CASE STUDY

Self Driving Car Rear Display

gotomedia

- UI Design
- 3D Asset Modeling
- Interactive Prototyping
- UI Pattern Guidelines

Self-driving car passenger interface for an international event

gotomedia partnered with a global auto manufacturer to create a rear passenger interface for an autonomous vehicle experience. The experience was slated to debut at an international event and generate excitement around the future of the brand in self driving vehicles. In addition to highly customizable cabin personalization controls, the UI offered unique features that provided insight into the technology behind autonomous driving.

Project Outcome

- Fostered consensus across a diverse and distributed international team
- Created a full 3D environment to model the challenges in a data driven interface
- Quickly adapted to realities of software limitations and pivoted to overcome active development hurdles
- Crafted a unique touchscreen interface that combined multiple control surfaces into a single, seamless design
- Built a fundamentally international UI that easily accommodated often tricky localizations
- Established a robust design language in the somewhat uncharted territory of autonomous UI

Approach & Deliverables

The gotomedia team integrated seamlessly into the client UI team to foster a collaborative and fluid project workflow. In addition to UI design, the gotomedia team created a range of deliverables required to complete the experience, including 3D models, intro and outro animations and production ready Unity assets.

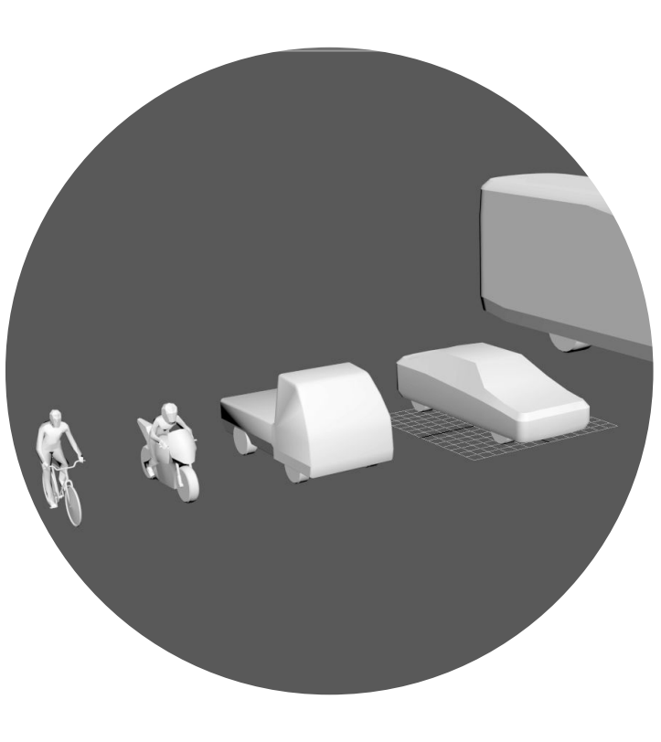
- UI STYLING
- ASSET MODELING
- UI FLOW & DESIGN
- ANIMATION & PROTOTYPING
- TESTING & ITERATION
- UI PATTERNS & STYLE GUIDE

UI Design

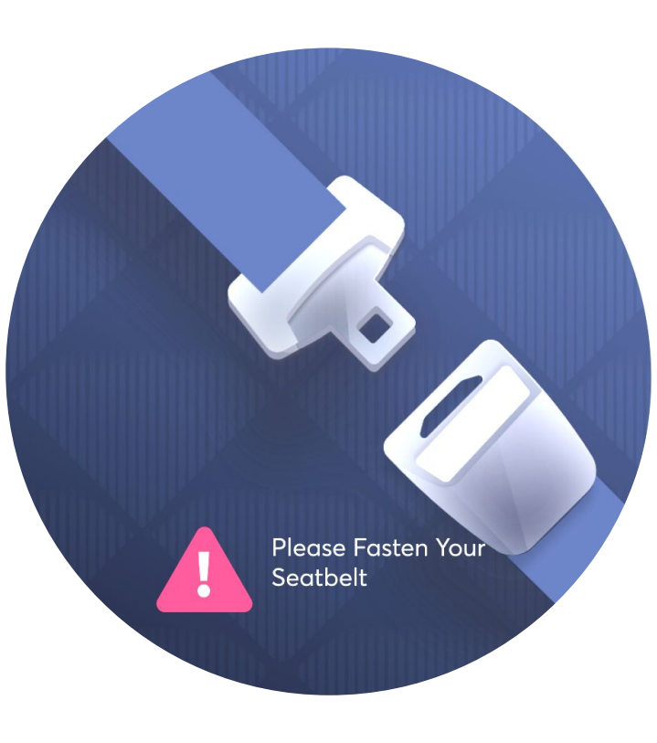
The passenger UI invites riders to personalize their environment while touring a predetermined route in an urban landscape. Key components of the interface include the points of interests display and traffic and road information. Three optional "data layers" to allow riders to gain a deeper understanding of how an autonomous vehicle senses and processes visual and auditory information to safely navigate unexpected road and traffic conditions.

