



Edwards.ai Research Findings

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Research Goals



As we went into research, we drafted a list of key questions to interrogate to set the structure for our evaluations and interviews.

- Discover key pain points riders and drivers experience before, during, and after the ridesharing process
- Unveil opportunity areas in the ridesharing space, especially with artificial intelligence in mind
- Evaluate solutions that already exist and postulate reasoning behind them

Research Methodologies



- Competitive audit
- Driver interviews
- Rider interviews
- Kano survey
- Desirability survey
- Usability testing

Driver Research

Competitor Analysis



To understand what problems and solutions to these problems exist, we evaluated potential competitors.

- Cargo - enables passengers to purchase snacks and drinks
- Vugo - interactive advertising
- Mystro - helps drivers manage several applications
- Freebird - earn points by using Uber and Lyft
- Hurdlr - tracks mileage, expenses, income, and tax deductions
- MileIQ - tracks miles to automatically generate a comprehensive record
- SherpaShare - smart driver pro tools to help plan best routes
- TripLog - helps drivers categorize transactions for mile deduction
- GasBuddy - finds effective discounts and prices for gas

Interviews (Services for Passengers)



We wanted to learn about what services drivers offer for their passengers, so we interviewed several drivers to gain these insights.

- Drivers offered complimentary extras like water bottles, wipes, tissue paper, mints, sickness bags, and phone chargers.
- Drivers used apps like Pandora (through Uber) and Apple Music, or AUX cords to give passengers control over the music. One didn't like it when passengers listened to certain genres.
- Drivers tended to set their phones to silent mode to minimize distractions.

Interviews (Safety vs Privacy)



Based on our desirability survey findings, there was a balance between safety and privacy that struggled to find its place. To learn about drivers and their values in regards to this, we questioned them around safety and privacy.

- Most drivers didn't see a need for safety features like facial recognition and object recognition, but the one female driver we talked to was strongly in favor of them.
 - Drivers pointed out that recording raises serious issues about how that data should be handled
 - One said it is "up to the driver to be aware"

Interviews (Other Features)



We were interested in gleaning insights on drivers' reactions to our prototypes; these features were shown to drivers to learn about their sentiments towards them

- When asked about an app tracking their driving, they were worried about its accuracy and whether it would affect their ratings.
- Most used Waze for navigation, though some used Google Maps, and others didn't know that they could switch the default in their app.
- Drivers didn't tend to use apps beyond Uber and Lyft while driving. Some were aware of apps like Mystro but didn't want to pay for them.
- Drivers claimed to be able to read people's preferences for levels of conversation, but recognized the need for some drivers to receive assistance.

Interviews (Pain Points)



To learn more about driver sentiments towards the ridesharing industry and any pain points that come with being a rideshare driver, we interviewed several drivers.

