ParkFinder
Software Requirements Document
SE 3A04

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1 Introduction

1.1 Purpose

The purpose of this software requirement specification document is to provide a description of the requirements needed to design the software for controlling the ParkFinder app. This app helps users by providing a more efficient method for looking up parks and acquiring park information.

The intended readers of this document include all of the projects stakeholders. This includes the end-user, the software engineers, and the park authorities.

1.2 Scope

The software product being described in this document is called the ParkFinder app. This product will have datasets of information about parks all over the world and will allow the client to use search methods in order to find parks based on their desired attributes. The app is meant to be used anywhere in the world, provided an Android or iOS device with the app installed. This provides clients with an easier, faster, and more efficient way to look up parks and acquire information such as the location, facilities, activities, and rentals that the parks provide.

1.3 Definitions, Acronyms, and Abbreviations

Experts A search criteria used for the identification of a particular park, or group of parks. ex. An expert could be for the rentals available at a park

SRS Software requirements specification.

API Application programming interface.

1.4 References

a) Provide a complete list of all documents referenced elsewhere in the SRS

b) Identify each document by title, report number (if applicable), date, and publishing organization

c) Specify the sources from which the references can be obtained

1.5 Overview

The following section of this document, Overall Description, provides the reader with an overview of many important aspects of ParkFinder. This includes information about the functionality of the app, characteristics of the intended users, the constraints that will limit developer options, and any assumptions or dependencies that can potentially change the requirements. The last two sections of the SRS deal with both the Functional and Non-Functional Requirements. Included with the Functional Requirements will be all the business events the system will need to handle and the viewpoints for each event. The Non-Functional Requirements are divided into several categories such as requirements for the look and feel of the system or the performance requirements.

2 Overall Description

2.1 Product Perspective

Several web-services, such as Google or `www.ontarioparks.ca`, are available to assist with locating parks. However these services are not available to an off-line user. The ParkFinder app will allow its users to find parks that match their search criteria. More importantly, the app will be able to perform the majority of

its search functionalities without an Internet connection, thus allowing the user the freedom to use the app whenever and wherever they want. As the ParkFinder app only requires external resources for a subset of its functionality and no external applications depend upon the ParkFinder app, it cannot be considered to be a component of a larger system.

2.2 Product Functions

a) The product shall maintain a database of parks and associated attributes

b) The app will provide a minimum of four methods for querying the park database, these methods will be referred to as "experts"

c) The experts must be separate from one another, and be easily swappable

d) One expert must be able to locate parks based on location, to do so an on-line mapping service will need to be utilized (when an Internet connection is available)

e) Results from a users query shall be displayed via a centralized "forum"

f) Messages sent between the user and the experts shall be encrypted

g) The user can select a park from the query results and the ParkFinder app shall display more detailed information about that park, including a weather report (when an Internet connection is available)

2.3 User Characteristics

The intended users of the ParkFinder app are people wishing to discover new parks that they have not been to before as well as people completely new to visiting parks. It is expected that the primary users will be adults however, visiting parks can be a family affair and thus children can also be expected to use the ParkFinder. Thus we can expect the ParkFinder app to be used by children, adults, and the elderly. With such a large age range, only the most basic education levels can be expected. Being an app solely available on mobile devices, it can be expected that users will possess the bare minimum skill required to operate a mobile device. Such skills would include being able to select buttons, use a keyboard, and navigate menu screens.

2.4 Constraints

The primary constraint limiting the development teams options is time. Due to chaotic scheduling between this project and others, some minor functionality may not be implemented.

2.5 Assumptions and Dependencies

For the use external services, such as weather updates or the use of a mapping service, it is assumed that the user has an internet connection. These services are also assumed to provide accurate information to the user. Also assumed that the user will run the application on supported android device. All information acquired about each park is assumed to be correct and up to date.

2.6 Apportioning of Requirements

The addition of parks from all over the world may be delayed and just parks from Ontario will be implemented in the initial version of the system.

3 Functional Requirements

This section of the SRS contains all of the functional software requirements for the ParkFinder app. This section enables designers to design a system satisfying those requirements, and the testers to test that the system satisfies those requirements.
Note: The functional requirements are organized by business events (BE), then by viewpoints (VP).

BE1. The developer wants to change or remove an expert

VP1.1 Developer

i. The system will allow the developer to swap or remove the expert

VP1.2 Security

i. The system will check if the swap is being made by an authorized party

VP1.3 User

i. N/A

VP1.4 Geographical

i. N/A

VP1.5 Manager

i. The manager will be asked to give permission for the swap

BE2. The user wants to search for parks by amenities that are available at the parks

VP2.1 Developer

i. N/A

VP2.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP2.3 User

i. The system shall give the user the option of selecting between various types of amenities
ii. Search results will be displayed, showing all parks that have the selected amenity or amenities

VP2.4 Geographical

i. N/A

VP2.5 Manager

i. N/A

BE3. The user wants to search for parks by activities that are available at the parks

VP3.1 Developer

i. N/A

VP3.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP3.3 User

i. The system shall give the user the option of selecting between various types of activities
ii. Search results will be displayed, showing all parks that have the selected activity or activities

