

Honda | IBM

Heuristic assessment

November, 2020

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Executive summary

Heuristics assessment

Honda seeks to understand the current state of their applications as it relates to user experience and overall usability for Honda's AcuraLink™ and HondaLink™ mobile applications. An application user experience assessment has been performed using best practice heuristics.

The focus of heuristics assessment will be to determine gaps and opportunities within the apps to enhance the user experience. **Not all elements of the app are represented in this report, particularly areas where issues were not found.**

The report will only capture findings, including the issues identified, a rating of severity, and recommendations for improvement. Recommendations centre around the creation and enforcement of guides that establish consistency in design, brand and content. Recommendations that could potentially be easily implemented are also noted in the report.

Why perform a heuristic evaluation?

Methodology

- **Quick and efficient** way to gauge usability
- Engagement of **experienced usability professionals**
- Flexible, and can performed **at any stage** of the development cycle
- May be performed before or alongside **other usability testing methodologies** to further examine potential issues

Results

- **Identify usability problems** with specific user flows and **evaluate impact on overall user experience**
- Provide **insight into importance and priority** of identified issues
- High value in creating **tailored recommendations**
- Recognize **good usability practices** in the design (not the focus of the current report)

What we did

November, 2020



3
Vehicles

4
Weeks

9
Scenarios

Analysis methodology



Over a period of four weeks, the team used the AcuraLink™ and HondaLink™ applications with:

- Accord Hybrid Touring
- MDX Tech Plus
- Clarity Touring

For each vehicle, nine scenarios were assessed, both from the usability of the user interface, as well as the holistic experience.

- Onboarding
- Remote features
- Phone and vehicle connectivity
- Routes
- Charging / fuel
- Parking / find my car
- Real-time statistics
- Maintenance
- Parental controls

Report Summary

Key issues:

1. **Consistent use of design patterns**
   There are times when the app deviates from established or the latest iOS patterns and industry norms. Some components and styling are not accessible and in some cases break from established branding conventions.

2. **Consistent layout and prioritization**
   Access points for some features are not where a user might expect or needs them to be. Some screen templates do not have a consistent layout across the app.

3. **Establish trust**
   While the app does update to the reflect the vehicle's status, there are inconsistencies with synchronization. There may be some technical challenges impacting reliability and performance efficiency. Some messaging is difficult to understand and does not accurately reflect the Honda brand or voice.

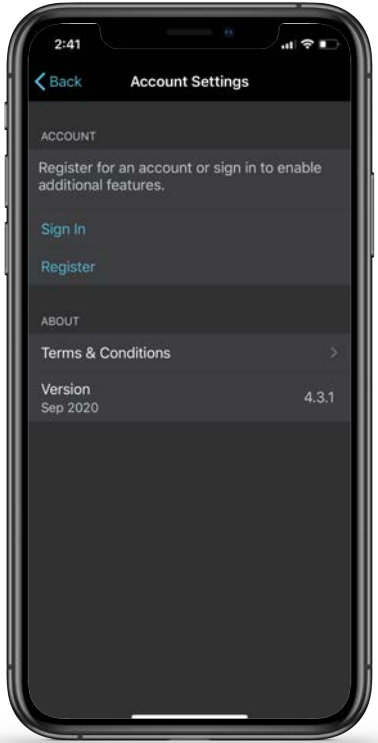
4. **Error handling**
   There are a number of obstacles and language barriers within error handling and help guides that act as blockers for new user onboarding and everyday use.

5. **Help guides**
   Some of the help guides and vehicle documentation is difficult to use and not considered user friendly.

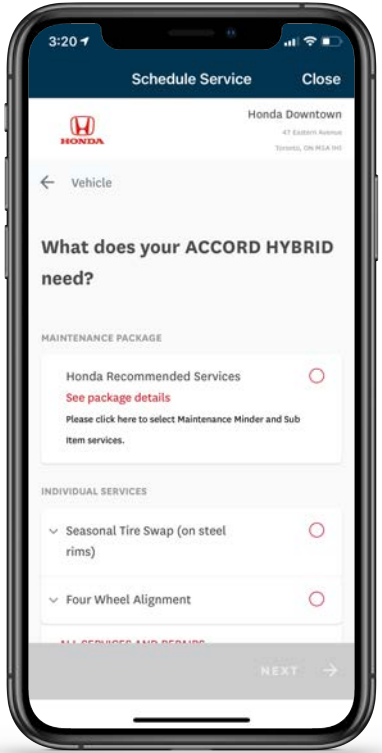


1. Consistent use of design patterns examples

Overall UX/UI
Screens inside the app have varying look and feel, as well as design inconsistencies. For example, there are different background colours used throughout the app, different fonts, and different button styles.
(see page: 9)



Service
Visual design of scheduling a service doesn't align with the rest of the app. This section is not completely optimized for mobile (some horizontal scrolling to select appointment slots) (see page: 10)



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Overall UX/UI

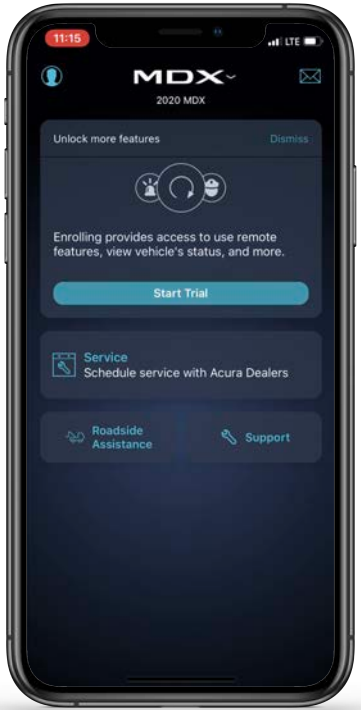
Consistency & standards; aesthetics & minimalism

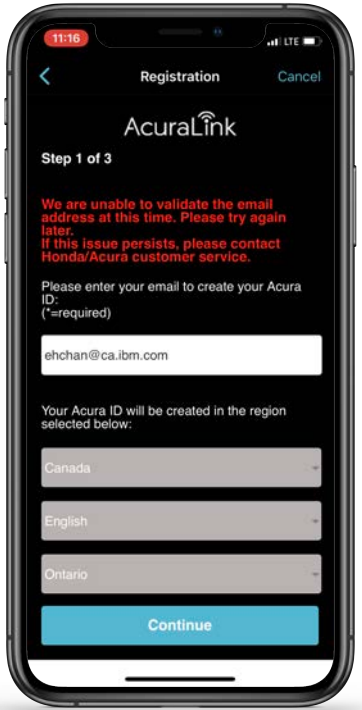
Observations & recommendations

- Screens inside the app have varying look and feel, as well as design inconsistencies. For example, there are different background colours used throughout the app, different fonts, and different button styles.

  Recommendations:
  Both apps should have a uniform visual design. Establish a design system/guidelines then update apps to align. Use native patterns wherever possible for ease of maintenance and consistent device experience.







Service

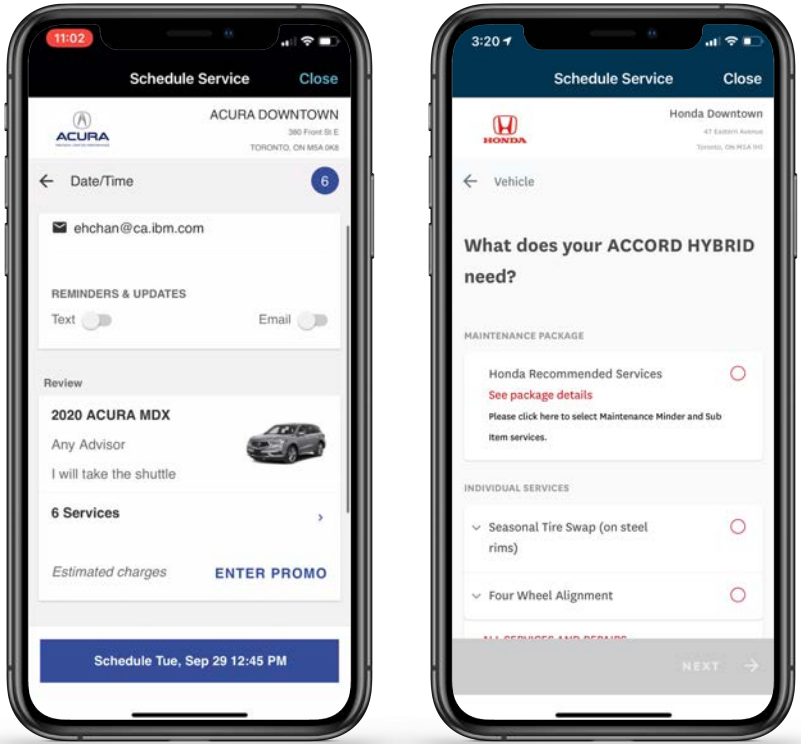
Consistency & standards; aesthetics & minimalism

Accord Hybrid Touring – HondaLink™

Observations & recommendations

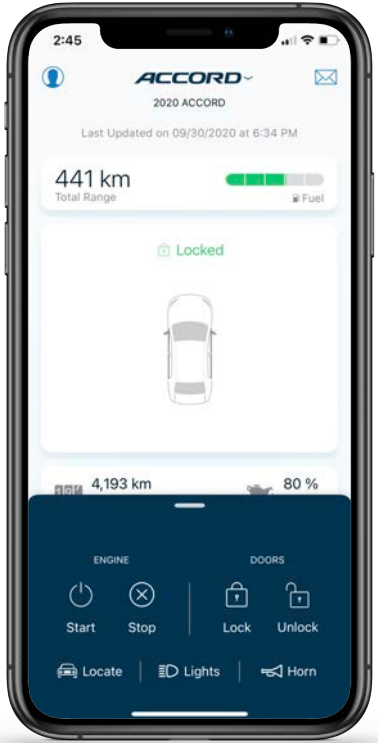
Visual design of scheduling a service doesn't align with the rest of the app. This section is not completely optimized for mobile (some horizontal scrolling to select appointment slots)

Recommendations:
Screens should have a uniform visual design. Establish a design system/guidelines and update apps to align. Since this view is a third-party view, using standard visual design will help tie it closer together with the app. For example, keeping the tint colours the same, and using the same background colours.

