**A New Queueing Strategy And Approach**

We always encounter queueing in our daily life, for example waiting for seat in a fully booked restaurant, hospital and other public government services. Usual way to handle queueing is each person who is waiting will be assigned a number ticket, and the person just need to listen to the anouncement to wait for their number to be called. If the person to be called misses or other reasons didn’t reply to the number, they will still have 5 quotas, after 5 quotas their ticket number will be void.

This approach has several problems, first the host need to call each and every number several times in order to get notify whether the person with the ticket number is available or not. Second, it is hard to keep track the ones who misses the number, but still valid only if they are within the 5 quotas. Is there an easy approach to handle all such situaltions and still conviniently and effieciently maintain an ordered queueing? Yes! the solution is one needs to check-in, such as hotels you need to check-in and check-out when you leave.

I will try to explain the work flow with examples. But first, let’s talk about the ticket number you received, ordinary ticket number is just number, base on the number you will need to listen to the host calling your number, as I said we need to check-in, therefore the ticket you received is not just an ordinary number but also with a QR code. When you are ready for queueing you just need to scan the QR code to the system and wait for the host to call you.

An Example:

Start from the number 100, there are totally 10 person receive the ticket, therefore 100, 101, 102, 103, 104, 105, 106, 107, 108, 109 will be assigned. Now the first person who holds the ticket number 100 check-in by scanning the system using the tickets QR code. The host’s system will be recorded 100 has arrived and available. Next, the person with the ticket number 104 check-in, now the system will recorded 100, 104 has arrived and available. If the person with the ticket number 102 checks-in, although the ticket number 104 checks-in before the ticket number 102, as 102 is before 104 still the host system will record 100, 102, 104. Now the host starts to call the ticket number, but remember as the ticket holders has check-in, that means they have arrived and available. The host doesn’t need to call each and every number in an chronological order and wait for responses. They just need to follow the ones who has checked in, the host will start to call only 100, 102, 104. The next scenario is what happens if the person misses the number. For example 108 is being called currently, now the person holding the ticket number 105 checks-in, but as said if one misses they need to be within the 5 quotas or else their ticket will be void. Now as 105 is within the 5 quotas, so the systems **waiting list** will record 105. What happens if 102 checks-in? as it is not within the 5 quotas (now calling 108), when the person with the ticket number 102 scan the QR code for check-in, the system will notify his or hers ticket is void and not allow to check-in and request them to generate a new ticket. Now, the person with the ticket number 103 checks-in. As it is within the 5 quotas, the system waiting lists will record 105, 103.

The following will illustate how it works:

Waiting Lists

105

103

107

106

Now Calling

108

Treated Numbers

100

102

104

Therfore the person queueing needs to watch the 2 displays, one is the current number calling and the another is the waiting lists display. One may ask when will the waiting lists be called? The answer is after 5 numbers is being called. The refined Waiting lists is shown below:

Waiting Lists

105 - 3

103 - 4

107 - 5

106 - 5

(maximum 5 numbers)

The number next to the ticket number is the number of person the person needs to wait for being called. For the ticket number 105, the person needs to wait 3 people inorder to be called. For example if 5 more person checks-in 110, 113, 114, 115, 118. Then the hosts system for internal use will display:

108, 110, 113, 105, 103, 107, 106, 114, 115, 118

The host just need to call this numbers for queueing.