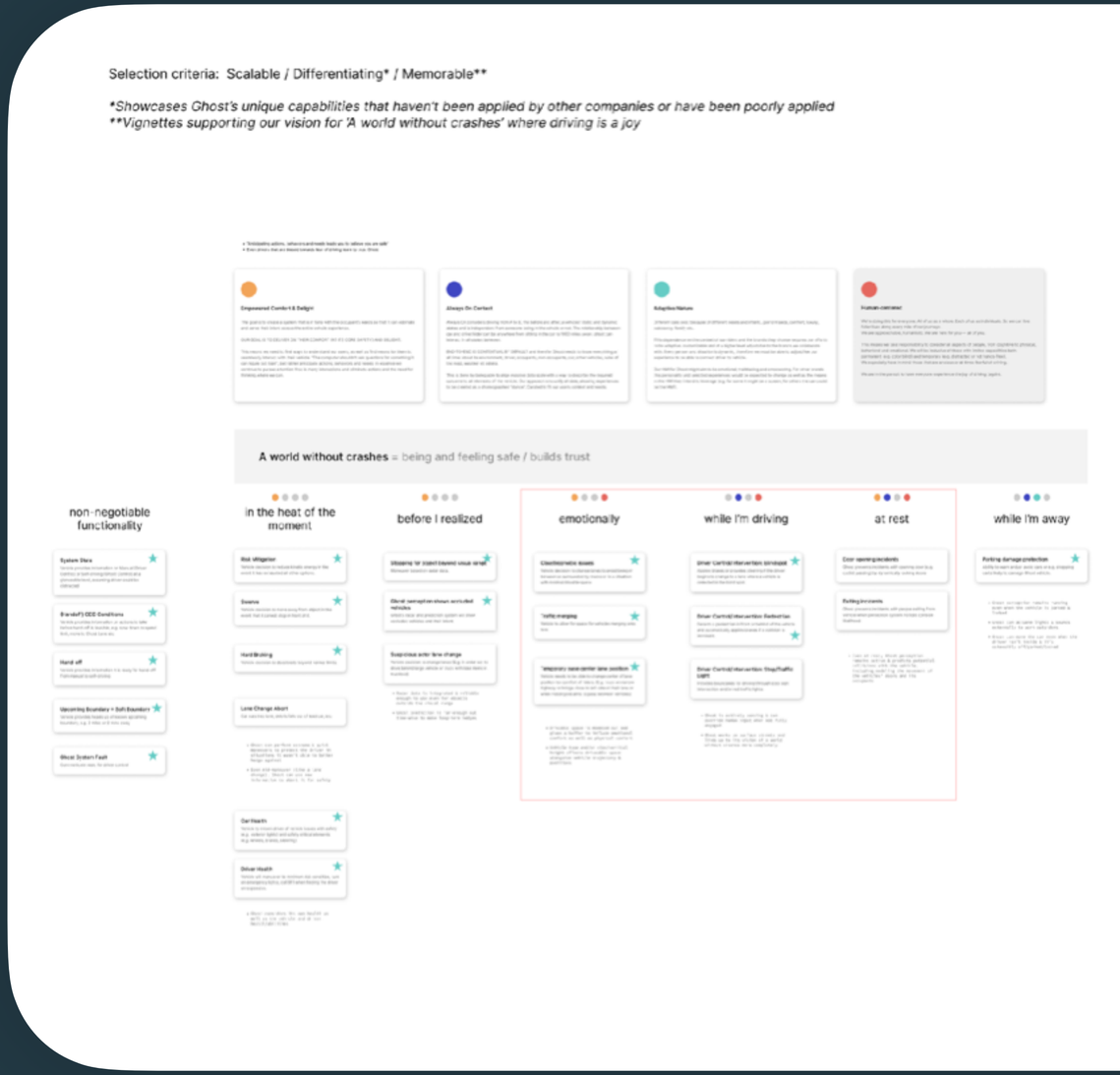
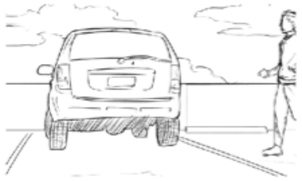
Like any major undertaking, there was significant research done to assess the entire landscape of options, and working alongside product and engineering counterparts to realize a scope of work that is manageable.



Design Goals

1 / Away
- Ignition is off, the user is somewhere else
- Security should be obviously present and reactive to the environment both people and objects (e.g. thieves/people, shopping carts)



2 / Walkup
- Ignition is off, the user is outside the vehicle
- Create confidence around presence of the driver & responding to it
- Recognition and authentication
- Passive authentication

3 / Parked
- Ignition is on, the user is inside the vehicle
- Ghost comes to life and greets the driver, introducing sonic branding
- Pre-driving setup often happens now for navigation, music, etc.
- Potential system 'check' feedback
- Evaluator authentication, e.g. software key name/code/ password
- Seatbelt check

4 / Pre-Highway
- The user is manually driving the vehicle, mostly on surface streets
- Likely utilizing some navigation and/or music
- Ghost perception is working and provides assistance (e.g. pothole detection, ADAS capabilities

5 / Ready
- User is on the highway and has satisfied all conditions for Ghost to be active
- This is our second most primary hero moment ux-wise that we can celebrate
- Introduction of sonic branding indicating Ghost is ready.

6 / Hand-off
- Control has been ceded and the driver is looking for confirmation
- Likely for new users to be uncertainty and the variety of the situations this may occur in is massive

7 / Autonomous
- Ghost is fully in control
- This is our most celebratory moment
- User can relax now and focus on other parts of the experience without multitasking with driving
- Ghost provides entertainment while not driving

8 / Event
- Ghost sees a potential hazard
- User is calmly informed of Ghost's actions and returns to their activity
- Hazard is visualized on display to coincide with what you see IRL

10 / Boundary
- Ghost provides a 'headsup' that a boundary is ahead
- Ghost needs the user to take back over
- User's attention may be elsewhere and is not guaranteed
- Opportunity for a 'need your attention' sound

Ghost Proprietary and Confidential

In order to get buy in across teams, we used various methods of quick visualization, from whiteboarding to storyboard creation.