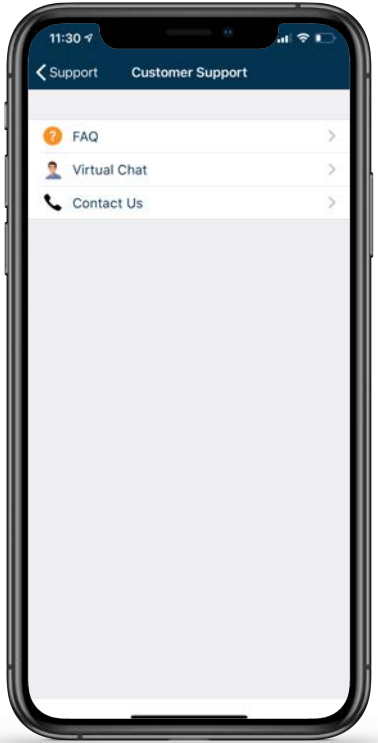


2. Consistent layout and prioritization examples

Remote features
Access points for some features are not where a user might expect or need them to be.
(see page: 12)



Support
Layout for support requires multiple taps and the information hierarchy makes the content difficult to find.
(see page: 13)



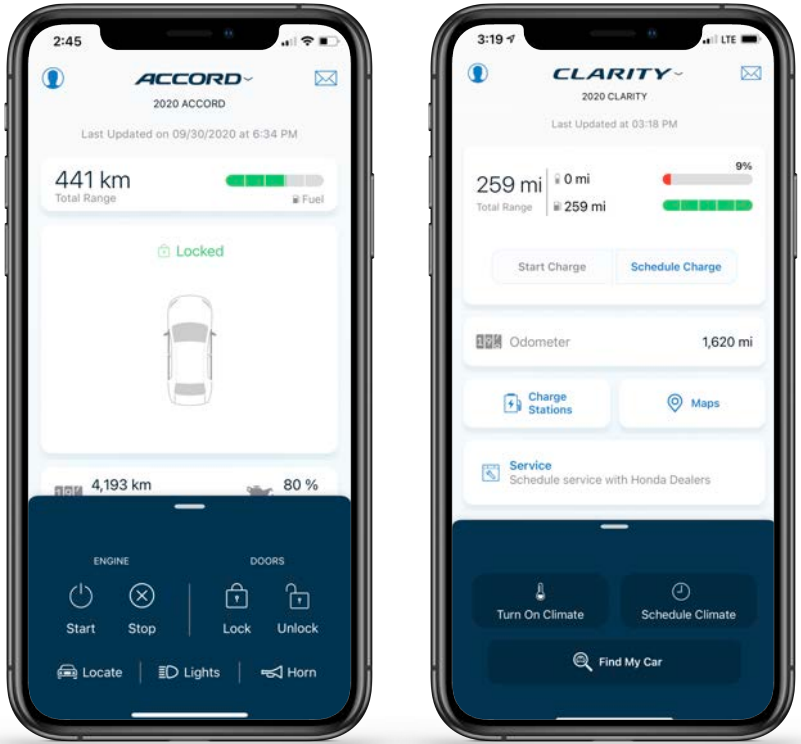
Overall UX/UI

Flexibility & efficiency

Observations & recommendations

The information on the landing screen can be grouped and organized differently. Remote features are grouped together in the drawer, separate from the status of the car that it affects.

Recommendations:
Take inventory of all content listed on the landing screen and prioritize what the user needs most. Not all content needs to be surfaced, if it is infrequently used. Some features can be reorganized to be grouped together to match the user's mental model, so the information is where they expect to find it. Consider a design refresh to implement information architecture that is closer to the user's needs.



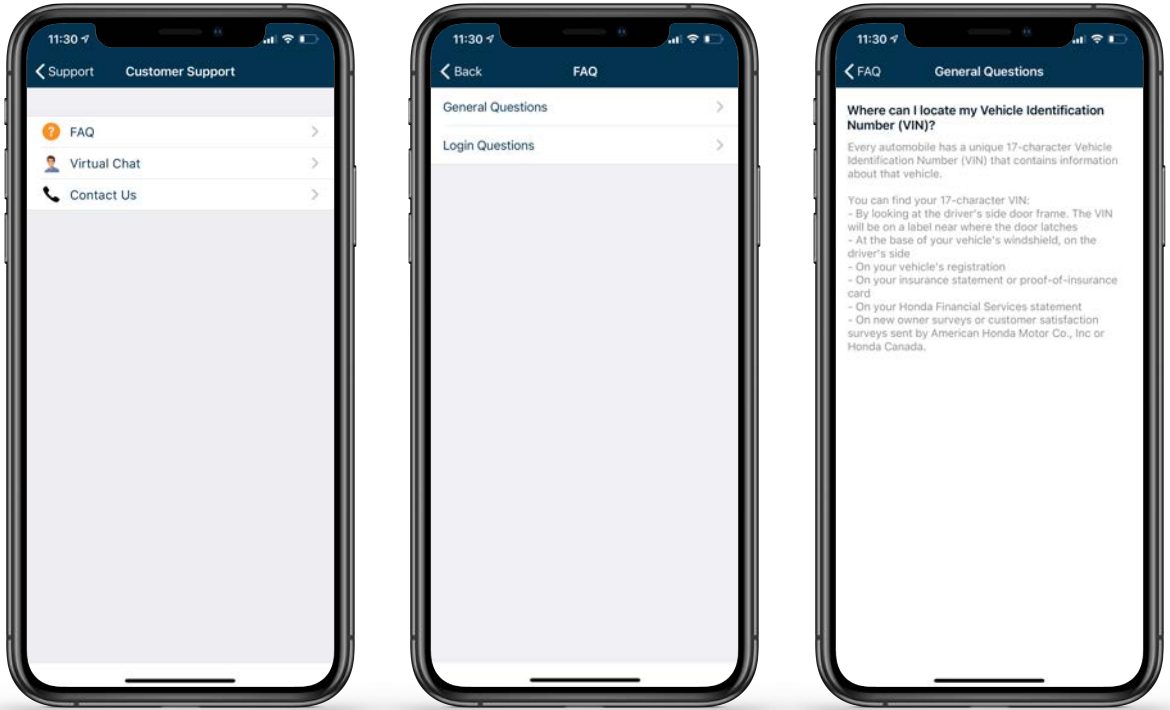
Support

Flexibility & efficiency; help & documentation

Observations & recommendations

- Some support related content requires multiple taps (up to 4) to access the desired information or action.

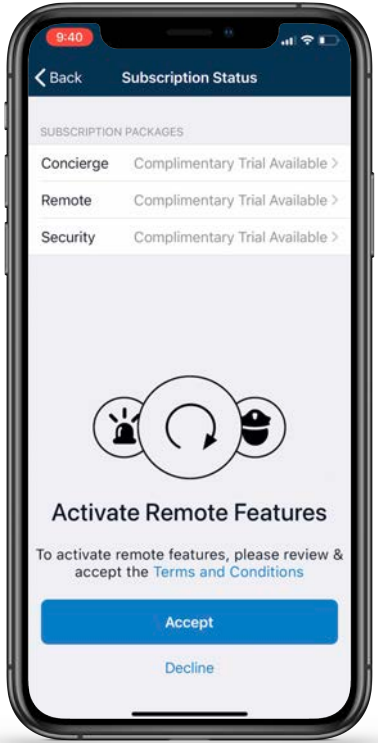
  Recommendations:
  Reorganize this section for better information hierarchy, to eliminate the number of taps required. It would make the information easier and quicker to find. For example, all FAQ questions can be shown on a single screen and does not require an additional push screen.



3. Establish trust examples

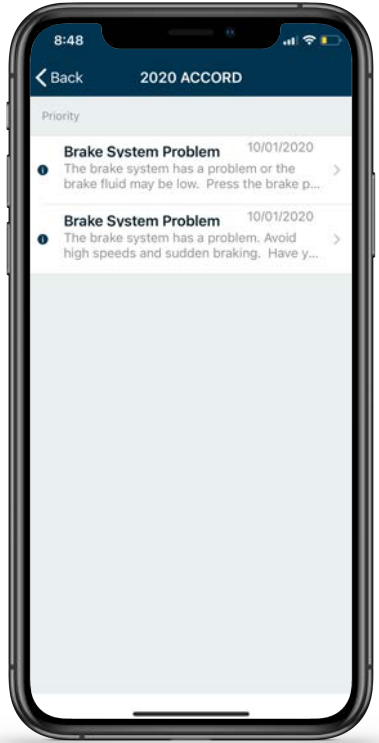
Onboarding

Some messaging is difficult to understand. It is unclear that tapping on accept would accept the trial for all three subscription packages. From this screen, it seems like tapping on each of the packages would allow the users to subscribe to each individual package.
(see page: 15)



Notifications

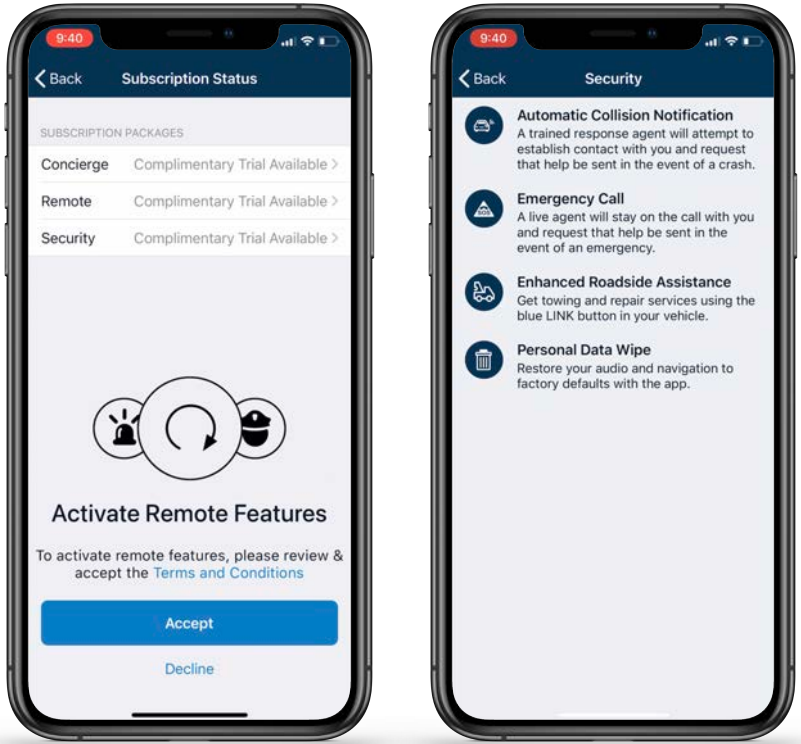
While the app does update to the reflect the vehicle's status, there are inconsistencies with synchronization. Information provided to the user in the app and in the vehicle do not align. The user was sent this alert, but according to the vehicle, the brake system was not a problem. This is particularly alarming for the confused user, as it is a safety issue.
(see page: 16)



Onboarding

User control & freedom; error prevention;

Accord Hybrid Touring – HondaLink™



Observations & recommendations

It is unclear that tapping on accept would accept the trial for all three subscription packages. From this screen, it seems like tapping on each of the packages would allow the users to subscribe to each individual package.