VP3.4 Geographical

i. N/A

VP3.5 Manager

i. N/A

BE4. The user wants to search for parks by rentals available at the parks

VP4.1 Developer

i. N/A

VP4.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP4.3 User

i. The system shall give the user the option of selecting between various types of rentals
ii. Search results will be displayed, showing all parks that have the selected rental or rentals

VP4.4 Geographical

i. N/A

VP4.5 Manager

i. N/A

BE5. The user wants to search for parks by parks size

VP5.1 Developer

i. N/A

VP5.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP5.3 User

i. The system shall give the user the option of selecting between various ranges of park sizes
ii. Search results will be displayed, showing all parks that are within the selected size range or ranges

VP5.4 Geographical

i. N/A

VP5.5 Manager

i. N/A

BE6. The user wants to search for parks by seasons when the parks are open

VP6.1 Developer

i. N/A

VP6.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP6.3 User

i. The system shall give the user the option of selecting between various seasons
ii. Search results will be displayed, showing all parks that are open on during the selected season or seasons

VP6.4 Geographical

i. N/A

VP6.5 Manager

i. N/A

BE7. The user wants to view more information about a specific park

VP7.1 Developer

i. N/A

VP7.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP7.3 User

i. The system shall give the user an overview of the park. Thus will include the highlights and popular attributes of the park, the address, phone number, size, website, and operational dates
ii. The system shall give the user information about all of the available amenities, activities, and rentals at the park
iii. The system will show the current weather conditions at the park

VP7.4 Geographical

i. N/A

VP7.5 Manager

i. N/A

BE8. The user requests to view the location or locations of a selected park or several parks

VP8.1 Developer

i. N/A

VP8.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP8.3 User

i. The system shall display the location of the park or parks on a map

VP8.4 Geographical

i. N/A

VP8.5 Manager

i. N/A

BE9. The user wants to find the nearest 5 parks to their current location

VP9.1 Developer

i. N/A

VP9.2 Security

i. The system will encrypt and the decrypt the user's input
ii. The system will encrypt and then decrypt the system's output

VP9.3 User

i. The system will display the closest 5 parks to the user's location

VP9.4 Geographical

i. The system will locate the user's geographical location
ii. The system will locate the closest 5 parks to the user's location

VP9.5 Manager

i. N/A

4 Non-Functional Requirements

4.1 Look and Feel Requirements

4.1.1 Appearance Requirements

LF1.

4.1.2 Style Requirements

LF1.

4.2 Usability and Humanity Requirements

4.2.1 Ease of Use Requirements

UH1.

4.2.2 Personalization and Internationalization Requirements

UH1.

4.2.3 Learning Requirements

UH1.

4.2.4 Understandability and Politeness Requirements

UH1.

4.2.5 Accessibility Requirements

UH1.

4.3 Performance Requirements

4.3.1 Speed and Latency Requirements

PR1.

4.3.2 Safety-Critical Requirements

PR1.

4.3.3 Precision or Accuracy Requirements

PR1.

4.3.4 Reliability and Availability Requirements

PR1.

4.3.5 Robustness or Fault-Tolerance Requirements

PR1.

4.3.6 Capacity Requirements

PR1.

4.3.7 Scalability or Extensibility Requirements

PR1.

4.3.8 Longevity Requirements

PR1.

4.4 Operational and Environmental Requirements

4.4.1 Expected Physical Environment

OE1. The application can be used anywhere on any supported device.

OE2. The application location-based services will only be available where an internet connection is present.

4.4.2 Requirements for Interfacing with Adjacent Systems

OE1. The application will interface with a mapping service, weather service and the device global positioning system.

4.4.3 Productization Requirements

OE1. The application will be easy to install through the application store service.

OE2. The application will utilize a local database to handle data and

4.4.4 Release Requirements

OE1. The application will be available to install through the application store service.

4.5 Maintainability and Support Requirements

4.5.1 Maintenance Requirements

MS1. Application updates will be pushed through the application store services, annually, to all devices with installed instances of the app.

MS2. Any application security vulnerabilities will be patched immediately and pushed to the application store service.

4.5.2 Supportability Requirements

MS1. The application shall only run on supported Android devices.

4.5.3 Adaptability Requirements

MS1. The application shall be modular enough to make it easier for future feature additions and platform migrations.

4.6 Security Requirements

4.6.1 Access Requirements

SR1. The application will only be accessible to users with Android supported devices.

4.6.2 Integrity Requirements

SR1. The application will locally encrypt and store any inputs and searches users do on their devices

4.6.3 Privacy Requirements

SR1. The application shall encrypt all user data. Any user data including searches will be kept confidential.

4.6.4 Audit Requirements

SR1. N/A

4.6.5 Immunity Requirements

SR1. The application shall be immune to any manual attacks such as man-in-the-middle as well as automated attacks from trojan horses and malicious scripts.

4.7 Cultural and Political Requirements

4.7.1 Cultural Requirements

CP1. The application shall display information in the regional English spelling and will remain religiously sensitive.

4.7.2 Political Requirements

CP1. The application will be politically neutral.

4.8 Legal Requirements

4.8.1 Compliance Requirements

LR1. The application shall comply with the regional safety and confidentiality requirements.

4.8.2 Standards Requirements

LR1. The application shall comply with Android standards including resolution, screen size, and speed limitations.

A Division of Labour

Contributions	**Name**	**Signature**
Sections 4.4-4.7	Abdul Ahad	
Section 3	Salma Belal	
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