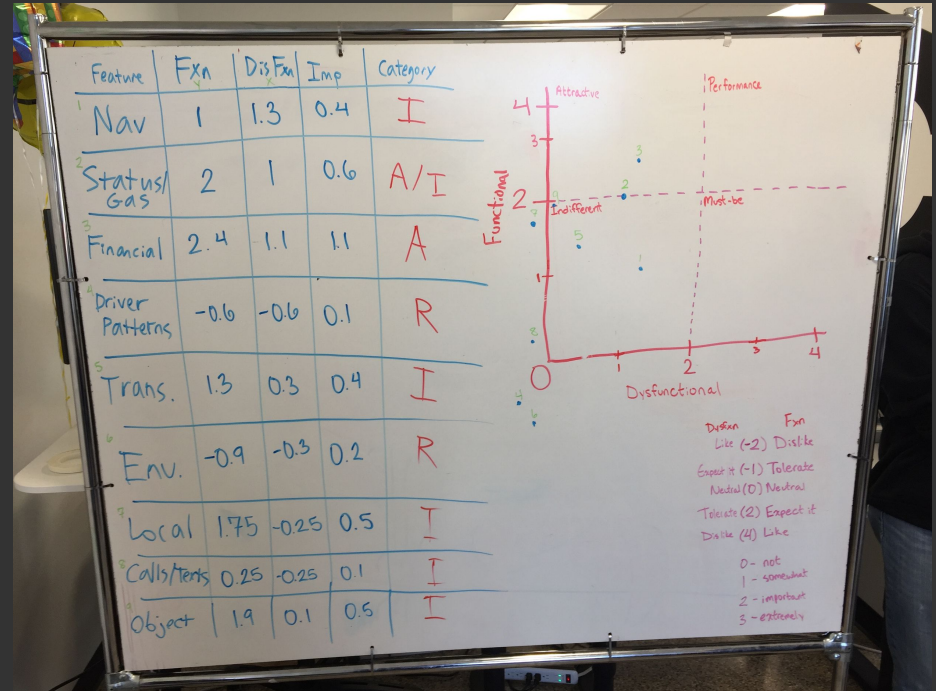
- It is difficult to access Uber's support services.
- Long trips often require driving back without a fare.
- It can be hard to find a passenger's location, especially if the address number is not displayed and the driver does not know the business name.
- Smokers can make a car smell like cigarettes even if they don't smoke during the trip - riders tend to carry their fragrances with them into vehicles.
- Certain parts of the city were perceived to be scary areas to drive or stop in.
- Waiting for a passenger between trips feels like a waste of time.
- People requesting a ride on behalf of someone else makes for scary situations, but drivers did not report ever turning these trips down.
- Drivers said it is easy to forget about car maintenance needs.

Kano Survey

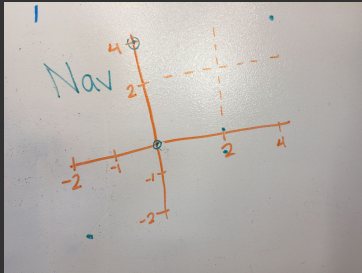


We assessed the desirability of features we drafted by sending a survey that asked drivers how they felt when features are or are not present. Drivers felt neutral about a lot of the features due to those features already existing in other applications - this brought the averages of our results down.

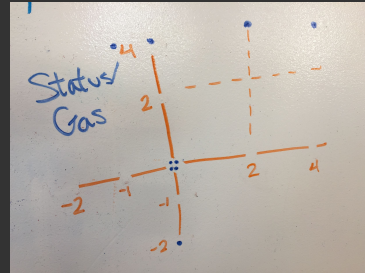
Generally speaking, the closer to the top right of the graph a point is, the more desirable the feature is.



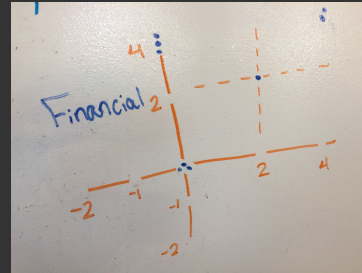
Kano Survey (cont.)



