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ClientAppSystem		**SysDD**
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2025-10-19		**1.0.0**
Author		Status
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ARROWHEAD

ClientAppSystem
System Design Description

Abstract

This System Design Description (SysDD) details the implementation of the ClientAppSystem which provides a user interface for interaction with the ParkingLotPricingCloud. The system enables external clients to request parking prices, check availability, perform bookings and initiate payments through secure HTTPS communication.

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1 Overview

This document describes the ClientAppSystem which acts as the user-facing entry point to the ParkingLotPricingCloud. It allows users to interact with parking services in real time including retrieving prices, availability and booking information. The ClientAppSystem communicates securely with the local cloud through HTTPS.

In Section 2, we describe implementation details of the system

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2 Implementation

This implementation is based on the ClientApp_sysd document.

2.1 Implementation language and tools

- Language: Swift for native iOS implementation or JavaScript for cross-platform deployment.

- IDE: Xcode for iOS development, Visual Studio Code for web or cross-platform builds.

- Stateful or stateless: The app is mostly stateless but preserves temporary session data such as authentication tokens and user preferences during active use.

- Resources: Network connectivity for HTTPS requests and local storage for session tokens.

- Data handled and stored:

  – Local cache of recent queries such as last known prices and availability.
  – Temporary storage of session tokens and user preferences.

- Result provided as:

  – Display of price and availability information retrieved from the local cloud.
  – Booking and payment initiation requests forwarded to the corresponding services.

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3 Services

The implementation services are based on the following SD and IDD documents:

- SD: priceRequest_sd

- SD: bookingRequest_sd

- SD: availabilityRequest_sd

- SD: paymentRequest_sd

- IDD: priceRequestHTTP_idd

- IDD: bookingRequestHTTP_idd

- IDD: availabilityRequestHTTP_idd

- IDD: paymentRequestHTTP_idd

Table 1: References to documentation for services produced and consumed.

Services produced	SysD ref	SD ref	IDD ref
priceRequest	ClientApp_sysd	priceRequest_sd	priceRequestHTTP_idd
bookingRequest	ClientApp_sysd	bookingRequest_sd	bookingRequestHTTP_idd
availabilityRequest	ClientApp_sysd	availabilityRequest_sd	availabilityRequestHTTP_idd
paymentRequest	ClientApp_sysd	paymentRequest_sd	paymentRequestHTTP_idd
Services consumed	SysD ref	SD ref	IDD ref
dynamicPrice	DynamicPricing_sysd	dynamicPrice_sd	dynamicPriceHTTP_idd
occupancyData	OccupancySystem_sysd	occupancyData_sd	occupancyDataHTTP_idd

4 References

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5 Revision History

5.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	2025-10-14	1.0.0	Initial release	Mattias Öhman