Design Details

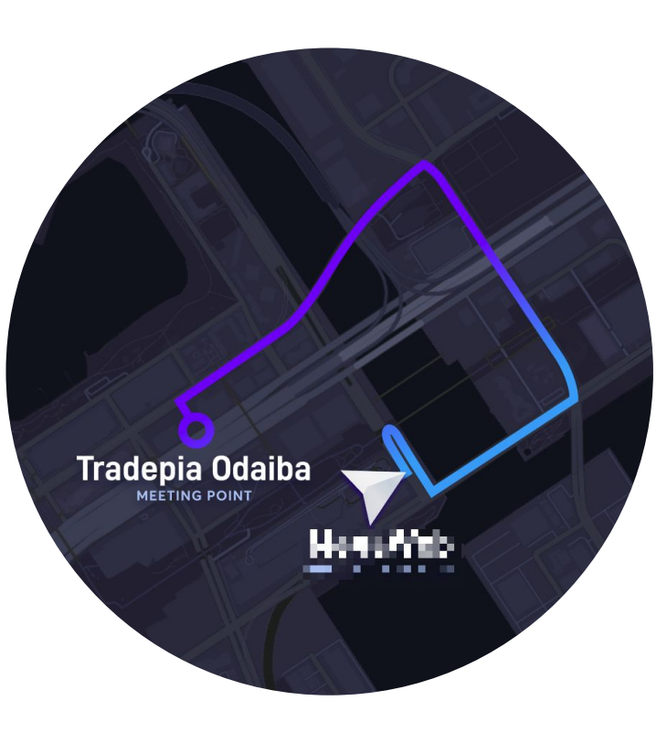
In defining the look and feel for the UI and prior to screen design, gotomedia presented several high-level design concepts exploring street environment visualization, color palette, typography and interaction control styling. The final look and feel incorporated new elements to create a distinctive experience for the event with existing brand elements to tie to the overarching car brand.



ASSET MODELING
Traffic models were created using Unity. Several styles with degrees of fidelity were explored prior to settling on the final styling.



CUSTOM ILLUSTRATION
Custom illustrations were created to quickly communicate alerts and safety information at key points of the journey.



DESIGN LANGUAGE
The design language was carried through at every level of detail in the UI, creating an engaging and memorable experience.

Micro Interactions

Clear and visible user feedback for the touch screen interface was essential for successfully communicating with passengers and enhancing the experience to make it enjoyable and engaging.

