**3 Specific requirements**

**3.1 External interface requirements**

**3.1.1 User interfaces**

The following mockups <<there is a water here; every human reading it must understand it>>.

**3.1.2 Hardware user interfaces**

The app is used online to integrate the user into the shopping queue, so in the list of minimum requirements, it is enough to have a stable Internet connection to establish communication and GPS sensors to track the route on the way to the selected store. The above components are usually available in any modern smartphone and no other hardware interfaces are required.

**3.1.3 Software interfaces**

The program does not have an API for external calls, but it uses some proven services and ready-made functionality for stable performance.

* Yandex Maps API

Yandex Maps API is a set of services that allow to use Yandex map up-to-date information such as public transport schedules, traffic jams, reconstruction in a project. In our case, as mentioned, it is used to lay out the route and display the stores available in the area and their additional information such as opening hours, load, approximate waiting time.

* Calendar and alert system

Planning a trip to the store is not possible without a calendar and specifying the exact time of arrival. After viewing the available dates and time of booking, the user assigns the most comfortable one for them. For convenience, it is recommend using a notification system about a planned visit.

* QR Code reading/generation

An important attribute of the program is the QR code. It is generated on the server side after the request to visit the store is confirmed. It is used to enter and exit the store after scanning by the staff.

*Important*: older smartphones may not support the default read QR code and this may need to install additional software.

**3.2. Functional requirements**

**3.2.1 Users**

**Scenario 1**

Because of the pandemic Hazel doesn’t want to endanger her own life and lives of the others, and she doesn’t leave the home. But using food delivery services soon became too expensive for her. And she started to look for the other ways to get food supplies, so as an active app user she downloaded and installed CLup. This service helped her to get to the store, buy all the supplies she needed and reduce contact with people to a minimum.

**Scenario 2**

Alexander is an elderly Afghanistan veteran but the pandemic knocked him down. He has lost all the joys of his life: he couldn’t see his relatives and he couldn’t even go to the store without the risk of getting sick. He doesn’t have a smartphone, he doesn’t even have a connection to the Internet. So Alexander goes to the store and he sees some machine giving tickets. Thanks to the presence of this machine the risks of getting sick for him have decreased.

**3.2.2 Stores**

**Scenario 3**

Working in a store during the pandemic is a big risk, Dave figured it out the hard way. He had COVID-19, and when he getting on his feet, he decided to secure the store in which he works as a manager. So his choice fell on the CLup because he doesn’t need to recruit couriers, it will help him to save some money at this difficult time. All he needs to do is to estimate the number of people for each department and in line at the cash register and provide this data to the system.