WHAT TRUCKING COULD BE

The truck-driving experience is rapidly evolving. Take a look at where the technology is headed in a few years, and where it could be by the end of the decade.

2025 USER STORY

Introducing Ben

Ben's fleet manager is highly concerned about employee retention and is retrofitting the fleet with applications designed to support drivers throughout their time on and off the road.

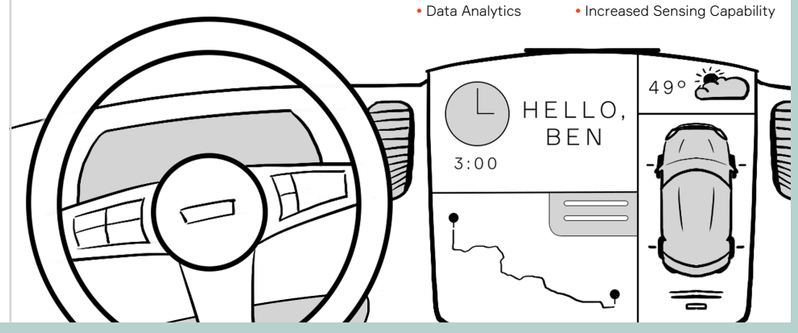
PROFILE

- 31 Years Old
- Married
- Tech-Savvy
- 2 Children
- Inexperienced Driver

ENHANCED DRIVE

Safety & Entertainment

- Health Focus
- Enhanced Connectivity
- Driver Monitoring
- Fleet Connectivity
- Data Analytics
- Increased Sensing Capability

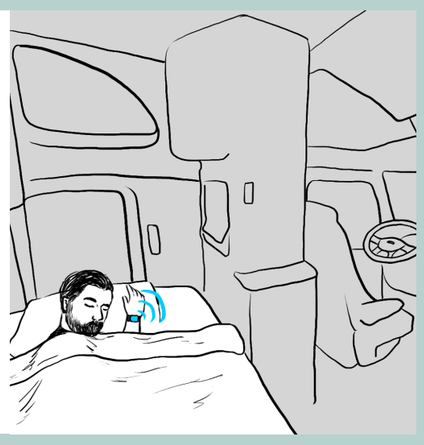


5:30 a.m.
Waking Up

Ben's cabin and smartwatch wake him at the optimal time, according to his REM cycle.

Interior Sensing: Cabin Sensing
- Body Position Tracking

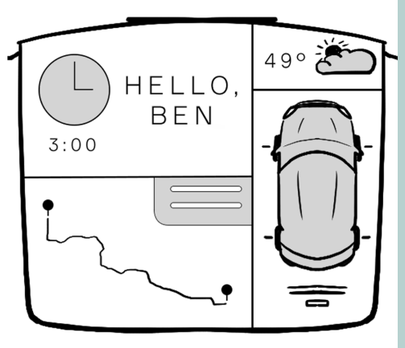
Cabin Compute
- BYOD Device Sync
- Voice Command



6:00 a.m.
Planning the Day

The system completed an over-the-air update overnight, and Ben's fleet management unit provides an overview of the day. The system maps the most efficient route and adjusts it as needed.

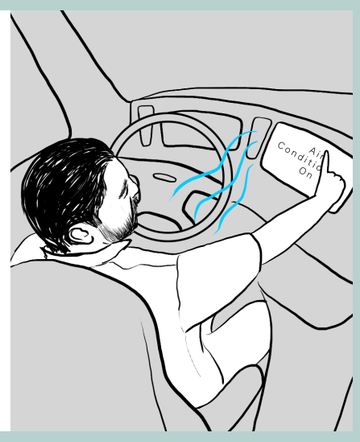
Cabin Compute: Integrated Cockpit Controller
- Driver Profile Management
- Fleet Management
- Navigation



10:30 a.m.
Feeling Tired

With many miles driven and many more to go, the driver monitoring system notices that Ben is getting tired and suggests turning up the A/C to help wake him up.

Interior Sensing: Driver Monitoring
- Distraction & Drowsiness Detection
- Drowsiness Mitigation

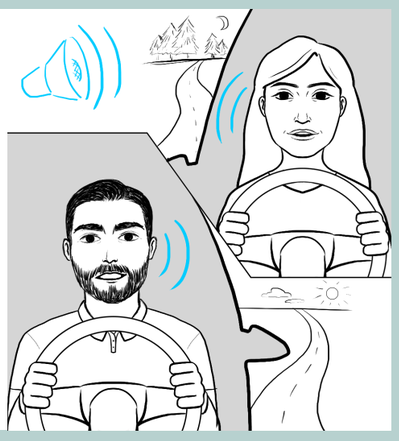


11:30 a.m.
Elevating Engagement

Ben engages in a voice-based game with others in the fleet to mitigate his drowsiness. The system highlights oncoming vehicles to ensure he stays focused and aware.

Interior Sensing: Driver Sensing
- Distraction & Drowsiness Recognition
- Interior & Exterior Sensor Fusion

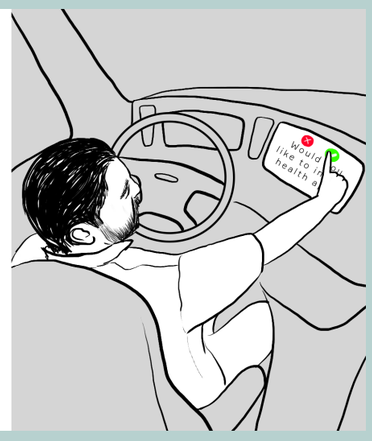
Cabin Compute: Integrated Cockpit Controller
- Advanced Driver-Assistance System Human-Machine Interface (HMI)



3:45 p.m.
Health Assistant

While Ben is on the road, his employer rolls out a new health management app.

