

Requirements Analysis and Specifications Document 2020-2021

Alessandro Polidori (Codice persona 10573078)
Olimpia Rivera (Codice persona 10617517)

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1 Introduction

1.1 Purpose

This document provides an analysis of the system in terms of assumptions, functional and non functional requirements needed to fulfill its main goals. It describes the domain in which the system will be deployed by presenting relevant scenarios and use cases and it highlights the software's limits and constraints.

The document is addressed to all the stakeholders affected by the software and is meant to be used by developers in order to realize a system that meets the purpose for which it was intended.

1.2 Scope

1.2.1 Description of the given problem

The CLup system is designed to regulate accesses to stores and manage lines in real time in order to respect restrictions imposed by the virus emergency and avoid crowds and long lines. In particular, the software is offered to both stores managers to monitor the influx of people in their buildings and to common users, allowing them to virtually "line-up" from home and book visits to the stores.

The main functionalities offered by CLup are the following:

- Basic service: allows stores' customers to line up from home and to approach the store only when their turn is about to arrive. In order for this lining up mechanism to work effectively, the software generates an estimation of the waiting time and alerts users when is the moment to reach the store, taking into account the time they need to get to the shop from the place they were at the time of the reservation. The estimated time is calculated considering the number people both virtually in line and inside the store. The system is also able to recalculate the waiting times of users in the queue and change the status of the line in the event that someone does not show up when her/his turn is arrived or decides to cancel her/his reservation (this mechanism will be further explained in the next sections of the document). In addition, when customers enter the stores, a QR code generated by the application is scanned, allowing store managers to monitor entrances.
- Advanced: allows users to book a slot to visit the store. When booking a slot, the customer has to provide the expected duration of the visit or let the software itself infer it (this works only for long-term customers by analyzing the customer's previous visits). Moreover, the application is

able to manage visits in a finer way (taking into account the spaces in the store that customers are going to occupy), by allowing users to indicate the list (or at least the categories) of the items that they intend to purchase.

1.2.2 World Phenomena

1.2.3 Shared Phenomena

1.2.4 Goals

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Definitions

1.3.2 Acronyms

1.3.3 Abbreviations

1.4 Reference Documents

1.5 Overview