

Software Requirements Specification (SRS) Template

Items that are intended to stay in as part of your document are in bold; explanatory comments are in italic text. Plain text is used where you might insert wording about your project.

The document in this file is an annotated outline for specifying software requirements, adapted from the IEEE Guide to Software Requirements Specifications (Std 830-1993).

Tailor this to your needs, removing explanatory comments as you go along. Where you decide to omit a section, keep the header, but insert a comment saying why you omit the data.

Stay clear and short, yet complete.

AutoPark

Or Abuhtzira – 311226617
Dana Mor Haim-315392852
Ariel Bar – 313383259
Or Avital – 311327076

Software Requirements Specification Document

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1. Introduction

1.1 Purpose

As we know today the number of vehicles coming onto the road increases significantly every year, the problem of parking is only increasing and growing.

Our main goal is to make it easier for car owners to find parking more easily and fast, with accurate navigation for available parking, we can also save fuel and time, so we can also contribute to the environment.

For all drivers who want to save time and fuel the AutoPark application provide in real time available parking that able to connect drivers to their closest parking. base on social networking which makes our app reliable.

Unlike Pango, that provides information about the nearest parking lot, our product allow user to find the nearest parking spot, that can be anywhere, not only on parking lots, but also on the streets.

1.2 Scope

What's included:

- *Finding a parking spot near the user*
- *Real time image Processing*

What's not included:

