of ParkTrackCIT.

The approach included:

- **Business Analysis Planning and Monitoring**: Ensuring that the management of the analysis adhered to the project objectives, with regular checks to confirm that the analysis aligned with the project goals.
- **Elicitation**: Conducting requirements analysis through interviews with university staff and students who will use the app, distributing questionnaire, and holding group discussions. The focus was on understanding user needs and preferences regarding parking management and interaction features within the app.
- **Requirements Management and Communication**: Coordinating requirements to ensure that all stakeholders are updated, with changes documented and addressed effectively.
- **Requirements Analysis**: Verifying all gathered requirements to ensure they are complete, well-understood, and aligned with the business goals of ParkTrackCIT.
- **Solution assessment and validation:** Evaluating potential solutions based on the identified requirements and ensuring that they address the business needs of ParkTrackCIT.

The inputs to this phase included:

- **Business Case**: The benefits of developing ParkTrackCIT to enhance efficiency in parking management and user interface at the university.
- **Master Project Plan**: The strategic direction of ParkTrackCIT concerning its development and deployment.
- **Project Charter**: A formal document detailing the actions to be taken, timelines, and roles within the scope of the business analysis initiative.

5. System Architecture and Functional Overview

5.1. Platform Overview and System Components

ParkTrack CIT is a system designed to manage and optimize parking resources at a university. The platform provides functionalities for parking location updates, sticker management, real-time availability tracking, and notifications system.

- **Parking Location Management**: Users, including both students and staff, can log in to update their current parking location. This feature helps maintain accurate records of where vehicles are parked across campus.
- **Sticker Management**: Users can apply for new parking stickers or renew existing ones through the system. This component ensures that all users have valid parking permits.
- **Real-Time Parking Availability**: The system provides real-time updates on parking availability throughout the campus. Users can view current parking conditions to find available spaces quickly.
- **Parking Reservation:** Users can reserve parking spots based on their role, with staff and faculty having priority access and students reserving on a first-come, first-served basis.
- **Notification System**: Users receive notifications for upcoming sticker expirations and other relevant updates such as event-based adjustments to adjust parking availability based on campus events. This helps prevent lapses in parking permits and keeps users informed about important changes.
- **User Profile Management**: Users can update and manage their profile picture, contact information, and notification preferences.

Systems Being Used:

- **Parking Location Management System**: Handles the updating and tracking of current parking locations for users. This system ensures accurate and real-time records of vehicle placements across campus.
- **Sticker Management System**: Manages the application, renewal, and verification of parking stickers. It handles the issuance of new stickers, tracks expiration dates, and provides renewal reminders.
- **Real-Time Parking Availability System**: Provides real-time data on parking space availability throughout the campus. This system aggregates and displays current parking conditions to assist users in finding available spots.
- **Parking Reservation System**: Users can reserve parking by selecting an available spot from an interactive map, choose the date and time, review details, and receive a confirmation via email or notification.
- **Notification System**: Delivers notifications and alerts to users about important events, such as upcoming sticker expirations or changes in parking availability due to campus events.
- **User Profile Management System**: Allows users to update their personal profile, including contact details and profile picture, and notification preferences.

5.2. Functions Requirements

Table 5 Function Overview

Function	Description
Parking Location Management	Allows users to log in and update their current parking location.
Sticker Management	Enables users to apply for new parking stickers, renew existing ones, and track their sticker status.
Real-Time Parking Availability	Provides users with up-to-date information on available parking spaces across campus.
Parking Reservation	Users can book parking spots according to their role, with staff and faculty getting priority access, while students reserve on a first-come, first-served basis. Reservations are completed via an interactive map, and a confirmation is sent once finalized.
User Profile Management	Users can update their contact information, profile picture, and notification preferences.
Notification System	Sends alerts and reminders to users regarding important events, such as upcoming sticker expirations and changes in parking availability due to campus events

5.3. Logical Data Model