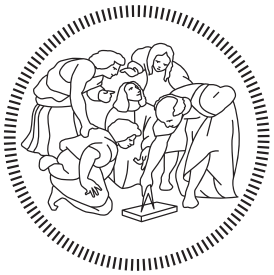
AA 2020/2021



Politecnico di Milano

# RASD: Requirement Analysis and Specification Document

Alice Piemonti  Luca Pirovano  Nicolò Sonnino

Professor
Matteo Rossi

November 8, 2020

# Contents

**1 Introduction** **2**
- 1.1 Purpose . . . . . 2
- 1.2 Scope . . . . . 2
- 1.3 Goals . . . . . 3

**2 Overall Description** **4**

**3 Specific Requirements** **5**

**4 Formal Analysis** **6**

**5 Effort spent** **7**

# 1 Introduction

CLup (Customers Line-up) is an easy-to-use application which intent is to limit as much as possible the number of accesses to grocery shopping.

Due to the recent worldwide spread of SARS-CoV-2 (COVID-19), many countries are imposing lockdowns and strict regulations about social distancing such as: the closure of restaurants in the evening, limitations on public transports, curfews, etc.

In particular, citizens are experiences difficulties in accessing supermarkets because of their limited capacity.

## 1.1 Purpose

The aim of the product is to avoid gatherings outside grocery stores, improving the safety of the customers.

This is achieved through monitoring accesses to the buildings, managing time slots for visits and optimizing people flows inside the stores.

The application will be operable freely, widely available and very intuitive because

complete are

The userbase is expected to be both people with an Internet access and ones without it, from young people to elderly.

## 1.2 Scope

The product shall be called CLup and will let users to plan their shopping session in two different ways:

- **ASAP**: the user will claim the first available ticket and receive an estimated queue time.
- **Reservation**: the user will choose a time slot from a list of available ones, in order to book his visit to the structure.

Every customer can choose one of these modes **remotely** via an official app or through a web browser, or **in presence** by asking to a staff member, who will act as an intermediate between the customer and the system.

When a customer makes a reservation, the system allows him to choose the duration of his visit and insert a list of possible purchases, in order to optimize his stay.

In addition, the user can change time slot/store based on system's suggestions and enable periodically notifications of available slots in a day/time range.

## 1.3 Goals

The main objectives of our system are the following:

- **G1: Allow customer to retrieve a queue number**
  This is the main feature of the application, through which customers are forced not staying outside the structure.
- **G2: Allow customer to know an estimated queue time**
  Through an appropriate estimation of each customer's permanence time, the user is given an estimated queue time to let going to the supermarket when needed.
- **G3: Guarantee that each queue number is unique**
  There is no way that a queue number could be assigned to more than one customer.
- **G4: Allow customer to generate a QR Code**
  A QR Code would let store managers to monitor entrances, scanning a customer's code upon entering.
- **G5: Allow shops to offer the remote queue function**
  Each shop can register to the service and offer its customer to Line-Up from home.
- **G6: Allow shops to generate tickets on the spot**
  If someone does not have access to the required technology, they can still take advantage of the system by getting their queue number directly at the store.

# 2 Overall Description

# 3 Specific Requirements

# 4 Formal Analysis

# 5 Effort spent