# Evergreen Dispatch System: Q & A

**1. What is the policy for taxis who are hailed on the street? Can we pick them up?**
[David] A CAB MUST BE IN A ZONE QUEUE BEFORE IT MAY PICK UP PASSENGERS; OTHERWISE IT MAY BE PICKING UP A RIDE THAT IS WAITING FOR ANOTHER CAB FROM OUR COMPANY.

[Valentin] In the real company they do allow for such chance pickups but they discourage them for the reason you mentioned. In other words, I would suggest that this be part of the policy that is configurable in the system. It makes little sense to hardcode such (contentious, in my mind) assumption and then have to redesign the system if the business atmosphere changes. For instance, one day they might do a study and find out that chance pickups make up a large portion of their rides and very few of those are actually stealing rides from other cabbies of the same company.
This obviously allows the company to have an edge over competitors and it would be unwise to make it impossible due to limitations ingrained in the way the system is built. (As has been brought up in class, this works in New York City and Tokyo at least.)

[Sharon] Also, keep driver safety in mind. In a street pickup, the dispatcher has no record of who got into the cab. At least with a phone-in, they know a "first name" and a phone number, ie, location. I guess I think Valentin's suggestion is fine, but with some kind of safety precaution? Not sure what that would be---maybe a required card swipe.

**2. How do you handle customer priority? (Do advanced reservations get more priority?)**
[David] YES. COMMITMENTS TO PEOPLE FOR RIDES ARE HONORED FIRST. ONLY MAKE COMMITMENTS FOR NEW RIDES WHEN WE HAVE THE CAPACITY FOR THE RIDES.

[Valentin] Agreed completely.

[Sharon] No additions. Wait, one. Provide system of ticklers for advance reservations. Customer phone reminders one hour prior, maybe?

**3. What sort of policies exist between cabbie and dispatcher?**
[David] NOT SURE WHAT THIS MEANS....

[Valentin] They probably mean if they can cooperate in ways that are outside the system (such as collusions). This is not allowed explicitly by making all policies and decisions (such as who gets the next ride) governed by the system and the policies set by the supervisor (not the dispatcher). The goal is exactly to prevent instances of collusion.

[Sharon] Yes, exactly. We said we wanted the dispatcher to be able to override the queue, which is a good idea still, but there should be a trail of the actions taken, so any collusion would turn up in the stats overrides by zone by shift? Deeper search would allow more detailed discovery, if warranted.

**4. Is it ok for a cabbie to refuse a ride request?**
[David] YES. THE CABBIE IS GIVEN A CHOICE TO ACCEPT OR REJECT A RIDE. CABBIE HAS TO RESPOND WITHIN DEFINED PERIOD OF TIME (15 SECONDS ?)(SO DISPATCHER DOES NOT KEEP CALLER ON LINE?; OR DOES DISPATCHER HANG UP BEFORE CONFIRMING THAT THERE IS A CAB THAT CAN TAKE THE RIDE?). CABBIE DOES NOT

KNOW DESTINATION UNTIL ACCEPT RIDE, SO THAT THEY DON'T GET THE CHANCE TO GAME THE SYSTEM BY ACCEPTING ONLY LONG RIDES.

[Valentin] Generally agreed. The aim is to have an answer to the customer in real-time, so that they don't have to call back (customer might be on the street without another coin on hand).
Also, when a cabbie receives a request, they don't see the destination address, only the pickup location. (This is meant to avoid situations where cabbies pick up requests based on whether those are longer rides and hence will pay more money.) So a cabbie can accept/refuse requests at the time the pickup location is all they know. Only if they choose to accept will they see the destination address. In case the cabbie denies the request (for whatever reason), they get rescheduled to be last on the queue for that zone – the idea is that this would provide a strong disincentive for frivolous denials. In anycase, all decisions should be logged for future review, say, in reports.

[Sharon] But in practice, and with rare exceptions, there are always enough cabs in a zone to guarantee a ride, then go through the queue for acceptance. They don't need real time confirmation by the cab before hanging up with the customer. That can all be after the call. They just need real time confirmation that there are cabs in the zone.

**5. Will there be a resident "tech guy" on staff at the cab company?**
[David] NOT SURE WHAT THIS MEANS.... TECH GUY TO DO WHAT?

[Valentin] My guess is, the question asks for on-site system maintenance guy who might tweak parameters (configuration, etc.). That is the job of the supervisor. But he's not a programmer and can only do as much as configure options in a well-defined and well-documented way.