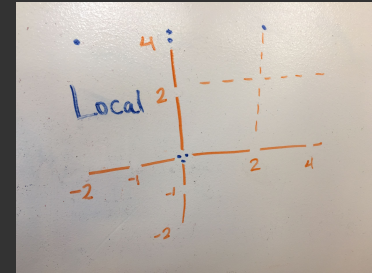
Navigation



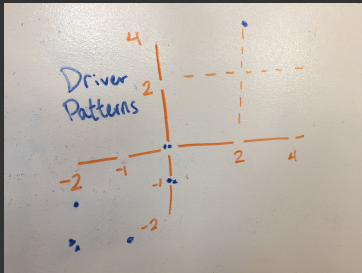
Vehicle Status



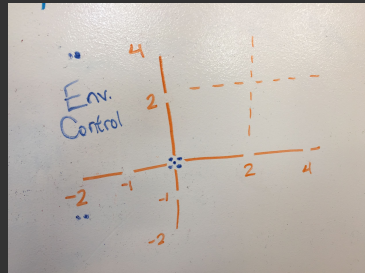
Financial Tracking



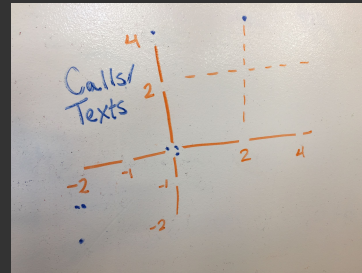
Local Events



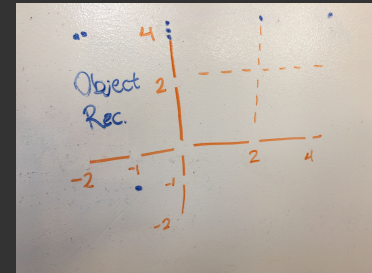
Driver Patterns



Environmental Control



Calls and Texts



Object Recognition

Usability Testing



In order to evaluate driver expectations and the usability of our planned voice prompts, we used the “Wizard of Oz” method and manually controlled voice prompts in response to user interactions.

- We adjusted the wording of suggested voice prompts based on user feedback.
- The most difficult prompt was the one paired with “Ignoring Trip” notifications. Since cancelling that action leads to the rider being added, it is a confusing double-negative. We tested “Cancel”, “Undo”, and “Add Instead” but users found all of them somewhat confusing. We decided to make all positive prompts green and make all negative prompts red to clarify.
- Some users preferred stationary gestures like a thumbs up/down while others preferred a swipe up or swipe down gesture. We confirmed that users expected upward gestures to correspond to positive prompts and downward gestures to correspond to negative prompts.

Rider Research

Desirability Survey



As an initial measure, we sent out a desirability survey to uncover rider pain points and opportunity areas for ridesharing.

- Riders were evenly split between using Uber, Lyft, and both
- Overall, only 9/30 survey participants were willing to pay for extra amenities, and 6 of these responses were referring to water
- 44.4% of riders wanted GPS tracking, 37% wanted music control, 33.3% wanted local information or events, and 29.6% wanted water or soft drinks

Interviews



We conducted interviews with riders to gain qualitative information about rider experiences while being in a rideshare vehicle.

- The most common pain point from riders was fast, aggressive driving. We started developing a settings option for riders to express their speed preferences, but scrapped it in response to strong negative feedback from drivers in response to features tracking their driving.
- Conversation seemed to be the most important factor in passenger satisfaction. Some riders wanted silence, while others wanted to have memorable conversations with their drivers.
- Several riders mentioned maintenance issues in their drivers' vehicles.

User Flows

Key



We made user flows to show the various ways drivers can use key features. Voice commands should be flexible enough for users to speak naturally, so we included some alternative ways of giving commands when appropriate. We also indicated how hand gestures are intended to work with these features. See the key below for details. A “snackbar” is just a kind of notification box.

"Drivers can say **This** "
Or this
Or this

N: Notifications that appear as snackbars



: Affirmative gesture like a thumbs up or upwards swipe is an alternative to the voice commands.

