

## **Customer Meeting**

- 1. How should the system work in a perfect scenario?**
  - a. The customer is driving a vehicle in a parking lot, activates the system, the system finds a spot, the customer validates the spot and the car finishes the maneuver.
- 2. How would someone activate the HMI system?**
  - a. Depends, button on a screen or sync-system to activate it?
- 3. Will there be a cancel button?**
  - a. Yes, a button to cancel the system will also be necessary.
- 4. Should any interaction cancel the system?**
  - a. The accelerator wouldn't necessarily cancel the system. The brakes would.
- 5. What if the customer uses the accelerator during a maneuver?**
  - a. We limit the speed, so that would protect it. The steering wheel would also be ignored.
- 6. At what point is active park assist canceled due to failure?**
  - a. Abort and not complete the parking maneuver during a failure, but the conditions of a failure are up to us to determine. The vehicle should not accelerate, perhaps a gradual stop and put it in park.
- 7. What if parking modes are selected incorrectly by the user?**
  - a. They'd have to abort and reselect.
- 8. How do the side sensors determine a parking spot?**
  - a. The vehicle assumes parking will be available once initiated. You can assume you're in a place with gaps/vehicles and parking.
- 9. What about if it was activated with no parking available? Or if the parking available is illegal/invalid?**
  - a. Invalid parking is up to the driver to notice. In the example of a fire hydrant the user should verify the spot with the system. If the system can't find parking in a reasonable time, it will abort.
- 10. What about multiple parking spots being found?**
  - a. It should find them one at a time, using the screen to render the space and the driver should verify if they want that spot or not.
- 11. What if parking takes too long?**
  - a. Offer the driver a choice to continue or not. A reasonable amount of time is 2 minutes, in all cases.
- 12. What if the size of the car changes due to a bike rack or trailer hitch/etc?**
  - a. We could add a feature to input that information based on what they added and use the length parameters the same way.
- 13. Will the system identify different objects?**

- a. It should recognize the difference between objects that would be harmful and ones that would be benign. It may not notice something too small.
- 14. What if the object is moving?**
  - a. The system should react the same if it is in the way.
- 15. Is there a speed limit to activating the system?**
  - a. Yes, they are the same.
- 16. What is the range detection on the sensors?**
  - a. About 6 feet of range.
- 17. Should the system react on its own to obstructions?**
  - a. It will react on its own, aborting and letting the user know why.
- 18. When does distance matter to abort?**
  - a. If an object is within 18 inches of the car.
- 19. Should there be a requirement for the user to activate the system?**
  - a. A verify button on the HMI, you can assume each system is unique and all connect to communicate. The system needs to be protected from a physical attack as well as cyber attack. Somehow verify false data being sent, perhaps checking the time between changing information.
- 20. If the car is collided with, what should happen?**
  - a. The system should abort, no further action required. Hopefully the driver will abort, being aware of their own surroundings.
- 21. What happens if the system is attacked?**
  - a. Log the event and abort. No need to notify the user. If there are repeated attacks, disable the system and notify the user that the vehicle needs to be serviced.
- 22. What if an error occurs within a system?**
  - a. It should be disabled and notify the user to service the vehicle.
- 23. Should our system be able to exit parking spots?**
  - a. No.
- 24. What if multiple systems are active?**
  - a. Create a priority scheme. Limit availability based on other systems.
- 25. Would a button help verify the legitimacy of the system?**
  - a. Multiple fail safes are needed to verify that. A weight sensor on the chair, a button, etc.
- 26. What if the system fails?**
  - a. Abort the maneuver/system.
- 27. How does the 18 inches work in regards to stationary objects during a parking maneuver?**
  - a. The vehicle will establish a reference frame of stationary objects. It will understand they are not moving.

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**28. What if the driver never stops accelerating?**

- a. The pedal will be kept dead until the car finishes the maneuver and changes the gear to park. To leave park they are required to brake, so this should solve the problem.

**29. Would the wheel reorient itself if cancelled mid turn?**

- a. Yes, slowly and carefully.