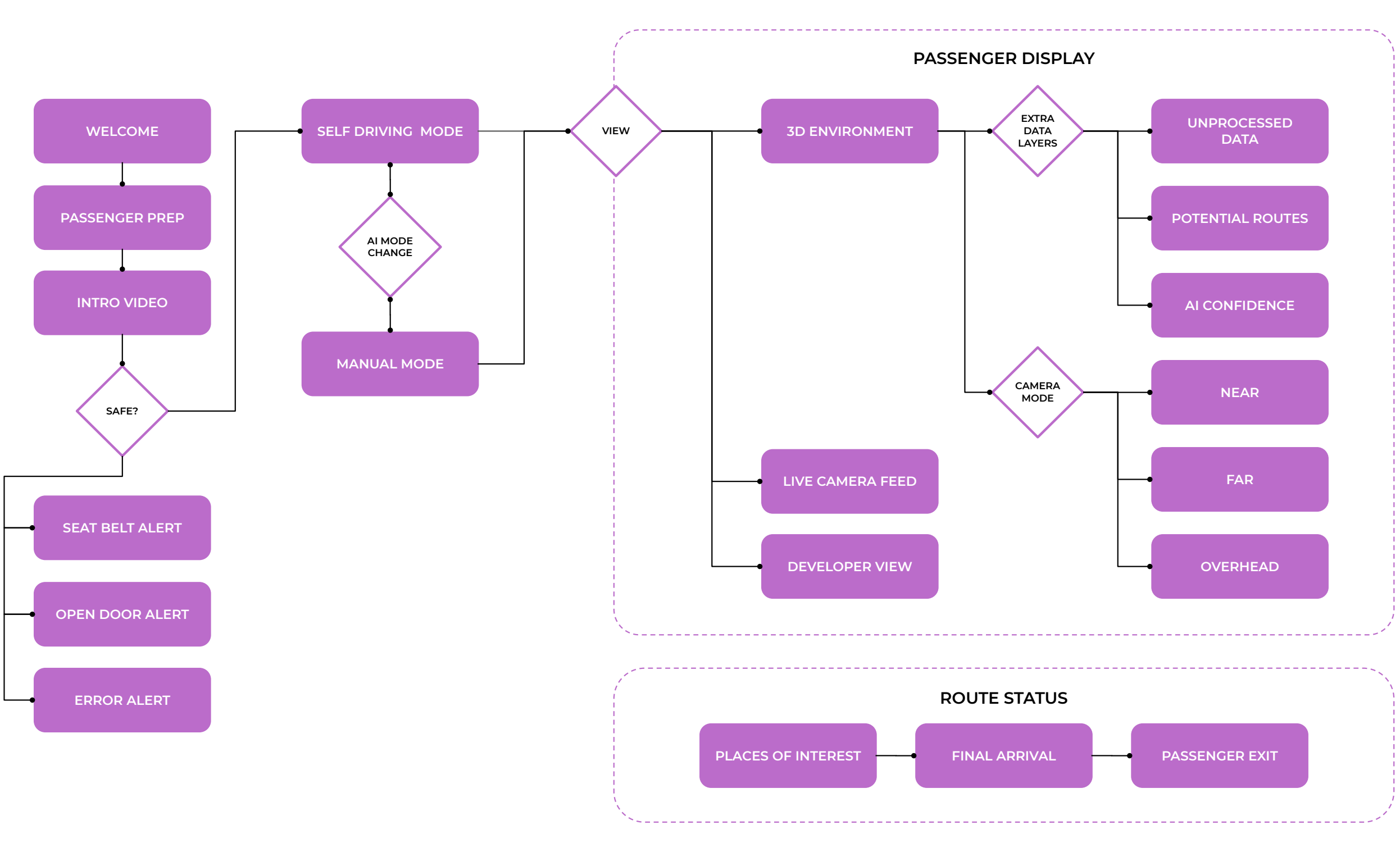
Design Principles

- Tactile visual styling
- Intuitive design clearly expressing functionality
- Pleasurable interaction, playful transitions and audio cues
- Clearly visible in variable ambient lighting
- Distinctive styling while incorporating existing brand attributes

UI Definition

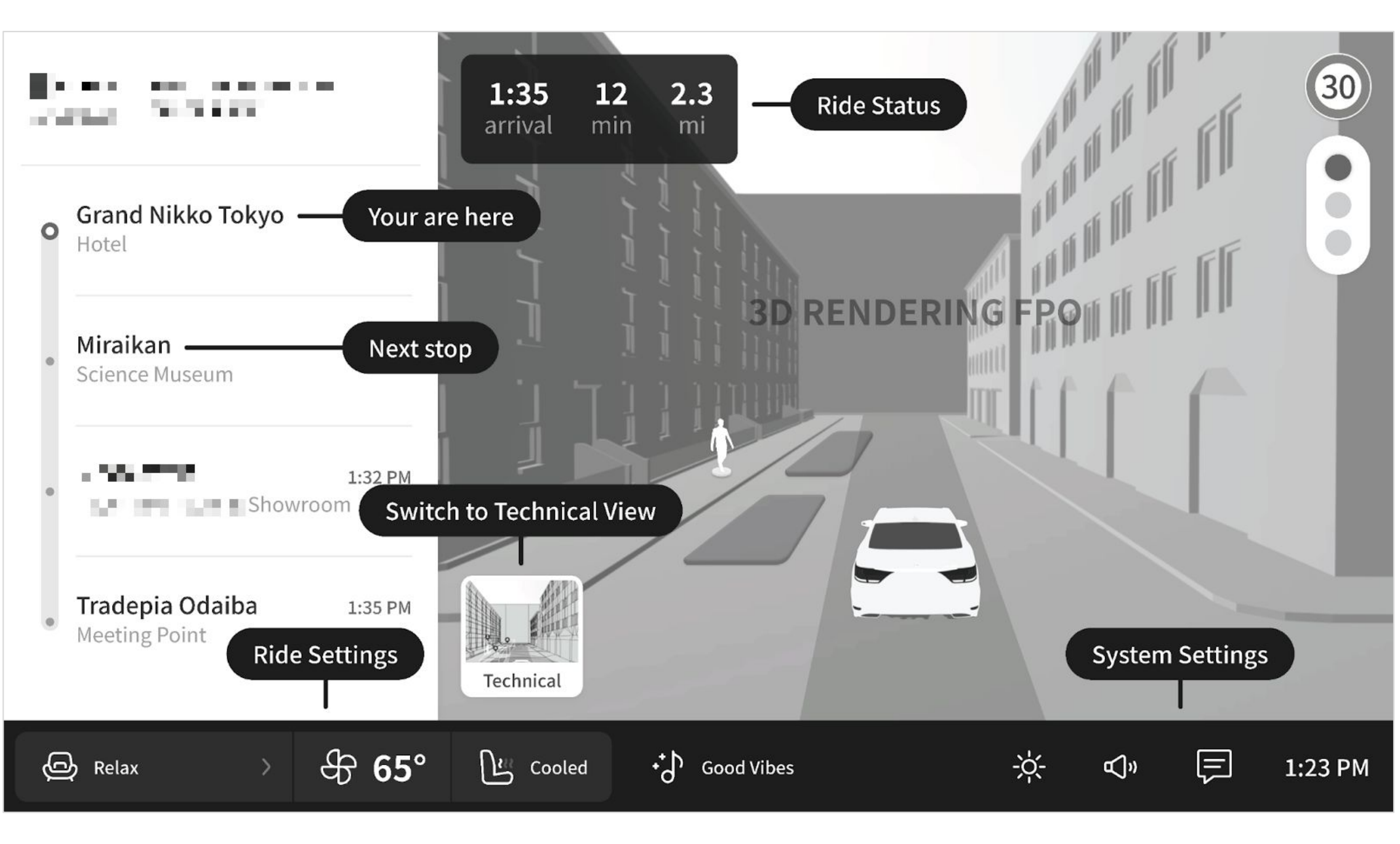
The passenger experience UI revolved around the primary display which focused on road and traffic conditions and points of interest highlights along the route. The UI provided the opportunity to display additional data layers to gain a deeper understanding of the self drive technology.

UI Flow



UI Iteration wireframes & prototyping

Wireframes and mid-fidelity prototyping allowed the engineering team to develop software concurrent to the UI definition and afforded the opportunity to iteratively refine the interface throughout the development cycle.