Recommendations:
Redesign the subscription flow to make it clear to the user what they are signing up for.

The user is not able to subscribe to only one package.

Recommendations:
Give the user the control to only subscribe to the package they want.

There is no information given on how long each trial lasts, or when the last day would be. These is also no information on pricing for after the trial period ends, or if the user will be charged.

Recommendations:
Proving this information upfront will reassure the user on what to expect, reducing uncertainty and building trust.

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Notifications

Visibility of system status

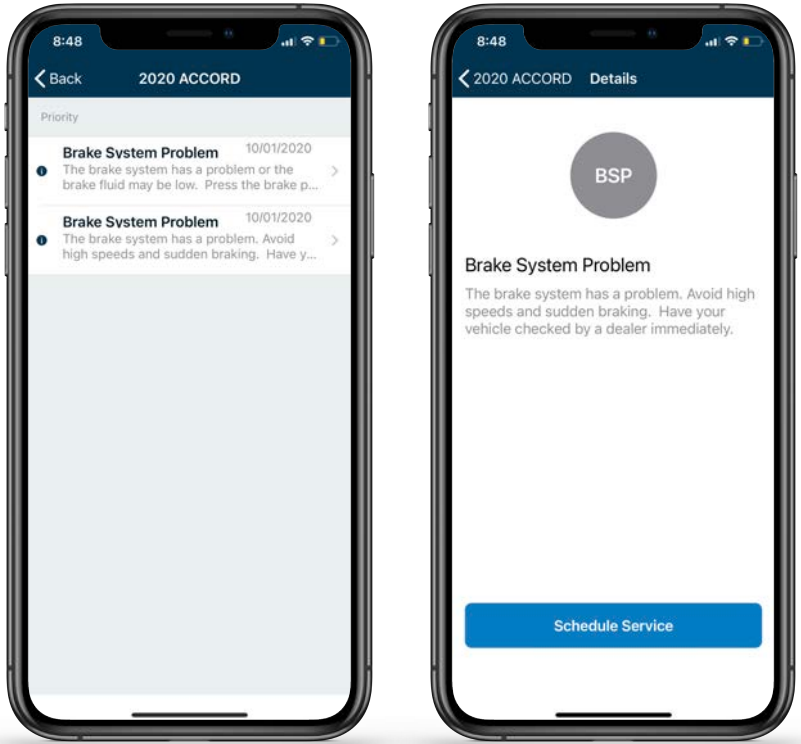
Observations & recommendations

- Information provided to the user in the app and in the vehicle do not align. The user was sent this alert, but according to the vehicle, the brake system was not a problem. This is particularly alarming for the confused user, as it is a safety issue.

  Recommendations:
  The user needs to be confident that they can trust the messages and notifications being provided. Having the vehicle and app send two conflicting messages erodes that trust. Ensure that that the two sources of information are in sync, and that the information provided is reliable.

- The wording on the alert is alarming, and can create panic for the user.

  Recommendations:
  Any communication sent to the user regarding safety, or that causes concern, should be carefully vetted so that is reliably true. Repeated false alarms could cause the user to ignore any serious warnings. In addition, consider categorizing the types of alerts in high/medium/low issues so the user can respond appropriately, particularly for those users who don't have much car knowledge.



4. Error handling examples

Onboarding - Support
There are a number of obstacles and language barriers within error handling and help guides that act as blockers for new user onboarding and everyday use.
(see page: 18)



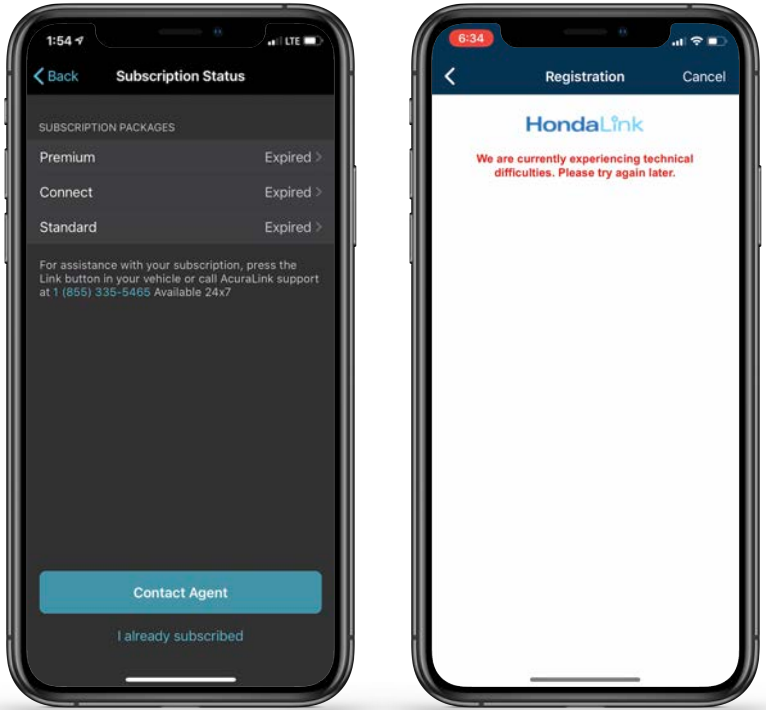
Onboarding – support

Recognize, diagnose, recover – error states

Observations & recommendations

Although the outage period passed, registration was still not possible. Registration broke down in several places, which caused a variety of pain points. This may result in irreconcilable adoption barriers. Support outside of the app such as the call centre was not sufficient to resolve the issue.

Recommendations:
If registration is not possible, the user needs to be informed of the issue. For example, there was an outage for Canadian users but this information was not provided, even at the call centre. The user should not have to guess what the issue is and how it can be resolved.



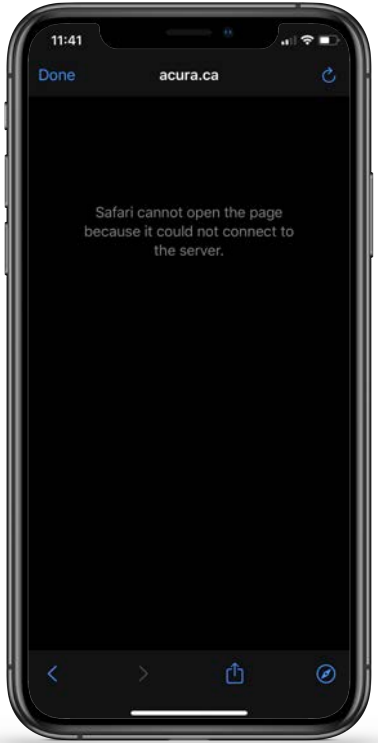
5. Help guides examples

Support
All warning lamps are shown in support, even the ones not available for this model. Not all this information is useful, and requires the user to sift through it in order to find what they need. This can be time consuming, and also requires the user to figure out which warning lamps are applicable.

(see page: 20)



Support
Features guide could not be accessed for both HondaLink™ or AcuraLink™. It is also unclear where else the user can go to find this information. (see page: 21)



Support

Match system & real life; flexibility & efficiency

Observations & recommendations

All warning lamps are shown in support, even the ones not available for this model. Not all this information is useful, and requires the user to sift through it in order to find what they need. This can be time consuming, and also requires the user to figure out which warning lamps are applicable.

Recommendations:
Only show the warning lamps that are applicable to the user.



Support

Help & documentation

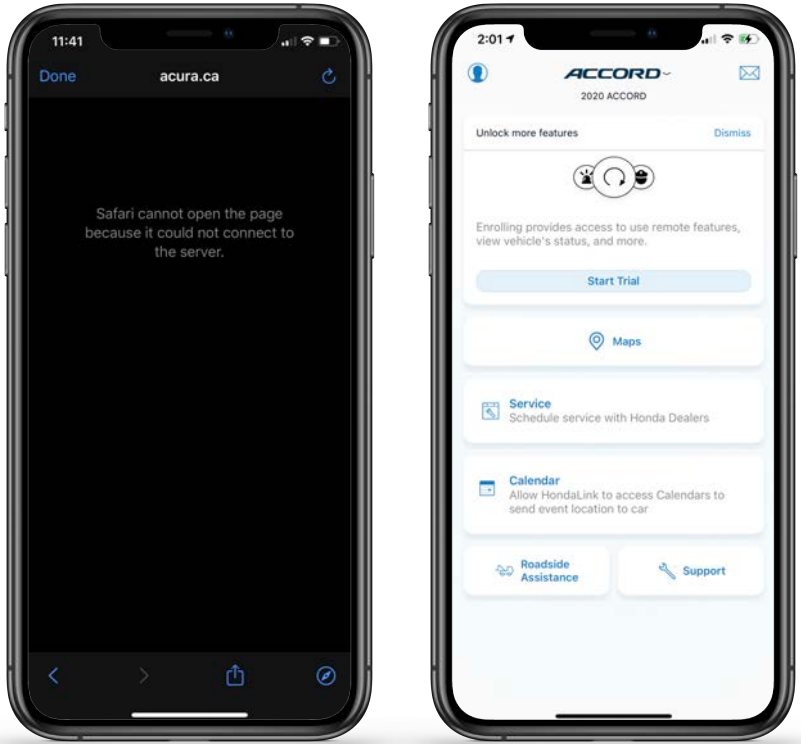
Observations & recommendations

Features guide could not be accessed for both HondaLink™ or AcuraLink™. It is also unclear where else the user can go to find this information.