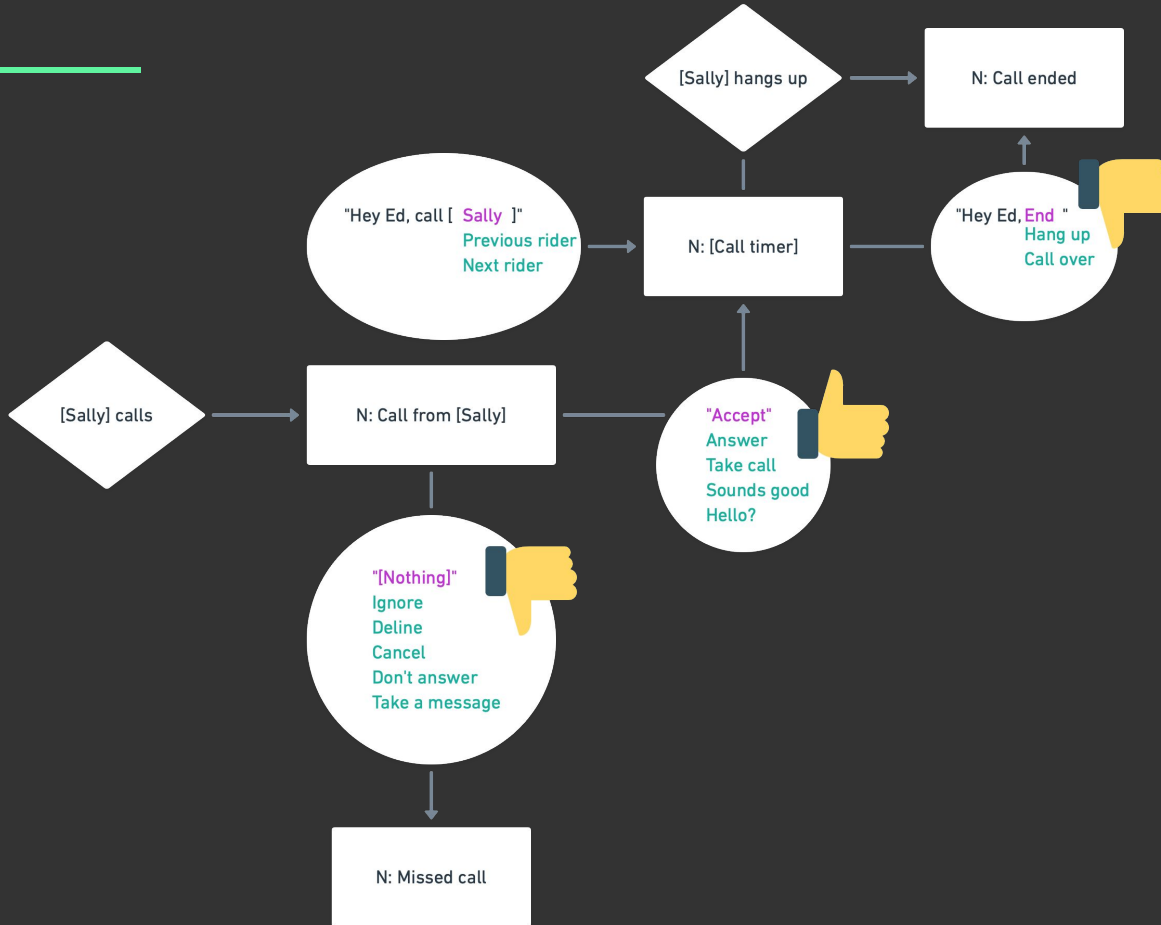
Additional voice commands not shown in the flow that are worth considering

Events that are not snackbar notifications or things drivers say.