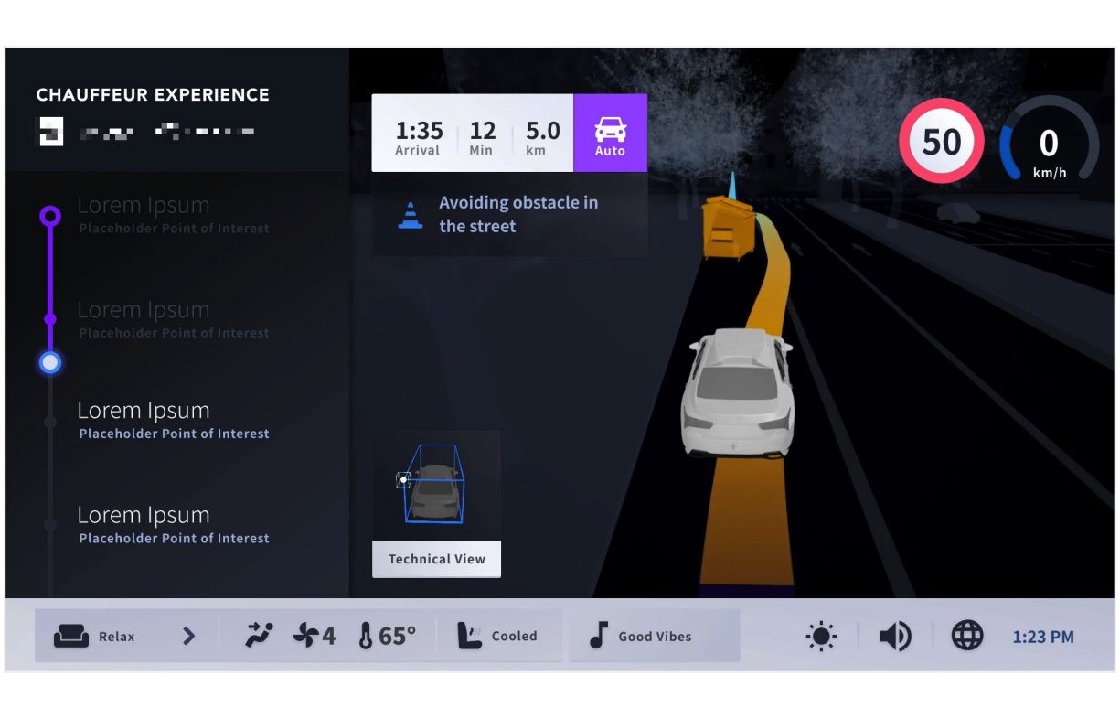
Personalization Options

A variety of detailed environmental settings allowed passengers to customized the cabin ambiance and enhance physical comfort.

The Ambiance presets controls a variety of settings to create a specific mood with music, lighting and fan.

COMFORT PRESETS	FAN	SEAT	AMBIANCE PRESETS	LIGHTING	VOLUME	LANGUAGE
NORMAL RELAX CUSTOM	POSITION SPEED TEMP	HEAT COOL SYNC	GOOD VIBES ZEN LOUNGE FOCUS	BRIGHTNESS DARKNESS	HIGH LOW CAPTION VOLUME	JAPANESE CLOSED CAPTION

Avoiding Obstacles



CALM UI
The obstacle view displays what's happening around the vehicle exterior and what actions it will take next.