- *There is no support in finding a specific size parking spot*

High Level features

Essentials

- *Finding a parking spot*
- *Alert of new available spots*
- *Realtime updates*

Desirable

- *Drivers social networking app*
- *Message sending option*

1.3 Definitions, Acronyms, and Abbreviations.

User - A customer using the app

frame - A sequence of images coming from the user

DB - Database

1.4 References

<https://console.firebase.google.com>

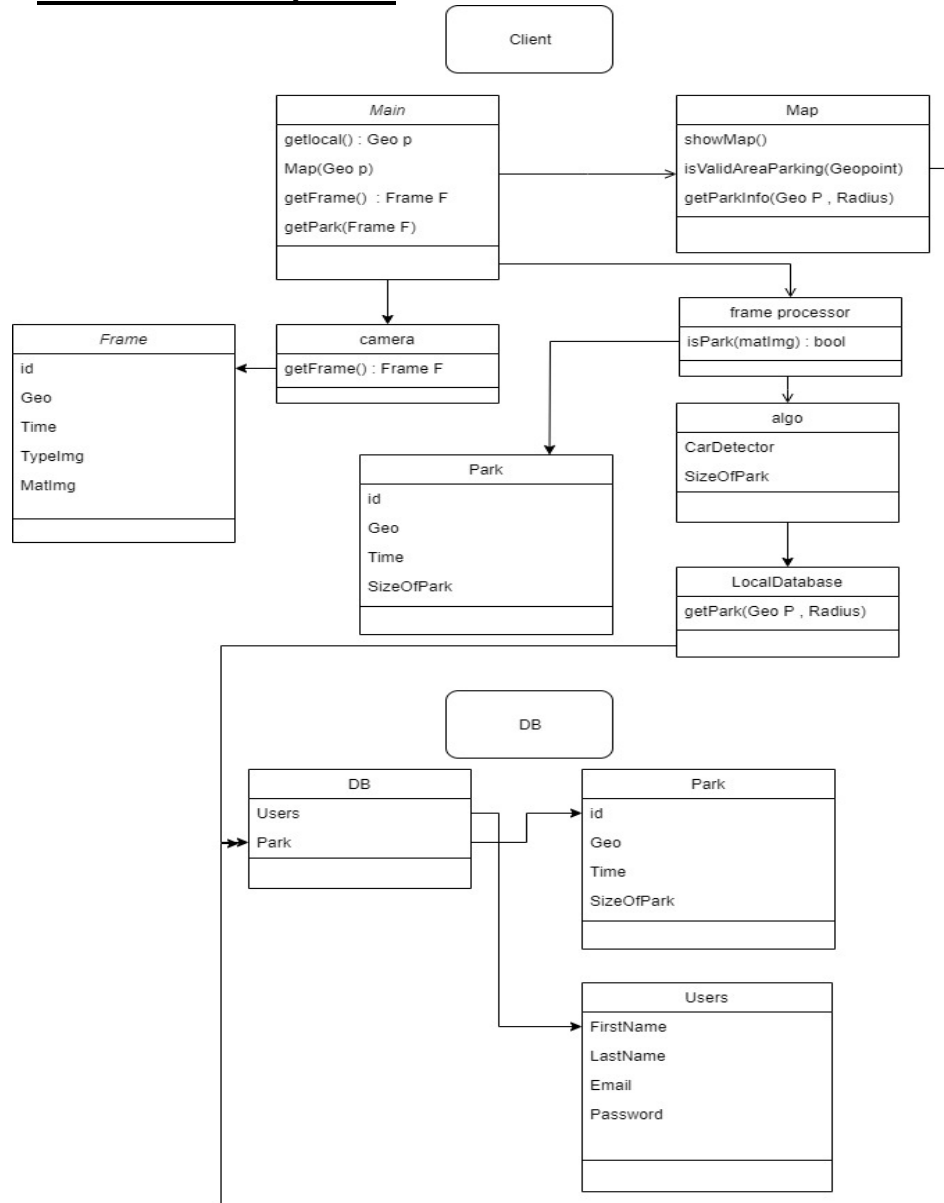
1.5 Overview

The specific requirement are in section 3

The objects are in section 3

2. The Overall Description

2.1 Product Perspective



The following subsections describe how the software operates inside various constraints.

2.1.1 System Interfaces

The project will be written in python and java

2.1.2 Interfaces

The system gets frames from the user, manipulates data using the algorithm and adding available parking spot to the DB.

2.1.3 Hardware Interfaces

- *Camera*
- *GPS*
- *Supports android devices*

2.1.4 Software Interfaces

Firebase DB – all available parking and their locations

2.1.5 Communications Interfaces

This application should uses cellular network to communicate Android devices to a wide database that containing a real-time free parking spaces. We will use the phone camera to map the parking spaces and insert into to the database.

2.1.6 Memory Constraints

Must have enough memory in order to save data and frames.

2.1.7 Operations

The user runs the app, frames received while driving by the camera.

2.1.8 Site Adaptation Requirements

The user needs to confirm the use of camera and service location.

2.2 Product Functions

The major functions are:

1. *Get frames from the user camera and process them*
2. *Update the server with relevant parking spot*
3. *Remove from server the irrelevant parking spot*
4. *show an interactive map with all the available parking spot in the user area*

2.3 User Characteristics

This app is for car owners.

2.4 Constraints

- *The system requires a strong reception*
- *The system requires Powerful hardware components*
- *Deadline is 9.9.2020*

2.5 Assumptions and Dependencies

- *Supporting different version for cell phone*

2.6 Apportioning of Requirements

- *Finding a parking spot for a specific type of car.*
- *Identify parking area.*