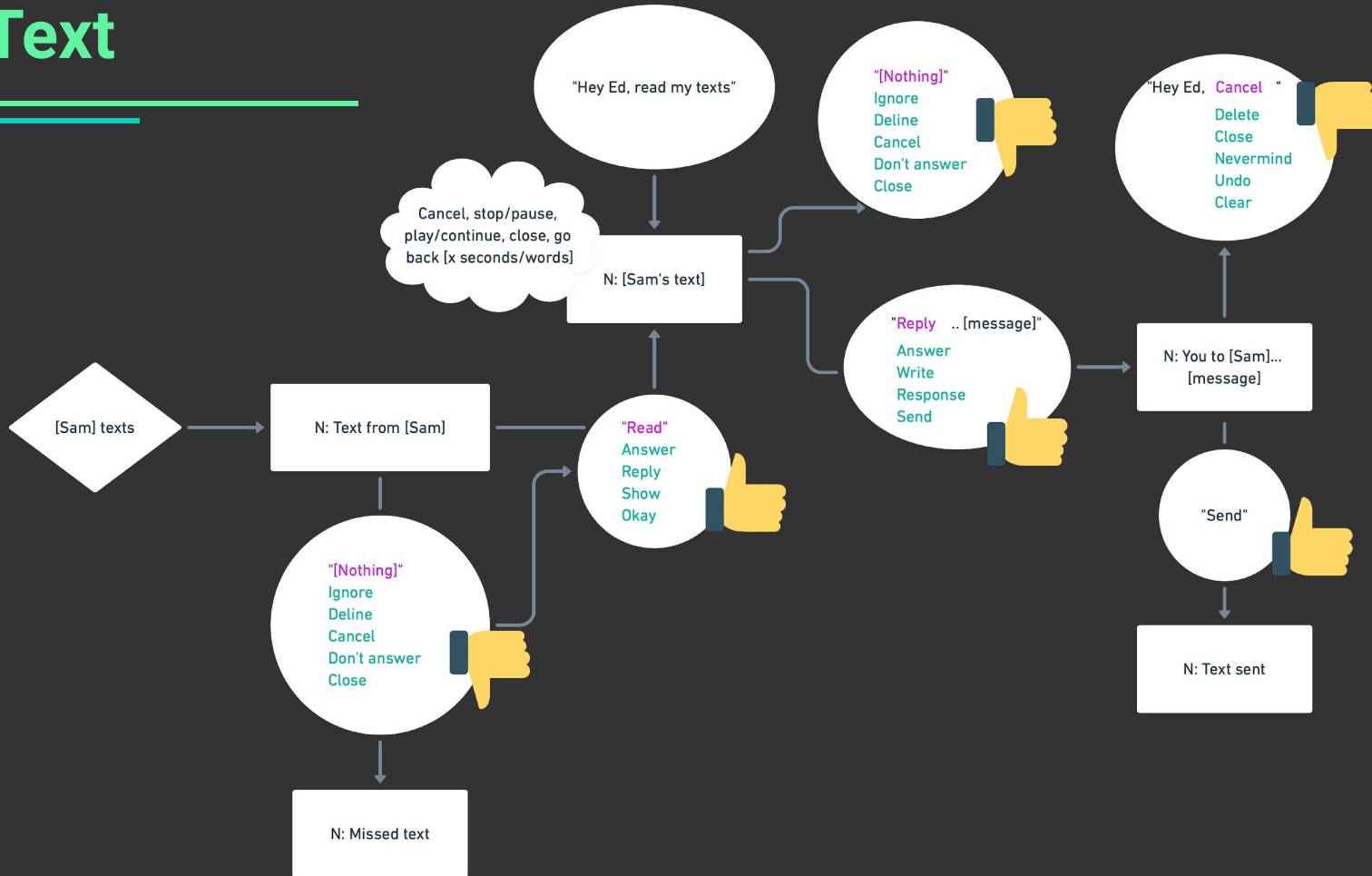


: Negative gesture like a thumbs down or downwards swipe is an alternative to the voice commands.