Cabin Compute: Integrated Cockpit Controller
- Function on Demand
- Android App Ecosystem
- Data Analytics



4:00 p.m.
Afternoon Break

Because he opted into the company health plan, Ben is kept active. Since he was feeling drowsy, the system suggests that he works out during his break to help keep him moving without tiring out.

Interior Sensing: Driver Sensing
- Distraction & Drowsiness Recognition

Cabin Compute
- Data Analytics

2030 USER STORY

Introducing Cecilia

Now that her daughter is almost grown, Cecilia is going back to school. She heard that technology in the logistics industry makes it viable to work and learn simultaneously.

PROFILE

- 34 Years Old
- Married
- 1 Child
- Highly Social
- Driver for 2 Years
- Active Student
- Tech-Savvy

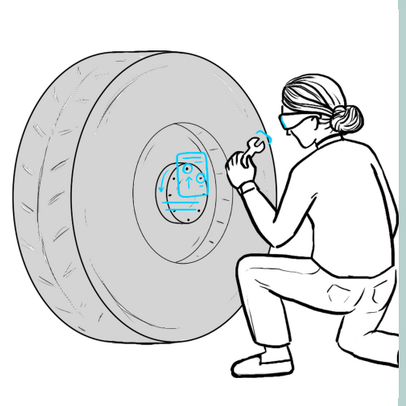
2030 CABIN INNOVATIONS

- 5G Connectivity
- Extended Reality
- L3-L4 Capabilities
- Full Cabin-Sensing Coverage
- Ecosystem Synchronization
- Touchless Interaction

6:00 a.m.
Vehicle Pre-check

During daily maintenance, Cecilia's in-vehicle assistant guides her via an earpiece and augmented-reality glasses.

Cabin Compute
- Digital Assistant
- Augmented-Reality Integration



7:45 a.m.
Autonomy

As she begins to drive and approaches the highway, Autonomous Mode becomes available, and the system offers step-by-step instructions to hand over control.

Cabin Compute
- Handover/Takeover HMI

8:00 a.m.
Productivity

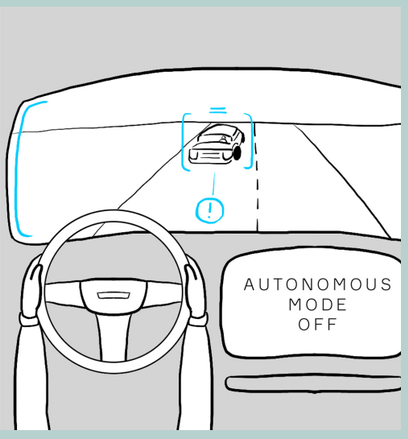
With the truck in Autonomous Mode, Cecilia engages in her coursework while the system ensures that she remains aware of important road scenarios and has plenty of forewarning to take control when needed.

Cabin Compute
- Digital Twin
- Device Synchronization
- High-Speed Connectivity
- Productivity App Integration

2:00 p.m.
Takeover

After lunch, Cecilia begins driving again. Through augmented reality, the windshield displays areas of focus.

Cabin Compute
- Augmented Reality
- Handover/Takeover HMI
- Interior & Exterior Fusion
- Threat Assessment



3:00 p.m.
Long-Distance Parenting

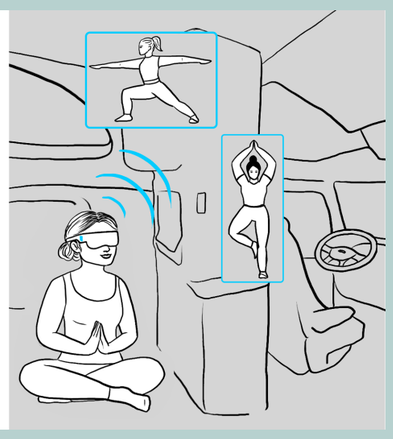
The truck assistant knows that Cecilia tends to catch up with her daughter after school, so once her home security system registers that her daughter has arrived, it offers a video call with her. Before the call starts, the truck seamlessly takes over the driving task.

Cabin Compute
- Augmented Reality
- Video Calling
- Internet of Things Ecosystem

4:00 p.m.
Exercising and Socializing

After the day's drive, Cecilia can engage with friends via virtual reality in the cabin for group physical activity. The cabin sound system provides an immersive environment.

Cabin Compute
- Virtual Reality
- Telepresence
- Adaptive Premium Sound
- Offloading Compute



7:00 p.m.
Rest Stop

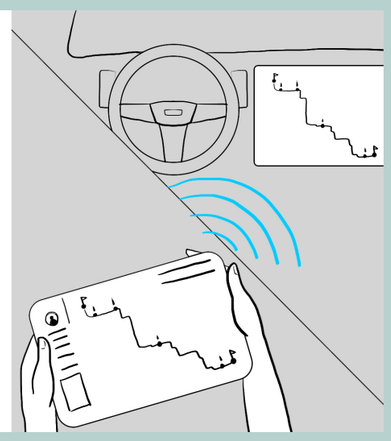
After refreshing herself at a truck stop, Cecilia returns to the truck, which recognizes her via external sensors and welcomes her back with a personalized external HMI.

Cabin Compute
- External HMI
- Personalization
- Driver Authentication

9:00 p.m.
Setting the Route

The night before the next long haul, Cecilia synchronizes the route she has to drive with her schedule, so the system knows when to engage autonomous driving.

Cabin Compute
- Driver Profile Management
- Android App Ecosystem
- Navigation



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