3. Specific Requirements

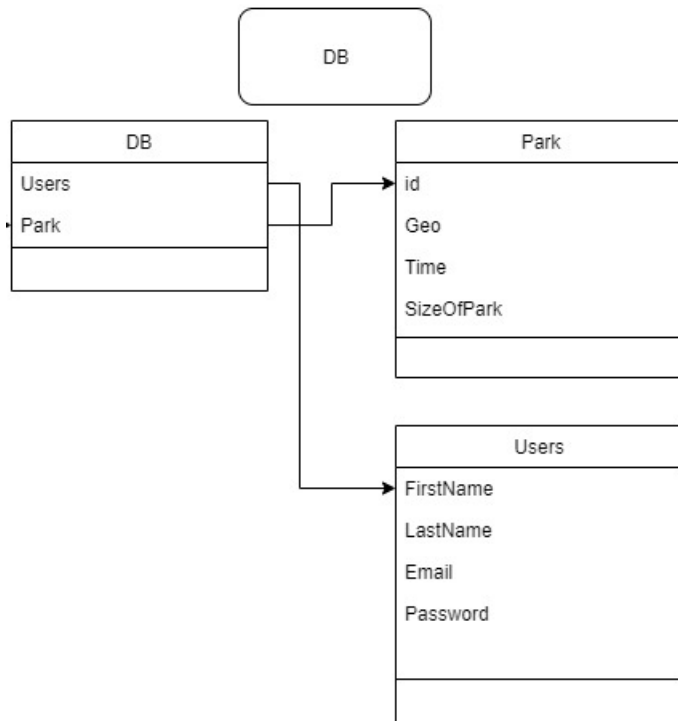
3.1 External Interfaces

3.2 Functions

- 3.2.2 *The system shall detect if there is an available parking.*
- 3.2.3 *The system shall return all available parkings from the db in the user area, within 3 seconds or less.*
- 3.2.4 *The system should synchronize the parking so that no situation occurs that many drivers are sent to the same parking*
- 3.2.5 *The system should find the shortest route for nearby parking*
- 3.2.6 *The system should be easy to use for the user so that drivers do not have to do anything except run the app*
- 3.2.7 *The system may check whether the parking is tailored to the user's dimensions*
- 3.2.8 *The System should navigate the user to the chosen parking spot.*
- 3.2.9 *The system must use less than 30 MB of user's cellular network use per hour of use.*
- 3.2.10 *The system should be easy to use for the user so that drivers do not have to do anything except run the app.*
- 3.2.11 *The system must take less than 200 MB in the user's phone memory.*
- 3.2.12 *The system should provide 24/7 service.*
- 3.2.13 *Nice-to-have identify if it is private parking.*
- 3.2.14 *The system should determine whether parking is parallel to the sidewalk or perpendicular.*

3.3 Performance Requirements

3.4 Logical Database Requirements



3.5 Design Constraints

- *There are memory requirements at least 3 GB.*
- *The application must be installed on phones with camreas amd GPS such as 'Smart phones'.*
- *The product must be stored in such a way that allows the client easy access to it.*
- *Response time for loading the application should take no longer than 3 seconds.*
- *No general preview skills needed.*

3.5.1 Standards Compliance

3.6 Software System Attributes

3.6.1 Reliability

3.6.2 Availability

3.6.3 Security

- *The system shall use secure sockets in all transactions that include any confidential customer information.*
- *Sent and received data map should be transferred via Reliable Data Transfer connection.*
- *In order to specify the user, our application need an authentication system. We will develop a GSM number or Email/Facebook account based authentication system for the application.*
- *The system shall automatically log out all customers after a period of inactivity.*
- *The system shall confirm all transactions with the customer's.*
- *The system shall not leave any sensitive informationon the customer's phone the user's password.*

3.6.4 Maintainability

3.6.5 Portability

3.7 Organizing the Specific Requirements

3.7.1 System Mode

There are 2 modes:

- *Full features mode - This mode is target for high performance platforms, so all features can be included*
- *Limited features mode - This mode is target for low performance platforms, so only part of the features are included.*

3.7.2 User Class

There is only one type of user.

3.7.3 Objects

Frame- represents an image that was taken from the customer's camera.

Park- represents a parking spot .

User .

3.7.4 Feature

Use Google Maps to locate the location and update the available parking spaces.

Use the camera of the device to take out parking pictures.

3.7.5 Stimulus

Irrelevant

3. 7.6 Response

Irrelevant

3.7.7 Functional Hierarchy

Irrelevant

3.8 Additional Comments

4. Change Management Process

5. Document Approvals

[YOUR SUPERVISOR]

Identify the approvers of the SRS document. Approver name, signature, and date should be used