Initial state:

3 carts idle, some people press button on some floor

A some elevator is on this floor

B

Running carts

Pick greedily (in reality)

For most furthest floor set by scheduler to pick people, as the people can be picked by other carts, we need to actively check along the way OR passively signaled by other threads or scheduler and if the floor’s request disappear, the cart should not go that further.

Scheduler and idle carts

When some people add one more floor level request(that is, the waiting people from 0 to non-zero), scheduler should launch closest one to go to that floor, no matter whether some other running elevator can pick the people up