Recommendations:
Having a broken link erodes the credibility of the app and the information provided, and makes it seems like the app is not up to date or prioritized. Ensure all links in the app take the user where they are expecting to go.

Roadside assistance can be found under the roadside assistance button as well as support. In support, it is buried under a few extra taps.

Recommendations:
It is unnecessary to have roadside assistance in both sections. Since is is already surfaced in the landing screen, and users are more likely to need it on hand during emergencies, recommend removing from the Support section.



Heuristics opportunities



Recognize, diagnose, recover – error states

✦



Flexibility & efficiency

✦✦



Help & documentation

✦✦



Error prevention

✦✦



Visibility of system status

✦✦



Recognition vs. recall

✦✦✦



Aesthetics & minimalism

✦✦✦



Match system & real life

✦✦✦



Consistency & standards

✦✦✦



User control & freedom

✦✦✦✦

*For more information please visit: https://www.nngroup.com/articles/ten-usability-heuristics/

Findings and User Impact

34



Quick Wins

14 High Quick Wins
6 Medium Quick Wins
15 Low Quick Wins

38

High

Issues that will cause **significant** user error and/or confusion. These changes are required to maintain ease of use and usability.

12

Medium

Issues that will **moderately** impede the progress of a user while using the applications. It is recommended that these changes be made to enhance ease of use and usability.

21

Low

Issues that will **minimally** impact a user while using the applications. These changes are not urgent, but will still provide overall benefit to the experience.

Top 5 Issues

- INCONSISTENT DESIGN

  Individual design inconsistencies add up within a holistic experience, and take away from the trust and confidence the user has.

- INFORMATION ACCESS

  Information is not always where it is expected or needed. Opportunity to review information architecture.

- NOTIFICATIONS, ALERTS & ERRORS

  Opportunity to consolidate handling of notifications, alerts and messages.

- ONBOARDING & SUBSCRIPTION

  There was confusion at multiple points in the subscription process and difficulty getting onboarded.

- MULTI-CHANNEL EXPERIENCE

  Opportunity to enhance the experience of moving between channels (mobile, vehicle console, web, call centre)



Detailed Recommendations

UX/UI, visual and content

There are design inconsistencies throughout the apps such as varying button styles, fonts, and colours. Although each is a minor issue by itself, together they fragment the design language and the user's expectations. Standardization of the design will also reduce friction in the user’s experience.

Feedback to users

Notifications, statuses, states, cues, actions, indicators and error messages are in some cases absent, difficult to find or hard to understand. Often, they are not where the user expects to find them. Improving messaging will keep users informed which builds trust and helps them reach their goals while reducing abandonment.

Suscription models

Users are seeking digestible information about subscription models before they sign up and what other options are available to them. There should be greater clarity with all aspects surrounding subscription models information, particularly in the app. Users will feel more comfortable with subscribing and using the trial if all the information is easily accessible.

Support

Empower call centre agents with updated and accurate information to support users, and smoothly assist users to complete tasks. Ensure all in-application support is accurate, and can provide up-to-date information. Give users control of even the most unexpected situation by anticipating their needs so they feel supported, and their issues can be resolved.

Onboarding

New user experiences are confusing and difficult to understand. The current onboarding flow can create experience disconnects and irreconcilable blockers. Increase adoption while reducing abandonment by identifying and removing barriers, and ensuring the process is as smooth as possible.

Feature enhancement

There are a number of restrictions users face relating to data, vehicle maintenance, remote controls and older vehicles. Users want to love their technology and they want it to be an essential part of their lives without significant limitations. It is important to delight users by considering their current pain points and exceeding their expectations.

Detailed Recommendations

Information hierarchy

Information access may not be where the user would anticipate functionality to exist thus reducing ease of use. All features compete for space on the dashboard screen, without considering the priority of the functionality to the user. Content structure and strategy could be reorganized, and adjusted to improve usability overall based on the priorities of user and frequency of use.

User expectations

Some users are experiencing confusion after subscribing to their vehicles application. The client in-app experience should be aligned for all client facing touch points by taking a user centred approach in improving end to end client experiences from the sales funnel to using the app.

Technical difficulties

Application and vehicle information is often not synchronized or properly connected. User authentication and wait times are cumbersome. Some possible solutions include revisiting diagnostics assessments, application debugging and unit testing with robust quality control processes.

Application ratings

User ratings in the application store in Canada are currently hovering around 2.7 for HondaLink™, over half are 1 out of 5 stars. In the U.S. the ratings are 4.5 for AcuraLink™ and HondaLink™ is 3.1. Optimize customer experiences with a wholistic approach to client experience by resolving quick, near-future and long-term user focused fixes while incentivizing internal buy-in, leveraging your promoters, engaging detractors, and responding to customers.

Multi-channel experience

Customers move between the Honda app, website and vehicle console, and expect to have a similar brand experience and seamless handoff between channels. There are design inconsistencies and some examples of awkward handoffs between channels that could be enhanced. There needs to be a single point of contact who owns all digital client facing experiences (website, mobile applications and vehicle console) to ensure consistency and standards are met throughout all touch-points.

Findings













Flexibility & efficiency of use

Calendar

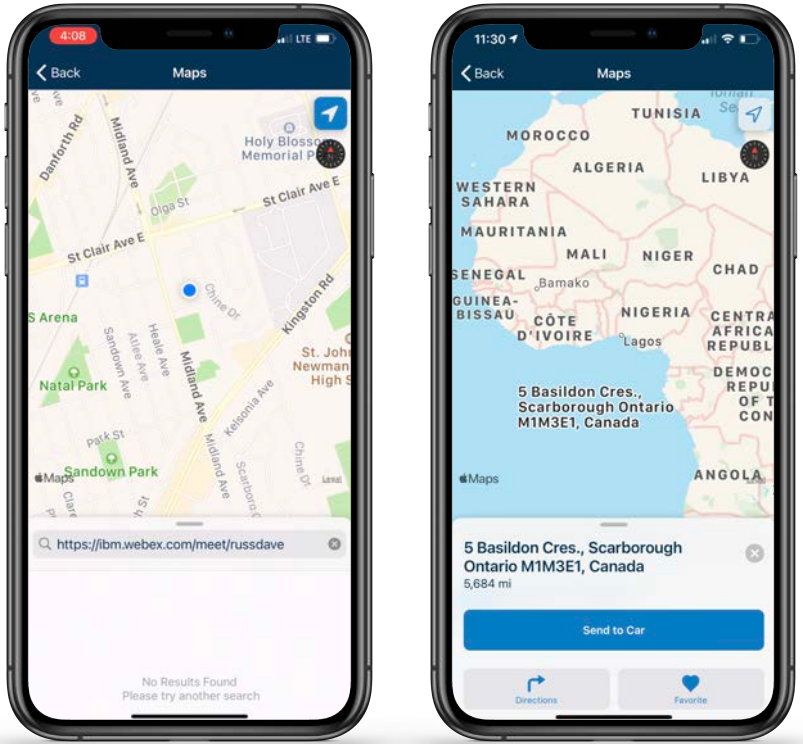
User control & freedom; flexibility & efficiency

Observations & recommendations

The address listed in the calendar can take the user to the Atlantic Ocean off the coast of Africa (Long. 0º / Lat. 0º). This happens if the address isn't precise. It is also not compatible with many of the newest forms of calendar listings (Webex, Zoom, and Skype).

Recommendations:

Ensure that the locations of calendar items show up on the map correctly, even if the user does not enter a location with a precise format. Implement a way to recognize and handle virtual meetings gracefully, by perhaps linking out to the appropriate app.



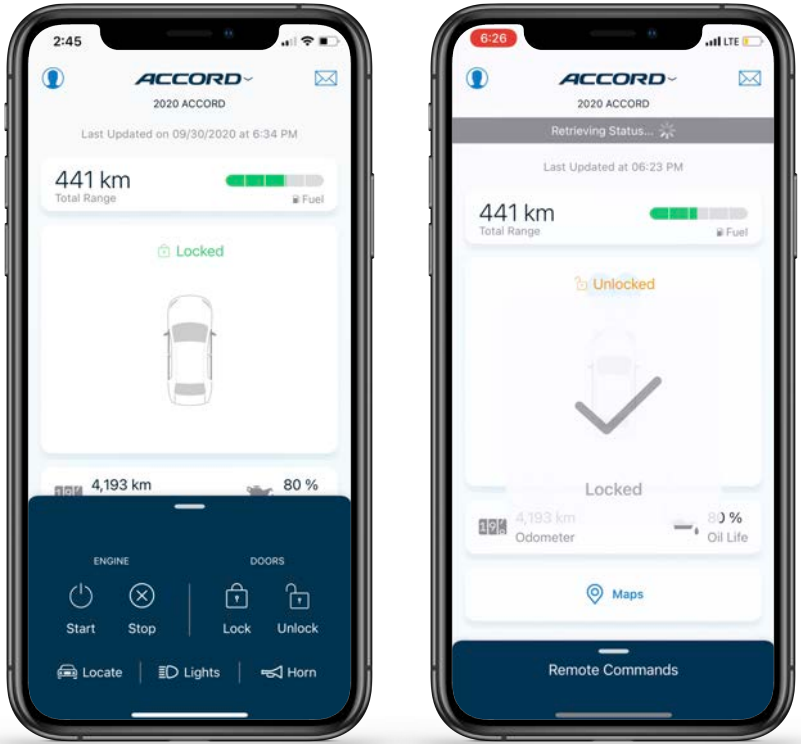
Remote features

Flexibility & efficiency

Observations & recommendations

User must input the 4-digit pin number, or use Face ID frequently when remote command is sent. This is time–consuming to do, and since the user is already authenticated in the app, it should not be required.

Recommendations:
Remove requirement to authenticate if possible, which reduces friction in using the app.