- Highlight what's important
- Just enough information

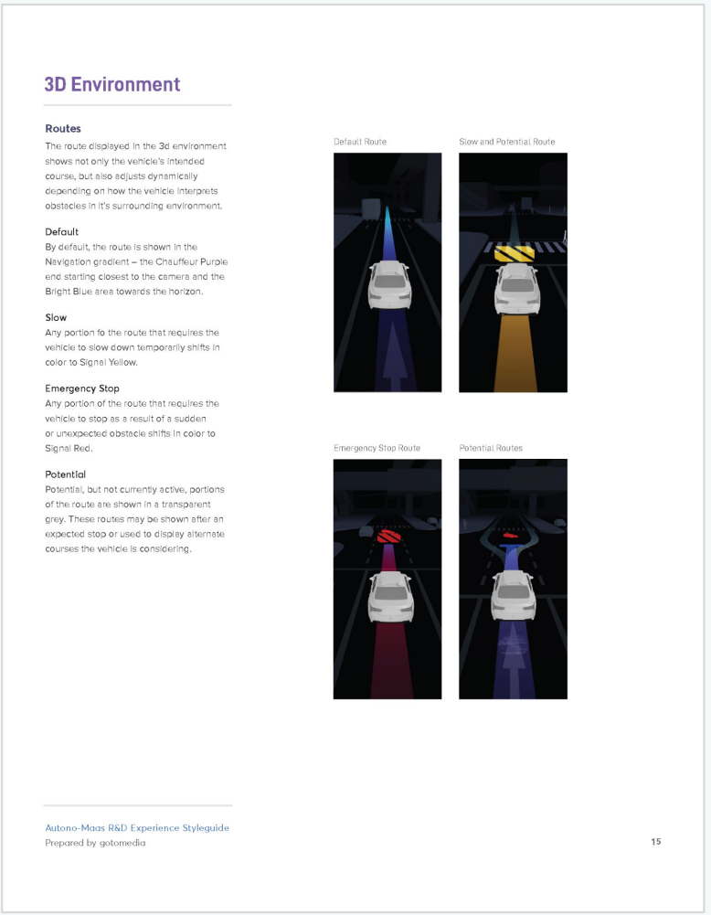
Multiple Pedestrians Detected

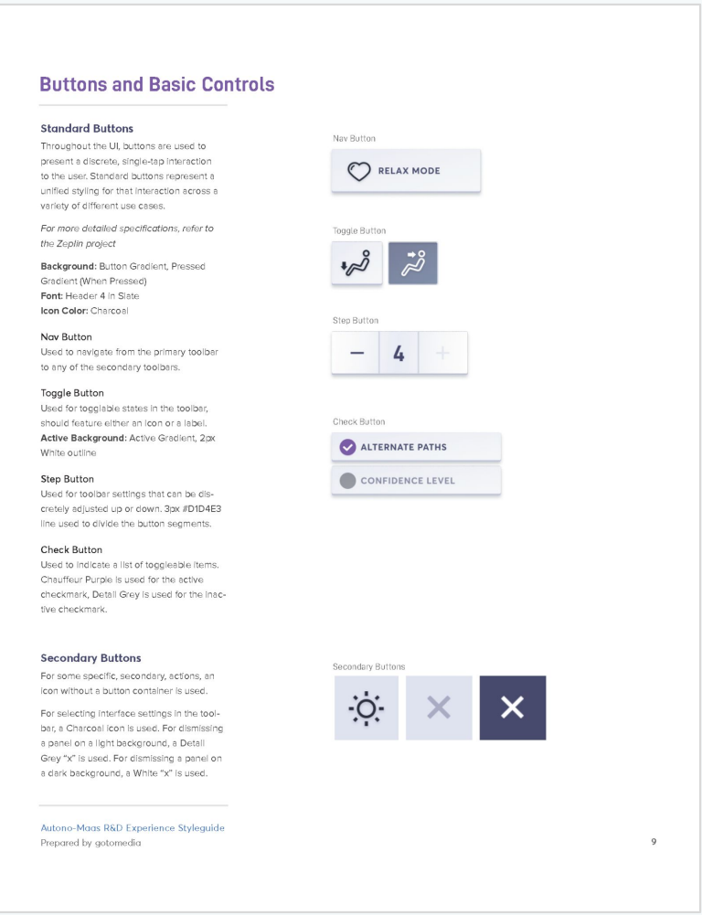
DATA LAYERS
The confidence data layer shows how the AI can detect and determine people and objects around the vehicle.

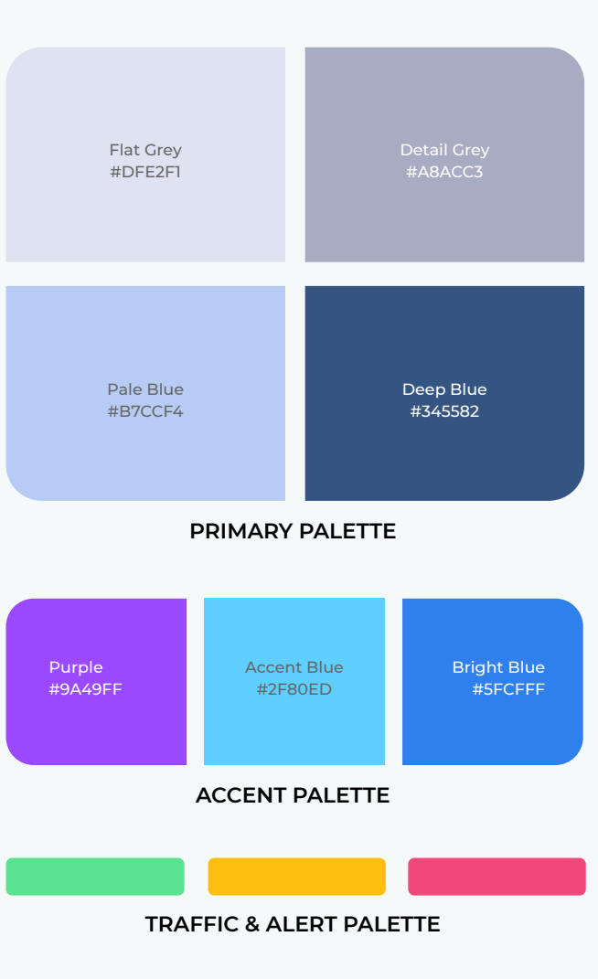
- 3 technical views
- Camera view

UI Patterns & Style Guide

Creating a detailed style guide with pattern, interaction and style guidelines was the last phase of the project. The helped to ensure cohesion across the application as developers continue to build out the application.





