SparkPark - The User Guide

1 INTRODUCTION

This user guide provides all essential information for making full use of the SparkPark mobile application. Not only will this guide provide sufficient information for seeking future or extended support, but it will also cover full system functionality and step-by-step procedures for making use of said functionality.

1.1 Purpose and Scope

This user guide describes how to utilize the SparkPark mobile application. It describes how to utilize the application for finding a spot, paying for that spot (in case of metered parking) and tags, marking a projected leave time, and even favoring a spot for future use.

1.2 Organization

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1.3 Points of Contact

Any questions/comments/concerns related to SparkPark can be relayed to either www.sparkpark.ru, sparkpark@mail.ru, or 1-900-PLZ-PARK.

1.4 Project References

The official SparkPark white paper can be found on SparkPark's wiki site. In this white paper, much of the research behind SparkPark is explained in great detail.
1.5 Primary Business Functions

SparkPark seeks to assist all motorists using it to better their lives by making their parking experiences simple and less stressful. This will, in turn, lead to progressively better lives for its users, leading to an increase in their productivity as well as success in their professional lives.

1.6 Glossary

SparkPark - The mobile application that assists in the lightning fast acquisition of a parking space.

2 SYSTEM CAPABILITIES

SparkPark assists motorists in finding open parking spaces in given parking lots. The entire system is equipped with a variety of features for both motorists and commercial businesses and organizations to optimize their existing parking infrastructures.

2.1 Purpose

SparkPark’s purpose is to optimize parking for all. This is done mainly by guiding motorists to open parking spots through a highly usable mobile application.

2.2 General Description

A minimalist GPS-enabled mobile application with vocal feedback and a simple interface will be used by motorists to locate open parking spots so that they may park in them. The application will show open, taken, as well as soon-to-be-open spots so that the user may best decide where to park based on their situational circumstances.

3 DESCRIPTION OF SYSTEM FUNCTIONS

The following describes the difference functionalities of the SparkPark mobile application. Each functionality of the app will be broken down into a step-by-step instruction set to help the user accomplish the function. Each function will also have a brief description for each sub-function (such as buttons and gestures) available to complete the main function.

3.1 Creating a SparkPark account
3.1.1 Steps for Establishing an Account

- Can be tied to social networking accounts
- People sign up with their real name, email account, password, and payment information (if required)
- Account is used for back-end statistical reasons
- Users must agree to a EULA, which enables SparkPark to track a user's location

3.1.2 Example input

- Name: John Doe
- E-mail: johndoeiscool@gmail.com
- Password: iamcool
- Confirm password: iamcool
- Payment information can be secured through a user’s Paypal account or by entering credit card information into the mobile app.
  - This is not required (unless a metered parking lot only allows electronic payment), but it is recommended for better ease-of-use

3.1.3 Results

Signing up for an account allows a mobile user to connect to SparkPark’s servers to find parking information immediately.

3.2 Searching for a parking lot

3.2.1 Steps to Navigate to a Spot

- After the loading screen the SparkPark menu screen opens up with a search bar and two buttons, Recent and Favorites. (top picture at right)
- Users can swipe right to go the the last parking lot used (unless someone is a first time user)
- The user can scout a lot in advance and choose the spot they would prefer
- After selecting the spot, GPS like voice navigation guides users to their spot when it is important to keep their eyes on the road
- Alternatively, the user can use the map navigational screen (shown in bottom right picture) to instantly see what spots around them are available. This is especially useful in packed parking garages.
3.2.2 Example input

- Launching
  - Opening the App
    - Open the app by a single press on the SparkPark app icon
    - Just opening the app brings the user directly to the quick guide screen, for minimal phone use while driving.
    - Certain phones support launching an app by voice so you never have to touch your phone.

- Gestures
  - Swipe to Right
    - Swiping from the right will pull up the last lot the user was in

- On-Screen Buttons
  - Spot Selection
    - Each spot acts as a selection button, to quickly select the spot you’d like to park at
    - Individual spot buttons are colored green, yellow, or red depending on whether they are open, soon to be vacated, or filled (shown in picture to right)
  - Find Me
    - A location button that allows the user to quickly focus on their current location
      - Only works with GPS available
  - Settings
    - Offers several personalization options
      - Male/Female Voice
      - Map Information
      - Location Tracking Toggle
      - Mute Toggle
      - Theme Option

3.2.3 Results

After following the steps above, the user should have found an available spot that best fits their interests.
3.3 Parking in a Spot

3.3.1 Steps to Parking

- After parking, the user sets their projected leave time
- The user now has the option to pay for the metered parking, where available
- These settings are exemplified by the screenshot to the right

3.3.2 Example Input

- On-Screen Buttons
  - Lot Favoriting
    - With a single click, SparkPark uses its location services to favorite your current parking lot after parking.
    - The user must be in a stopped position for accurate favoriting
  - Set Leave Time
    - Setting the leave time is an option available once the car is in a spot, as determined by location features
    - Using the projected leave time tool allows the user to estimate when they plan to leave the spot for other users to see
    - Meeting the leave time within +/- 5 minutes ups the user’s account’s accuracy rating
  - Payments
    - Users can pay for metered parking via multiple payment methods
      - Visa
      - Paypal
      - Check (must be mailed)
    - Also, for tagged parking, users can purchase localized tags for their local organizations that support SparkPark
    - NOTE: Requires data to complete transaction
      - Wait for confirmation to appear to be sure that transaction completed

3.3.3 Results

The user should now have secured their spot, set the leave time for others to see, and paid for the spot (if necessary). The user can now be on his’ or her’s way without a worry, and their favorite lots can be saved for later navigation assistance.
4 OPERATING INSTRUCTIONS

In order to maximize the usability of SparkPark, we have written this detailed section on operating instructions.

4.1 Get and Start SparkPark

The SparkPark mobile application can be found and downloaded from any most popular application stores. QR codes that immediately download SparkPark can be found all over the Internet in the event that a user’s time is too valuable to navigate to an application store page.

Once downloaded, SparkPark is ready to go: set up a basic profile if you wish, find a parking lot you would like to park at, tap it, and go!

4.2 Maintenance

Any software updates for SparkPark will be automatically downloaded and installed. We severely discourage users from attempting to maintain the application themselves. Any breach of our very restrictive EULA will result in an immediate and harsh lawsuit.

4.3 Terminate and Restart Operations

Ending a navigate session in SparkPark is as easy as clicking the large “STOP” button within the application while being guided.

Turning off SparkPark will be done in the exact same way that any other mobile application is turned off depending on the mobile device in question.

5 ERROR HANDLING

Assuming the mobile device using SparkPark is adequately connected to GPS and/or cellular data, no errors should occur.

If SparkPark has no GPS and/or cellular data connection, it will continue to function, but the 0xDEADBEEF warning will be displayed at the bottom of the screen.

Any errors not related to GPS and/or cellular data are most likely layer 8 or ID-TEN-T errors. In the event of a layer 8 or ID-TEN-T error, turning the application off and restarting it should fix any problems, as SparkPark’s local memory cache is cleared on reboot.
5.1 HELP FACILITIES

Due to the simplicity of SparkPark, it does not require any sort of helpdesk support. Instead, an extensive set of documentation and FAQs can be found at: www.sparkpark.ru. For commercial partners who have purchased or would like to purchase one or more SparkPark implementations, questions/comments/concerns can also be relayed to either sparkpark@mail.ru or 1-900-PLZ-PARK.