Remote features

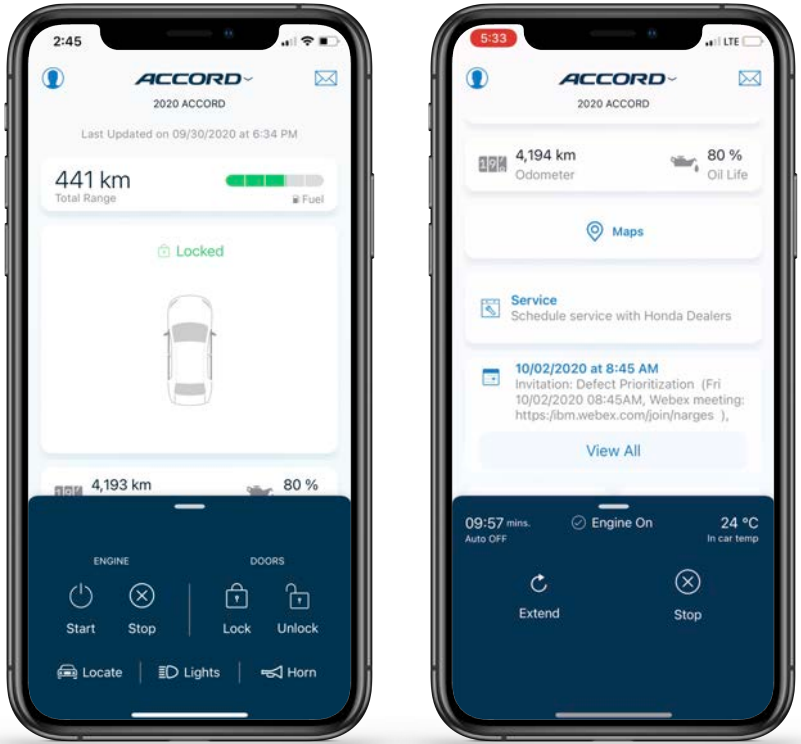
User control & freedom; flexibility & efficiency

Accord Hybrid Touring – HondaLink™

Observations & recommendations

As the UI of the card changes when the engine is on, the user cannot take another action without stopping the engine.

Recommendation:
Consider redesigning this flow to that the user is not restricted from taking other actions, which gives the user more freedom and control.



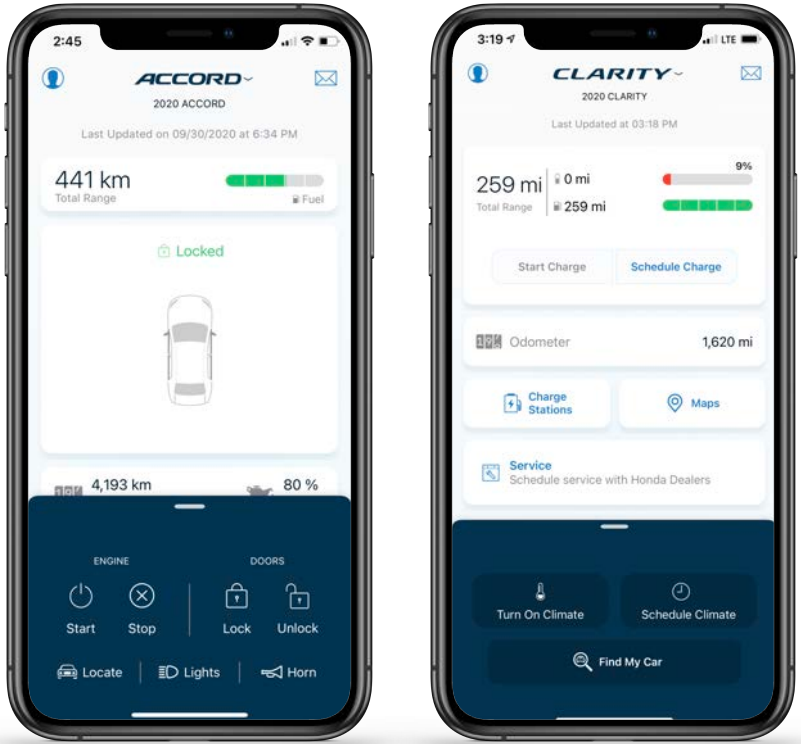
Overall UX/UI

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The information on the landing screen can be grouped and organized differently. Remote features are grouped together in the drawer, separate from the status of the car that it affects.

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Take inventory of all content listed on the landing screen and prioritize what the user needs most. Not all content needs to be surfaced, if it is infrequently used. Some features can be reorganized to be grouped together to match the user's mental model, so the information is where they expect to find it. Consider a design refresh to implement information architecture that is closer to the user's needs.



Service

Flexibility & efficiency

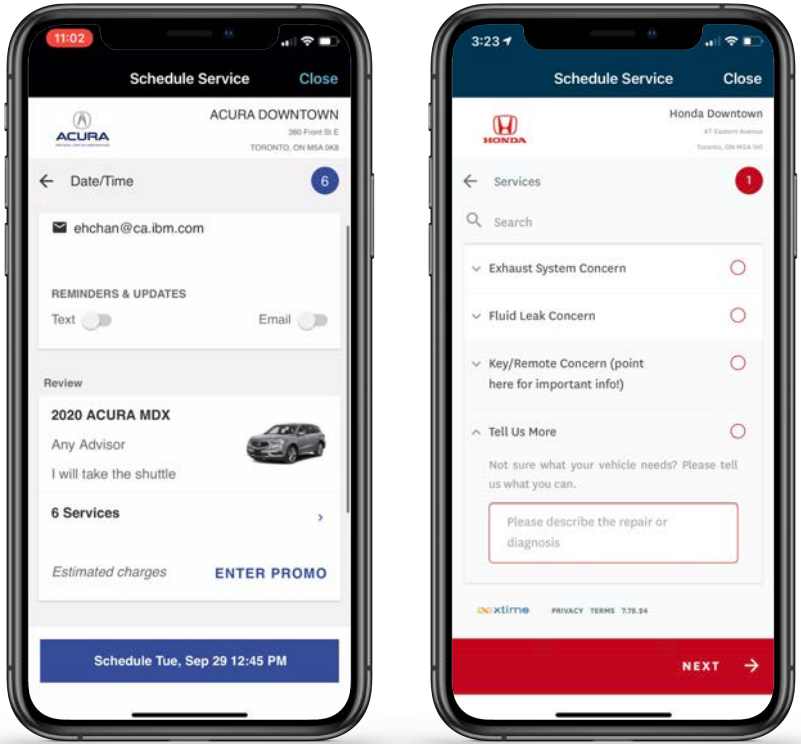
Observations & recommendations

Total price isn't readily shown while selecting the services, or on the summary view. The user has to tap on the services to view another screen to show final price.

Recommendation:
As the user selects services, show the total price increase as services are added. On the summary view, show the user the total price so that they are aware of the cost before scheduling the appointment.

If the service selected has mandatory input from the user, tapping the circle will show the open text box. However circle is not selected, and user does not know the input is mandatory.

Recommendation:
Use visual cues to indicate which actions are mandatory and help the user understand what actions they need to take to complete the form.



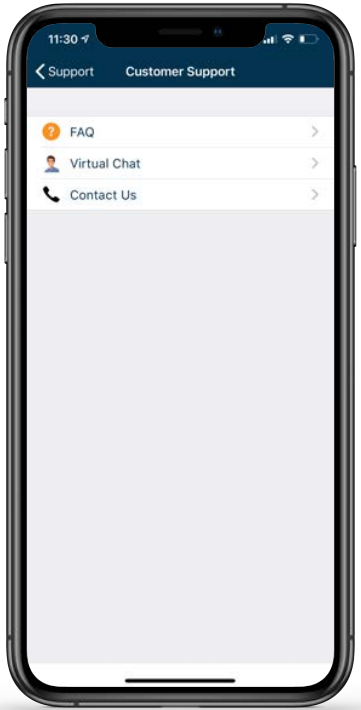
Support

Flexibility & efficiency; help & documentation

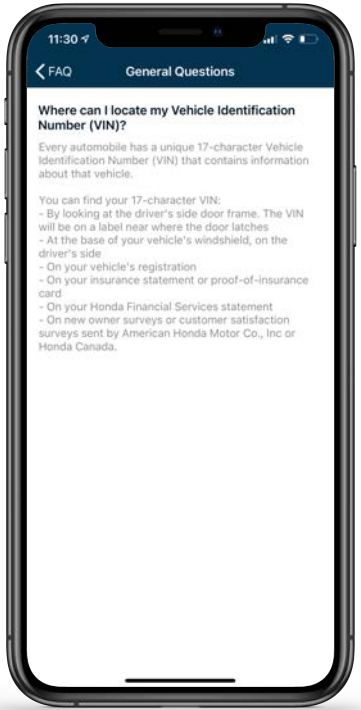
Observations & recommendations

- Some support related content requires multiple taps (up to 4) to access the desired information or action.

  Recommendations:
  Reorganize this section for better information hierarchy, to eliminate the number of taps required. It would make the information easier and quicker to find. For example, all FAQ questions can be shown on a single screen and does not require an additional push screen.







Charging

Flexibility & efficiency

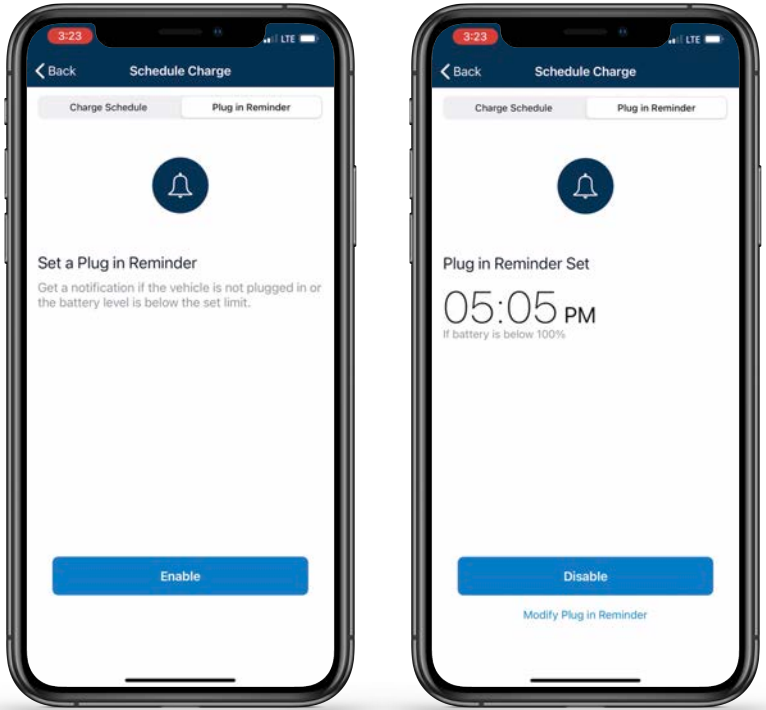
Observations & recommendations

The current enable, disable, and modify flow is an extra step for the user, and does not take advantage of the available real estate on the screen. The buttons are all quite distant from the reminder. The user can also only set one reminder with this control.