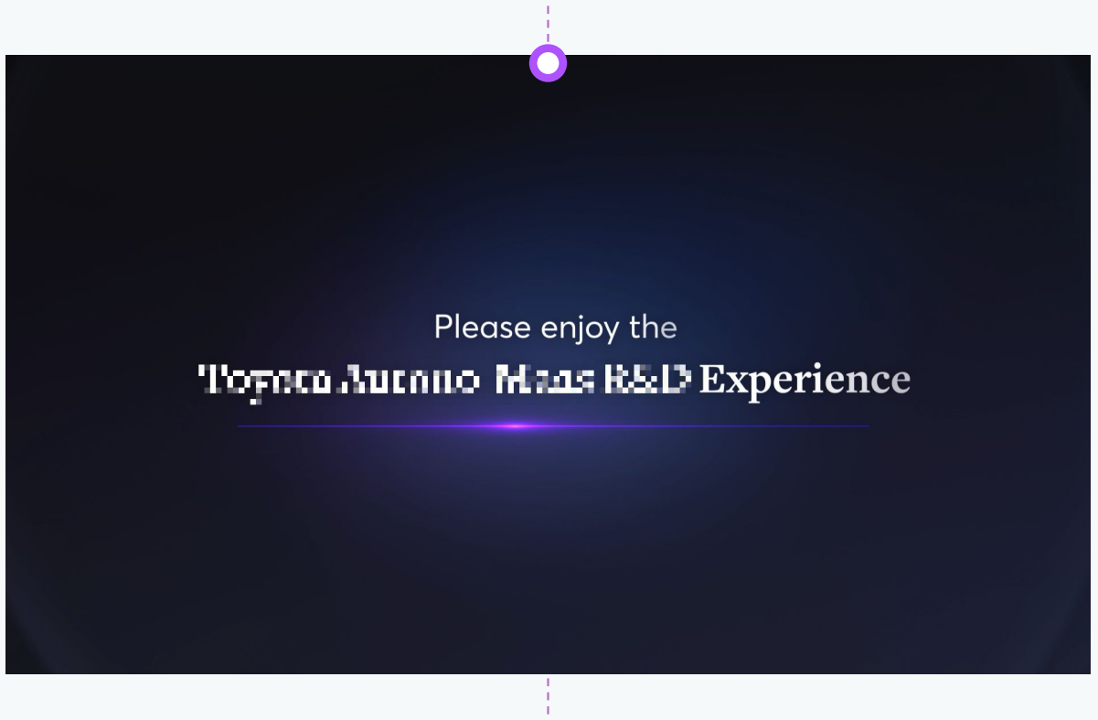


Ride Experience

Upon pickup, passengers are take to a selected predetermined location. After being seated and the safety check, details are provided on ways to engage with the interface and car, and points of interests along the route.