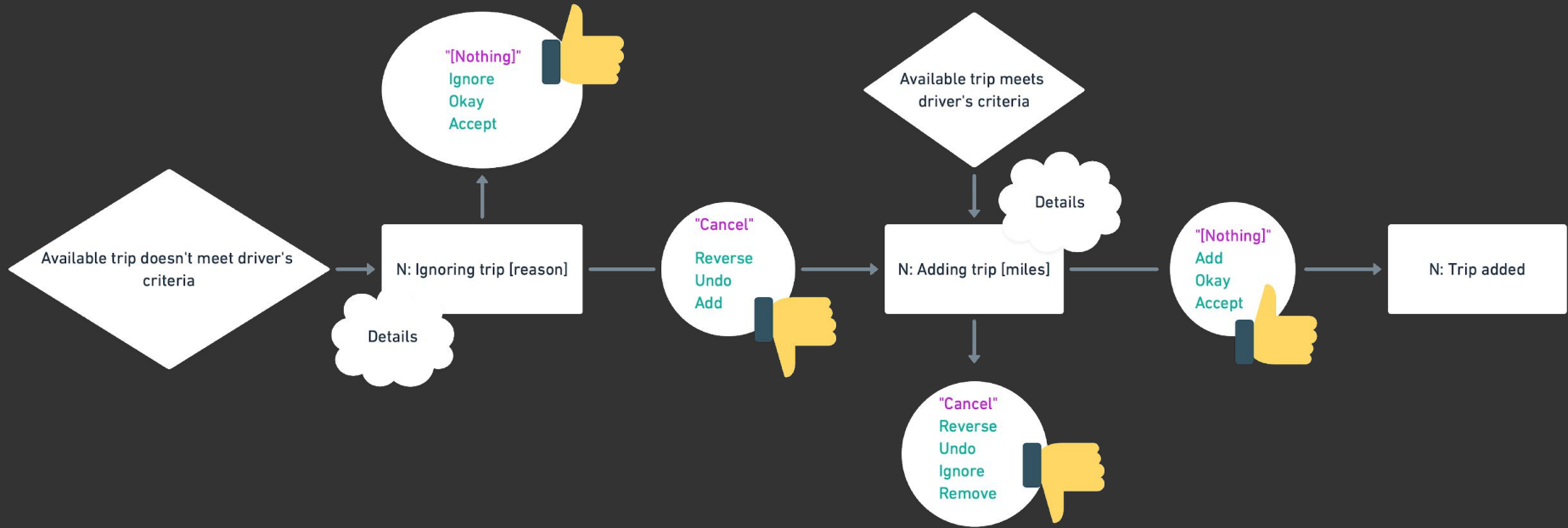
Calls



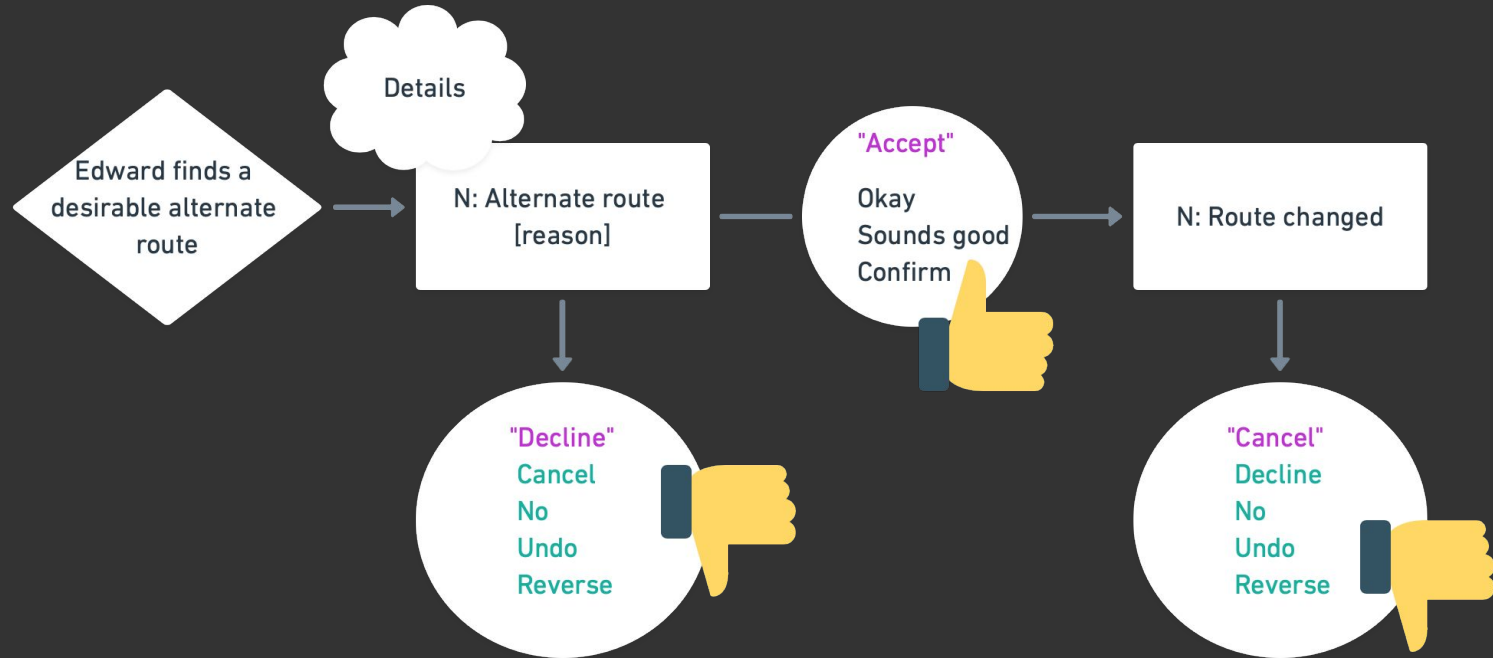
Text



Trip Queuing



Alternate Route



Gas