Recommendations:

Show plug in reminder time even if it is currently disabled and allow user to turn on/off using a toggle switch.

Move the location of the modify plug in reminder button closer to the time being modified.



Support

Match system & real life; flexibility & efficiency

Observations & recommendations

All warning lamps are shown in support, even the ones not available for this model. Not all this information is useful, and requires the user to sift through it in order to find what they need. This can be time consuming, and also requires the user to figure out which warning lamps are applicable.

Recommendations:
Only show the warning lamps that are applicable to the user.





Recognize, diagnose, recover – error states

Outages – support – notifications

Recognize, diagnose, recover – error states

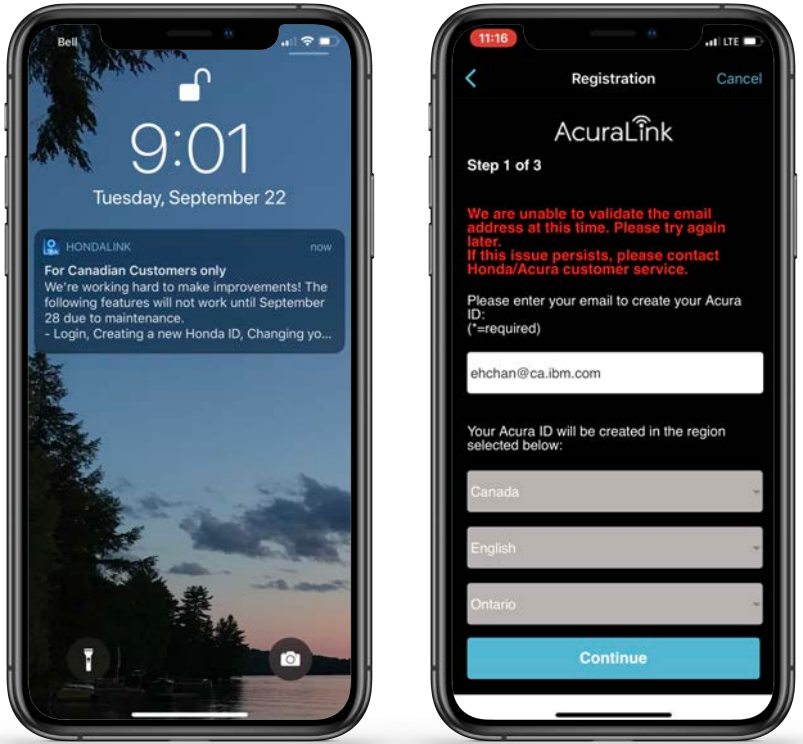
Observations & recommendations

New users of HondaLink and AcuraLink are not informed of the scheduled outage when using the app for the first time. They would have to wait for notification to be sent, and therefore users are surprised when they are not able to register and use the app.

Recommendations:
Show an alert when the app is installed for new users to inform them of the outage so they are immediately aware of the issue. This will reduce friction later as they try to access these features but are unable.

Notifications and messages are not stored in the app in demo mode. If the user dismisses the alert, then it would be difficult for them to find the information again.

Recommendations:
Information about the scheduled outages, particularly where important features are not available, should be made easily available for the user. This could mean storing the alerts in the app's messages, showing the alert every time the user tries to sign in, or better communication outside of the app.



IBM iX / © IBM Corporation

Outages – support – notifications

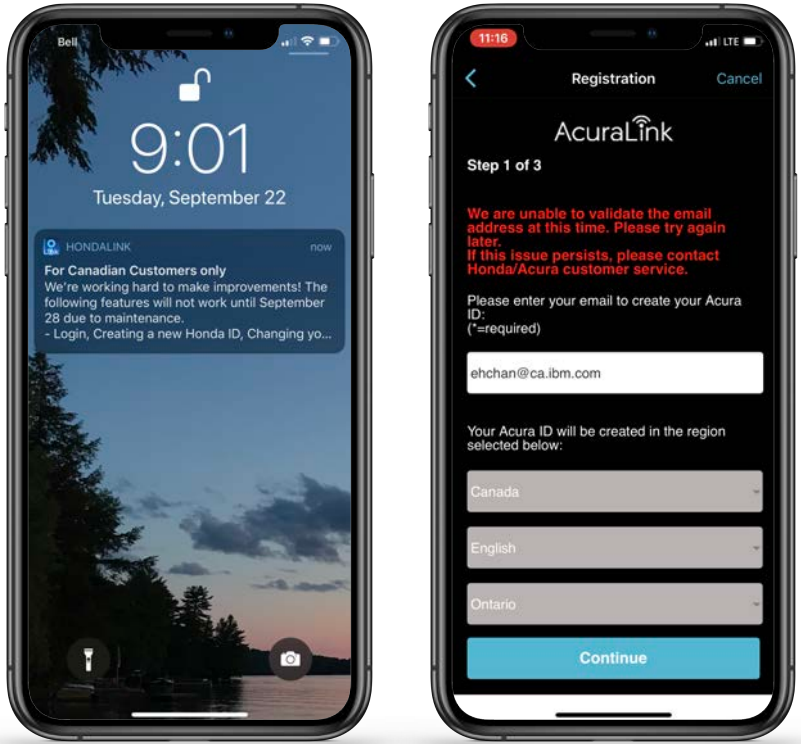
Recognize, diagnose, recover – error states

Observations & recommendations

Registration error message is inaccurate, and confuses the user further as to why onboarding is not possible. The message displayed seems to indicate there could be something wrong with the email address provided, when there is an outage.

Recommendations:

Use more accurate messaging on why the user is not able to complete registration, which in this case is due to the scheduled outage. It would then be clear to the user that is not an error on their part for them to rectify, and they are aware of any next steps to resolve.



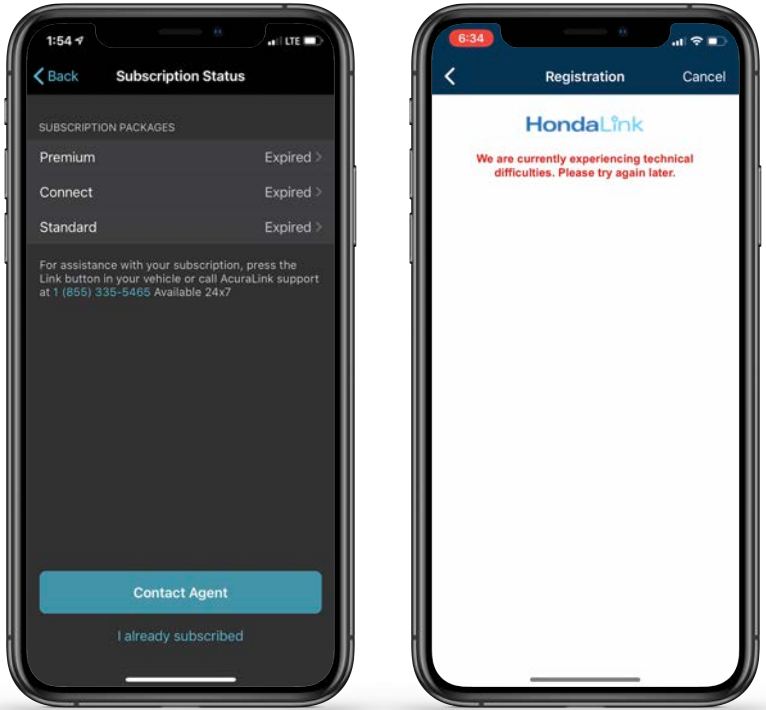
Onboarding – support

Recognize, diagnose, recover – error states

Observations & recommendations

Although the outage period passed, registration was still not possible. Registration broke down in several places, which caused a variety of pain points. This may result in irreconcilable adoption barriers. Support outside of the app such as the call centre was not sufficient to resolve the issue.

Recommendations:
If registration is not possible, the user needs to be informed of the issue. For example, there was an outage for Canadian users but this information was not provided, even at the call centre. The user should not have to guess what the issue is and how it can be resolved.





Help & documentation

Onboarding – support

Help & documentation

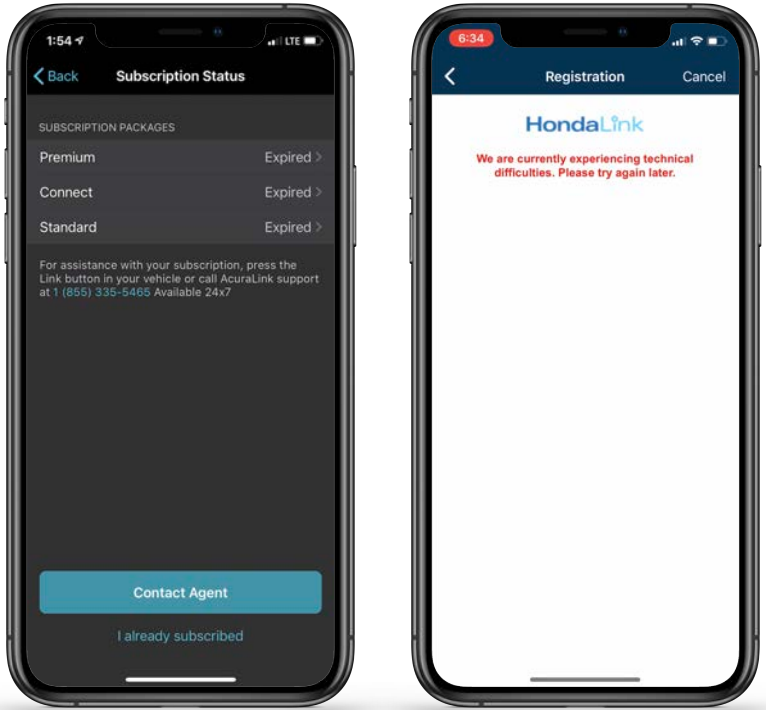
Observations & recommendations

Although the outage period passed, registration was still not possible. Registration broke down in several places, which caused a variety of pain points. This may result in irreconcilable adoption barriers. Support outside of the app such as the call centre was not sufficient to resolve the issue.

Recommendations:
If registration is not possible, the user needs to be informed of the issue. For example, there was an outage for Canadian users but this information was not provided, even at the call centre. The user should not have to guess what the issue is and how it can be resolved.

