**Requirements for Owner of Controlled Area and Operation Staff of Controlled Area**

## Functional Requirements of the Owner of Controlled Area

**FR-OC-01: Registration**. The owner of a controlled area should be able to register to the system as the owner of the area to get an identifier of the area. The following data are required to register a controlled area: (a) Name of the area; (b) Address of the area; (c) Type of the area, (such as pub, restaurant, etc.); (d) Capacity of the area (how many persons can be in the area simultaneously; (e) Contact numbers.

**FR-OC-02: Update**. The owner of a registered controlled area should be able to update the registration data. (*Priority: Medium*)

**FR-OC-03: View Registration Data**. The owner of a registered controlled area should be able to view the registration data. (*Priority: Medium*)

**FR-OC-04: Notification**. The owner of a registered controlled area should be notified when a Crownpass holder in the controlled area is tested positive or his/her infection state changes into *Red*. (*Priority: High*)

**FR-OC-05: Setup Staff Account**. The owner of a registered controlled area should be able to set up a number of staff accounts on a number of mobile devices to operate the controlled area. (*Priority: High*)

**FR-OC-06: View Operation State.** The owner of a registered controlled area should be able to view the state of the area in terms of the number of customers (i.e. Crownpass holders) in the area. (*Priority: Low*)

**FR-OC-07: Set Entry Condition.** An owner of a controlled area should be able to set and update the entry condition to be *Green* or *Light Blue* or *Dark Blue*. If the entry condition is *Green*, it allows all Crownpass holders of *Green* infection state, and all *White*, *Light Blue* and *Dark Blue* states of vaccination to enter the area. If the entry condition is *Light Blue*, it only allows Crownpass holders whose vaccination states ate either *Light Blue* or *Dark Blue* and infection state is *Green* to enter. If the entry condition is *Dark Blue*, it only allows Crownpass holders whose vaccination states are *Dark Blue* and infection state *is Green*. If no entry condition is specified, the default is *Green*. (*Priority: High*)

## Functional Requirements of Operation Staff of Controlled Area

**FR-SC-01: Check-in Customer.** The system should enable the operational staff to check-in Crownpass holders into the controlled area. A pass holder should be allowed to enter the area only if: (a) The customer is the Crownpass holder; (b) the state of the Crownpass satisfies the area’s entry condition; and (c) the number of persons in the area is less than the capacity of the area. After a customer is checked-in, the number of persons in the area must be increased by 1. (*Priority: High*)

**FR-SC-02: Check-out Customer.** The system should enable the operational staff to check-out Crownpass holders out of the controlled area. After a customer is checked out, the number of persons in the area must be decreased by 1. (*Priority: High*)

**FR-SC-03: Evacuation of Area.** The system should support quick evacuation of the controlled area by letting all customers leave the area and set all the customers previously in the area to be out of the area as if they were checked out one by one. (*Priority: High*)

**FR-SC-04: Notify and Close**. The system should notify the operation staff when a customer’s Crownpass state changed into Red while the customer is in the area, instruct the operation staff to evacuate the area, and to automatically disable the check-in function. (*Priority: High*)

**FR-SC-05: Reset Area State**. The system should support resetting the number of customers in the controlled area so that pass holders who failed to check out when leaving the area can be removed from the system. The exit time of the pass holder who failed to check-out will be the time when reset operation is performed. (*Priority: Medium*)

**Non-Functional Requirements**

**QR-PF-02: Check-in**. The response time for check-in a Crownpass holder into a controlled area should be no more than 3 seconds.

**QR-PF-03: Check-out**. The response time for check-out a Crownpass holder out of a controlled area should be no more than 10 seconds.

The registered photos of a Crownpass pass holder and the state of the pass should be viewed by the operation staff of controlled areas through scanning the QR code of the Crownpass in order to authenticate the person when using the Crownpass to enter a controlled area.

The data of the numbers of Crownpass holders’ presences in a specific controlled area at any given time should only be viewed by the owner of the controlled area and police officers.

The registration data of a controlled area is regarded as public information and thus not protected for viewing, but the data can only be modified by the owner of the controlled area.