[Sharon] That's exactly right; the dispatch manager is the "tech guy," by dint of his training sessions, documentation, and (presumably) the tech support that we sell him as part of the package. But do you want me to spell out what that tech support is? Why not have the class tell us what it should be?

**6. Is it ok to have a display console (like a tablet PC) in the cab?**
[David] YES. SEE WHAT OTHER CAB SYSTEMS HAVE.

[Valentin] Although I'd say, if they can propose alternatives (which are more effective), that would be viewed favorably by the customer. The customer is not wedded to these tablets unless they are the most profitable way to do business and maintain effective communication between dispatchers and cabbies. It looks like these tablets are indeed effective, but I wouldn't discourage students from discussing alternatives and proposing them. We can still decide not to go that way, but it's going to be useful for them if they want to do that exercise.

[Sharon] Good points, Valentin, and at least have them think about the practicality in the short term of trying to get the drivers to use this sort of technology.

**7. When is it ok to change the on duty / off duty state of the cab?**
[Valentin] I think it's ok to change the state when the cabbie calls in and explicitly requests a change of status (on/off). This might happen when the cabbie first gets in the cab at the start of the workday, when they take a break (for some reason), and when they quit. Does that sound right?
I haven't thought through all possibilities and whether cabbies can defeat the system using some loophole we might have left. But this only underscores the importance to make the system configurable rather than hardcode assumptions in it.

[Sharon] Agreed, it should be very flexible.

**8. Is it ok for a cabbie to change which zone it's a part of?**
[Valentin] My suggestion is to not wed cabbies to zones - it would result in a mess during special events (noone can handle properly the reconfiguration as often). I don't know why students decided to assume that cabbies have zones (and must return to them every time), but this certainly is not part of the real cab system (the way it was presented to us) and to me it makes little sense.

[Sharon] I don't think I gave them that impression, Valentin, but you're right, they didn't really just think about a cab ride. A cab picks up, and it goes to another place and drops off. Then it's done. At the OTHER place. So you're right, we should expect cabs to change zones with every ride. They just say where they are at a drop, and they are in that zone.

**9. Do employee records need to included in the system? If so what needs to be in them?**
[David] YES.
CABBIE: NAME, UNIQUE ID
DISPATCHER: NAME, UNIQUE ID
SUPERVISOR: NAME, UNIQUE ID

[Valentin] Agreed, but I would add a few more:
Cabbie: (a) on-duty/off-duty hours by day (to allow making correlations in reports; to allow distinguishing effective/productive cabbies and recognizing them later; etc.)
(b) number of rides (including total mileage) by day
(c) car driven by day
(d) record - customer complaints, accidents, breakdowns...
Dispatcher: (a) On-duty/off-duty hours by day (to allow making correlations in reports);
(b) number of dispatched rides by day
(c) cases of interference (and causes for it) into the scheduling system by day
Supervisor: (a) On-duty/off-duty hours by day

Also, we need (although it's not an employee :))
Car: (a) Unique ID;
(b) description (registration number, make, model, capacity, current condition)
(c) last inspection/visit to shop

[Sharon] Wow, no additions!

**10. What information will be needed in the manager reports?**
[Valentin] These will increase as we go on and identify the need for more, but for a start I suggest:
- number of rides by cabbie by day / by week / by month;
- number of dispatched calls by dispatcher by day / by week / by month;
- number of rides (collective by all cabs in the fleet) by hour (different for different days of the week);
- cabbies sorted by average mileage / average number of customers per day;
- frequency of denials of ride requests by cabbie by day/week/month;
- frequency of interference by the dispatcher into the (otherwise) automated scheduling;
- etc.

[Sharon] Yes, but pretty much all the same info for the cabs themselves as well.

**11. Are the cabs allowed to be shared by multiple customers?**
[David] YES. BUT ONCE DRIVE STARTS, THE CABBIE MAY ONLY PICK UP ANOTHER RIDE IF THE RIDER AGREES.

[Valentin] Agreed. But we should explicitly allow picking up multiple customers from the same starting point (provided they agree to that) - that might be a hotel...

[Sharon] Fine too.

**12. What did you mean in the requirements list by "Customer Call Tracking System"?**
[Valentin] I am not sure, but it may mean some form of identifying where the customer is calling from given the number they are calling from... Shuttle Express uses this - they don't even bother to ask you where you're going, just what the phone number there is. :)

[Sharon] Yes, a customer history by phone call (remember he said they DONT keep a record of where the caller has gone in the past, but I would dispute that given my own experience. But they do know your name and address when you call. It would be nice to keep CC on file, so no money, no cc, etc., has to change hands at time of trip.