Call centre hours listed in the app were also incorrect, as the call centre was not available on weekends. This is is an additional pain point, as the user is not able to access help even though they expect it to be available.

Recommendations:
Ensure that the information provided to the user is reliable, and that the hours are accurate.



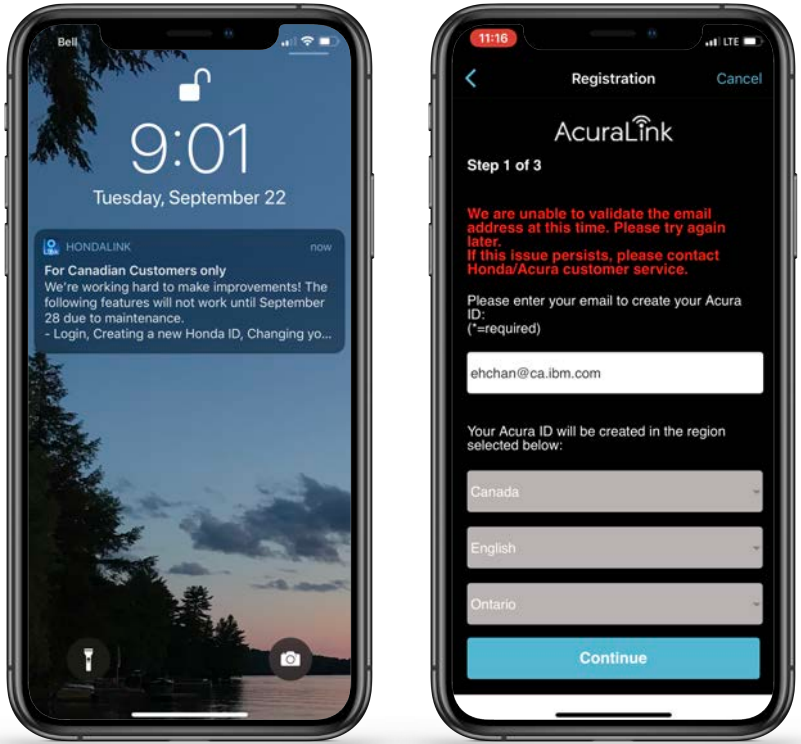
Outages – support – notifications

Help & documentation

Observations & recommendations

Call centre agent was unsure what time the outage would be over, or if user would be notified. The message was, “You’ll just have to try it on Tuesday.”

Recommendations:
While call centre agent was aware that the outage was occurring, better messaging could be provided to the user. It would be more reassuring to be given more definitive information, which projects better communication and awareness amongst Honda teams.



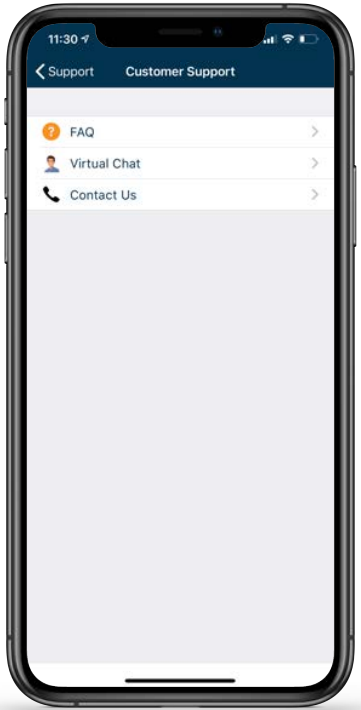
Support

Flexibility & efficiency; help & documentation

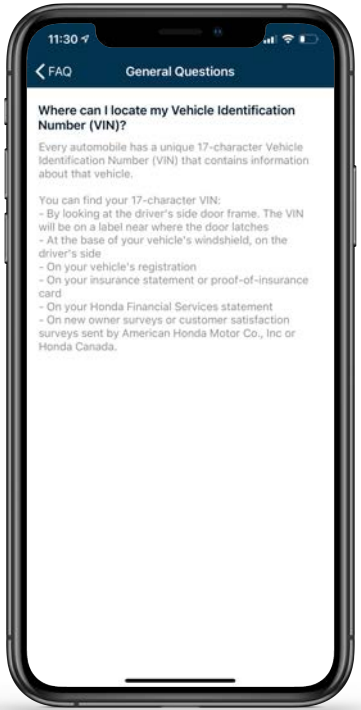
Observations & recommendations

- Some support related content requires multiple taps (up to 4) to access the desired information or action.

  Recommendations:
  Reorganize this section for better information hierarchy, to eliminate the number of taps required. It would make the information easier and quicker to find. For example, all FAQ questions can be shown on a single screen and does not require an additional push screen.







Support

Help & documentation

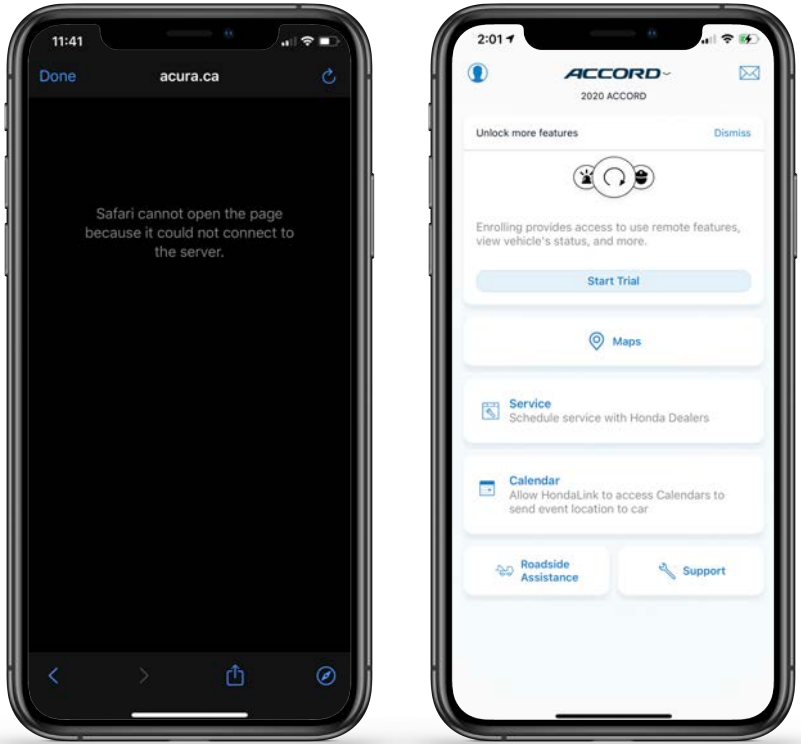
Observations & recommendations

Features guide could not be accessed for both HondaLink™ or AcuraLink™. It is also unclear where else the user can go to find this information.

Recommendations:
Having a broken link erodes the credibility of the app and the information provided, and makes it seems like the app is not up to date or prioritized. Ensure all links in the app take the user where they are expecting to go.

Roadside assistance can be found under the roadside assistance button as well as support. In support, it is buried under a few extra taps.

Recommendations:
It is unnecessary to have roadside assistance in both sections. Since is is already surfaced in the landing screen, and users are more likely to need it on hand during emergencies, recommend removing from the Support section.





Error prevention

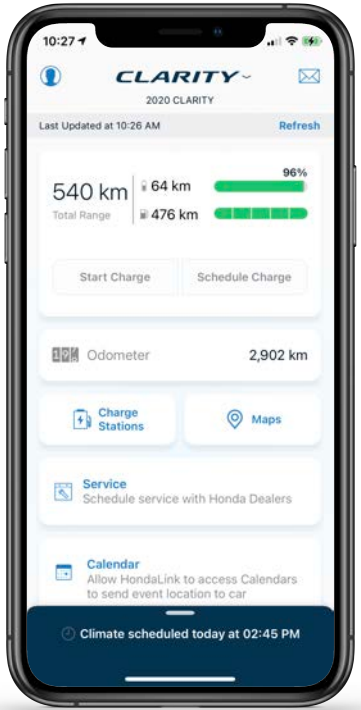
Schedule climate

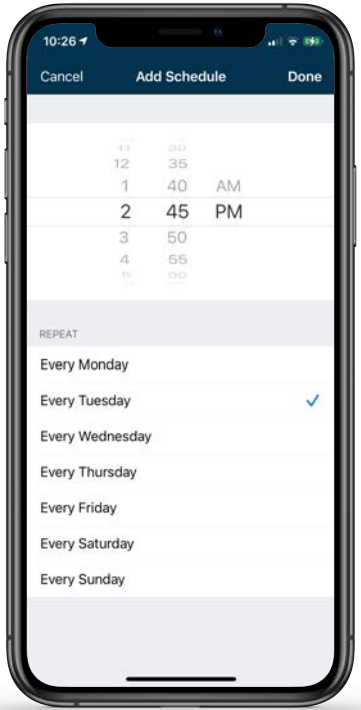
Visibility of system status; error prevention

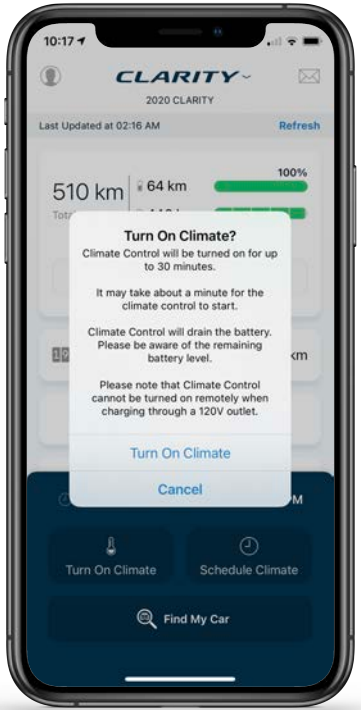
Observations & recommendations

Scheduled climate only occurs when car is properly charged.

Recommendations:
The user should be warned if scheduled climate setting won't be met ahead of time so that they have the opportunity to do something about it. For example, if the user is notified, they are reminded to plug in the car instead of having to remember this condition.







Onboarding

User control & freedom; error prevention;

Observations & recommendations

It is unclear that tapping on accept would accept the trial for all three subscription packages. From this screen, it seems like tapping on each of the packages would allow the users to subscribe to each individual package.