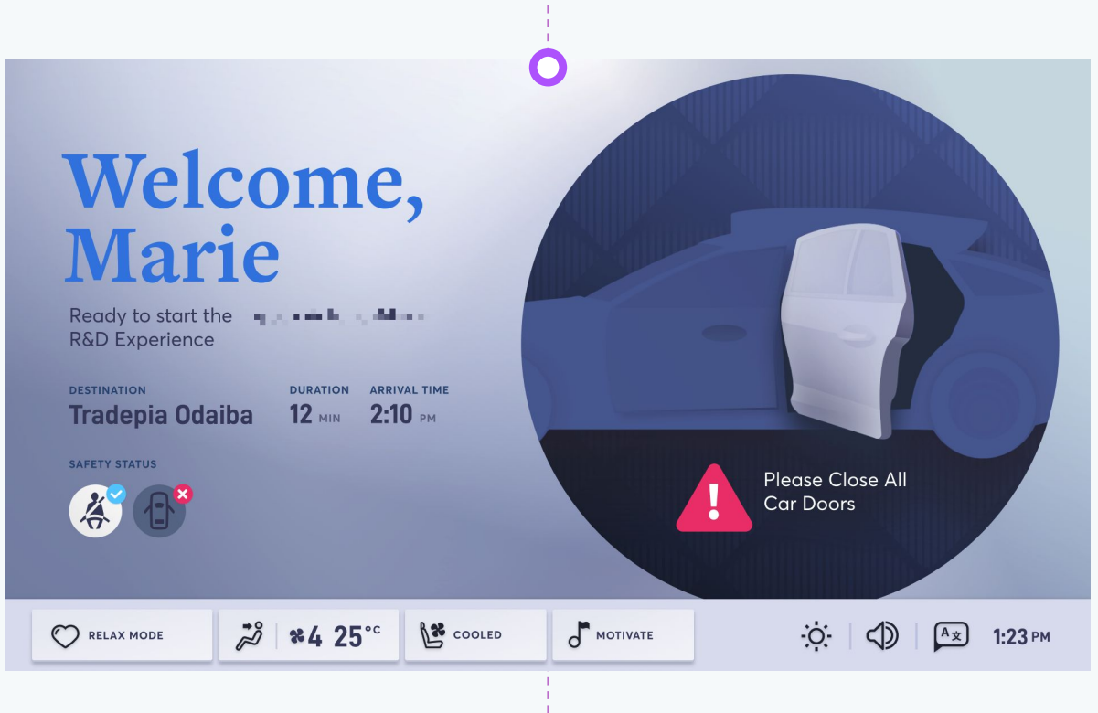
START RIDE

INTRO ANIMATION



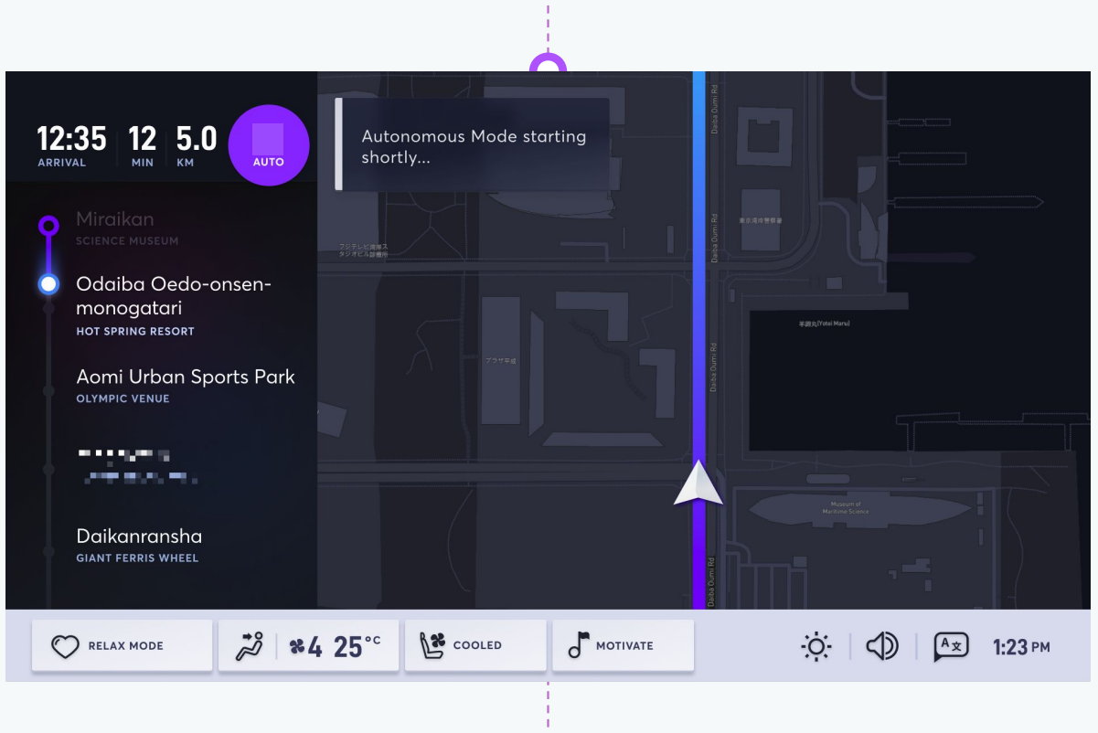
RIDE START

SAFETY ALERTS



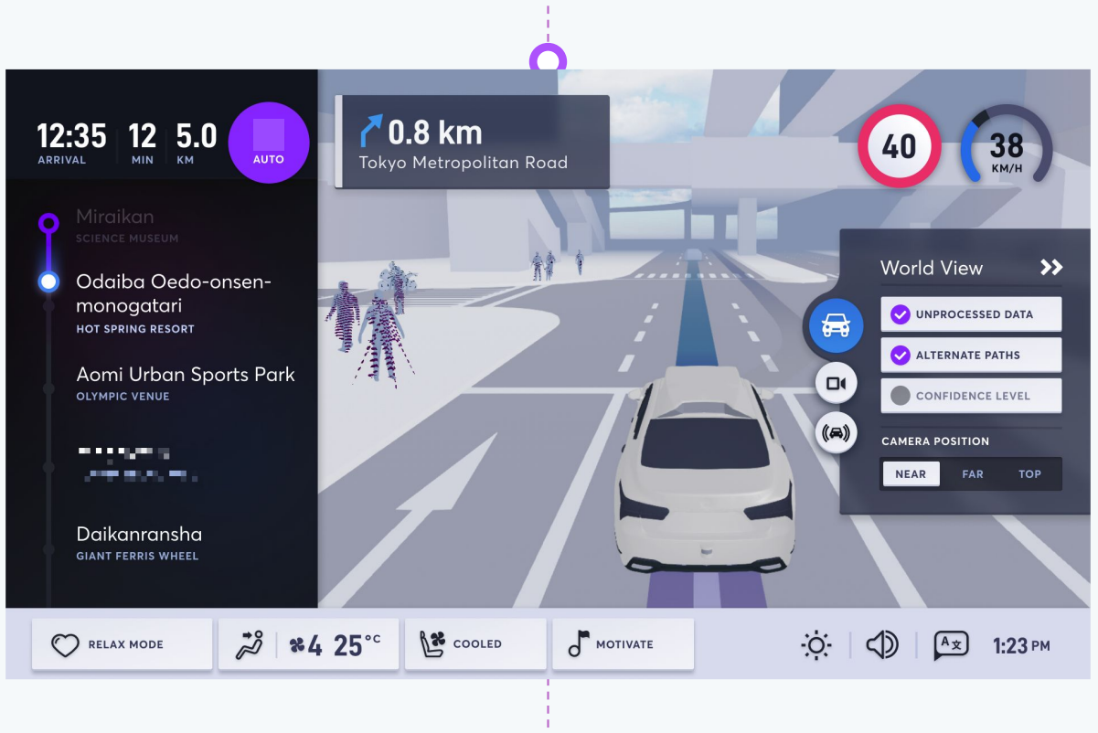
BIRD'S EYE MAP VIEW

POINTS OF INTEREST



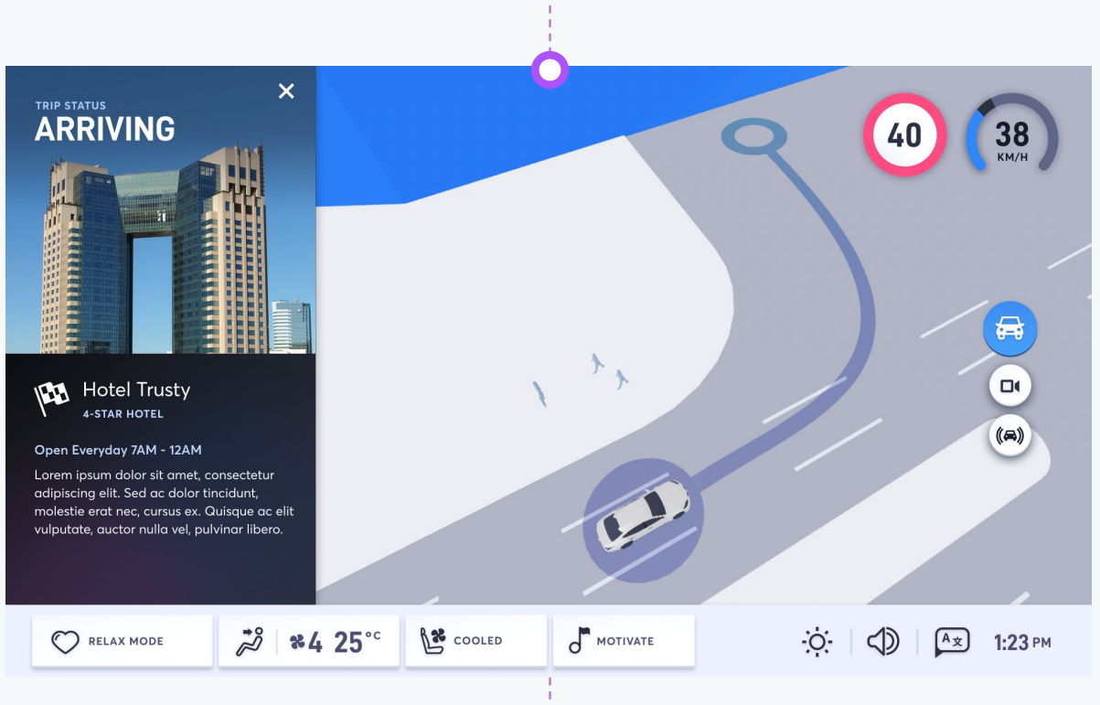
3D ROUTE VIEW

DATA LAYER CONTROLS



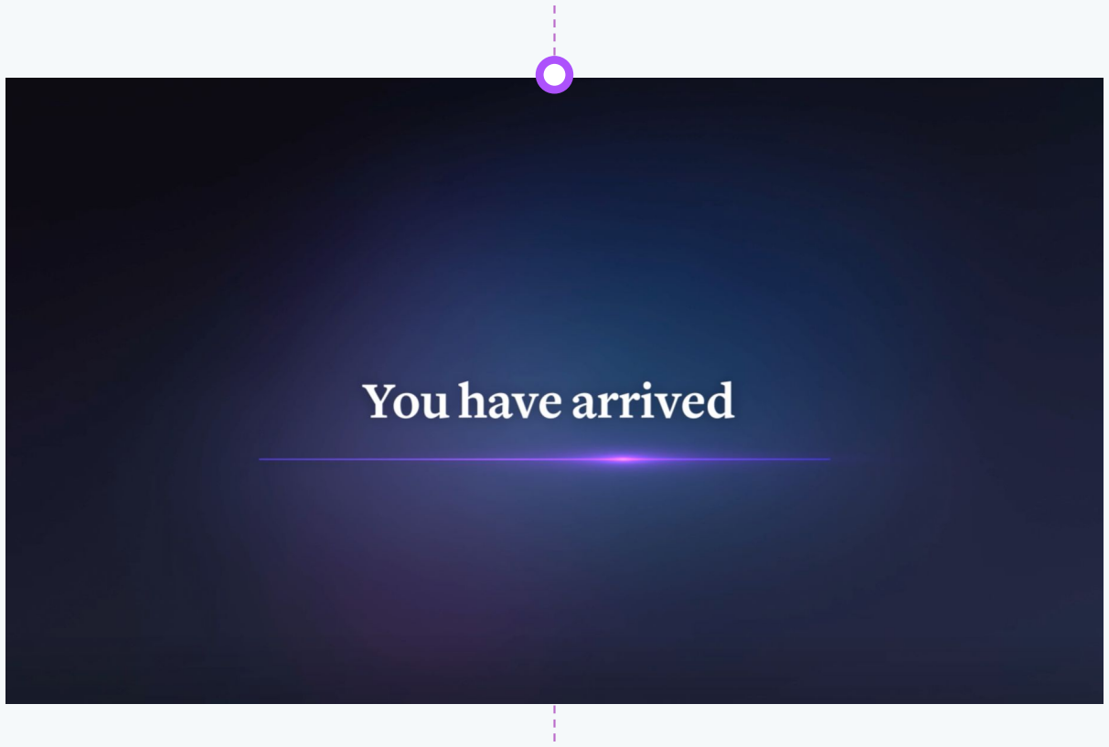
POINT OF INTEREST DETAIL

ARRIVAL VIEW



3D ROUTE VIEW

DATA LAYER CONTROLS



END RIDE