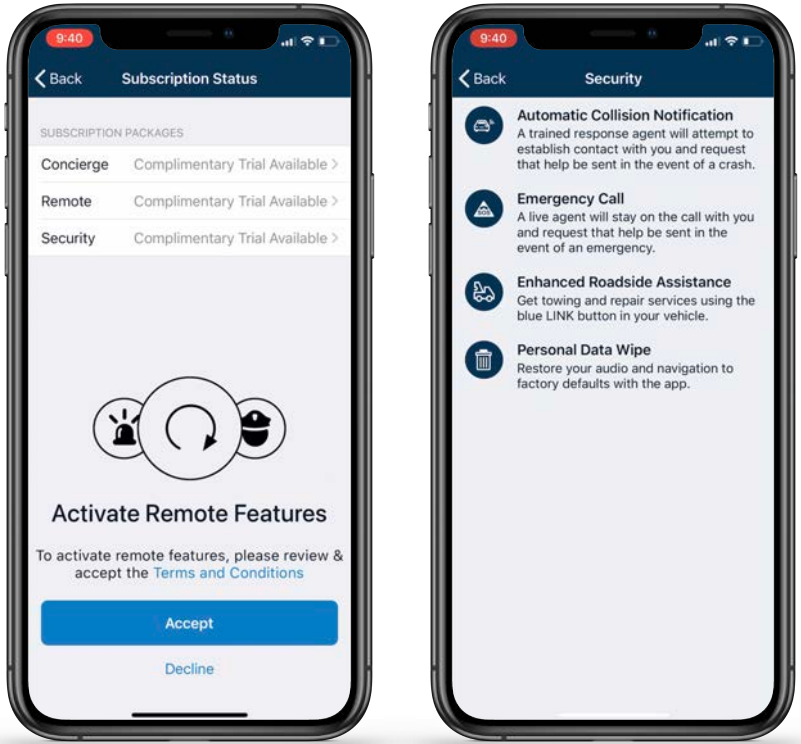
Recommendations:
Redesign the subscription flow to make it clear to the user what they are signing up for.

The user is not able to subscribe to only one package.

Recommendations:
Give the user the control to only subscribe to the package they want.

There is no information given on how long each trial lasts, or when the last day would be. These is also no information on pricing for after the trial period ends, or if the user will be charged.

Recommendations:
Proving this information upfront will reassure the user on what to expect, reducing uncertainty and building trust.



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Send to car

Error prevention

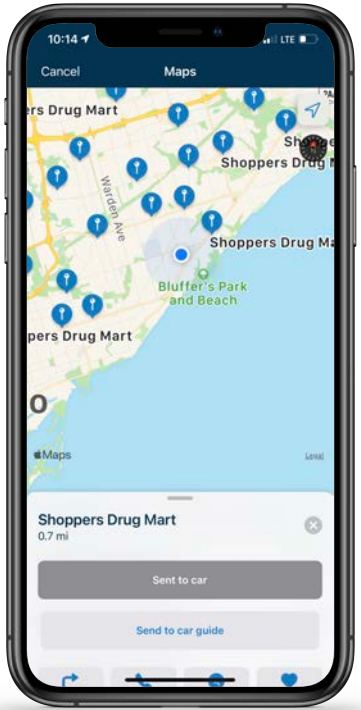
Observations & recommendations

It is not immediately obvious how the user receives locations in the car (Clarity Touring). The feature is hard to discover, and causes frustration for the user. Swiping down from the top of the screen in the vehicle is only described if the user taps send to car guide which only appears in the app after the user believes they have finished the task.

Recommendations:

This caused significant pain for the user as it was difficult to find the information that was sent to the car. The information should be where the user expects to find it, or prominently surfaced which was not the case for this vehicle. Although a guide was provided, the design should be intuitive enough that referencing the guide should not be a critical step to accessing that information.





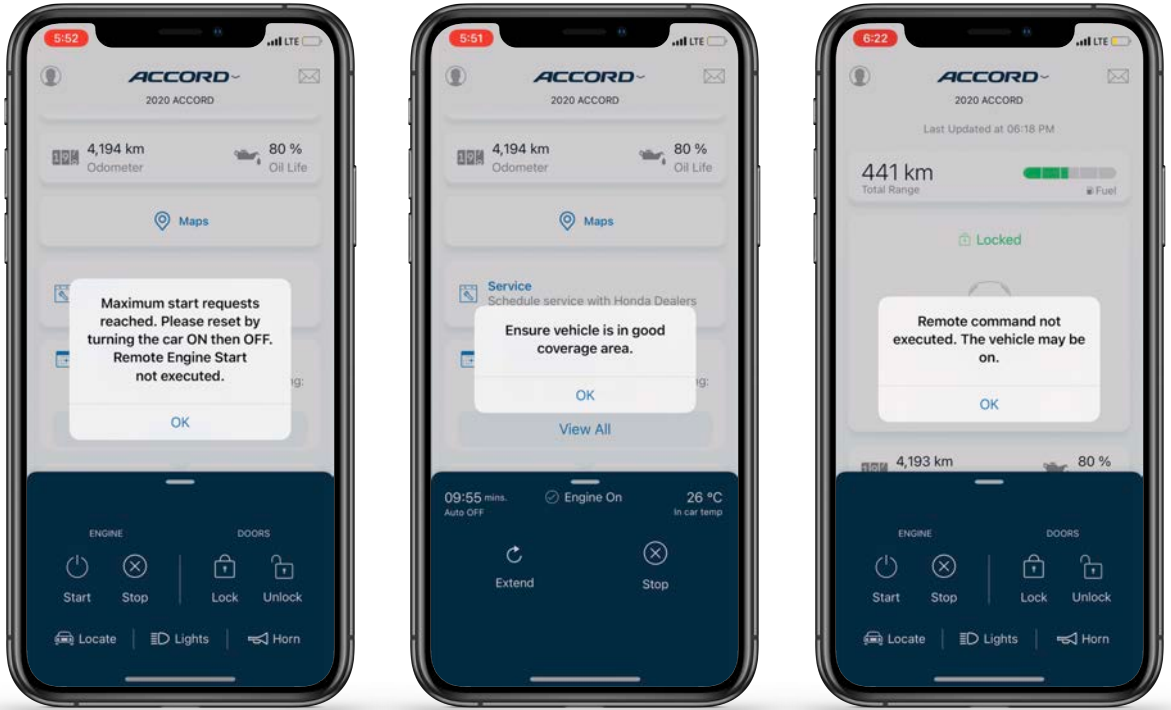
Remote features

Error prevention

Observations & recommendations

- Restrictions are presented a few minutes after the commands are sent. This is frustrating, particularly in the case where the user initiates a remote command, leaves the phone, and comes back to find that the command wasn't executed.
  - Application restricts the maximum start requests for turning the engine on
  - Issues with coverage areas (although there are full bars)

Recommendation:
If possible, let the user know if the command can be executed immediately, and do not make them wait only to have the command fail. Consider only presenting options that are actionable, which will reduce frustration when the command does not work.



Climate

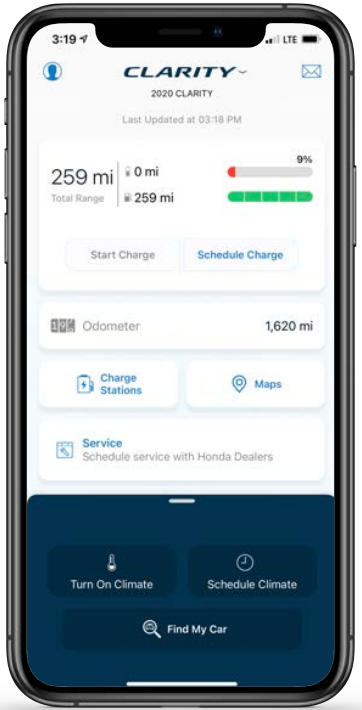
Error prevention

Observations & recommendations

If the battery is below a certain threshold, remote settings for climate are not available. However, this is not indicated on the card.

Recommendations

Items that cannot be actioned should be disabled, so it is clear to the user from the onset that the feature is not available.



Onboarding

Error prevention

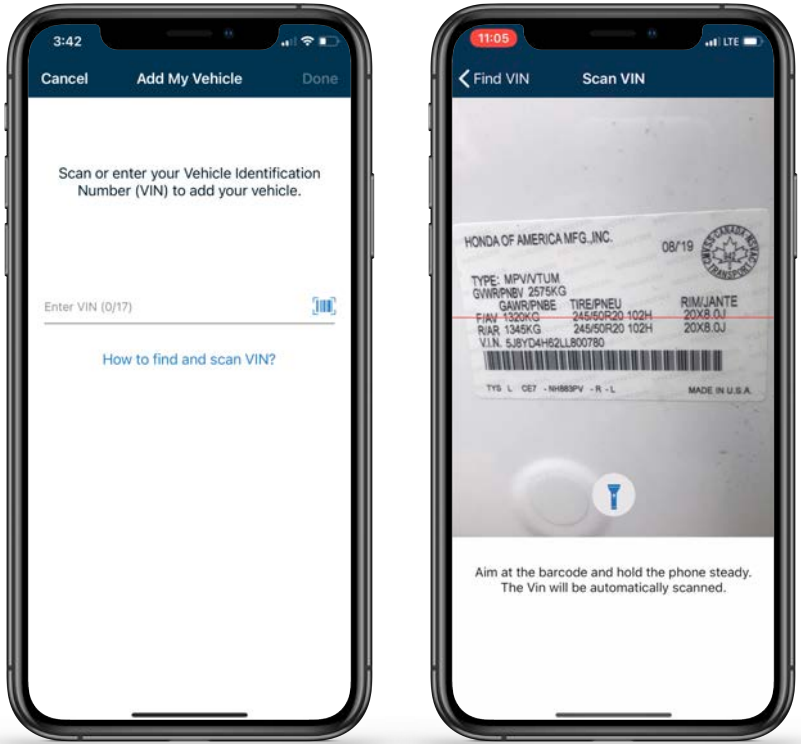
Observations & recommendations

Although line provided indicates where the user should align to the bottom of the barcode in order to scan, this is slightly unclear.

Recommendations:
Use a box as an indicator, or additional instructional text to be a little more clear.

User is unable to paste in the VIN number in this field, and must either scan the barcode at the vehicle or type the VIN in manually.

Recommendations:
App should allow the user option to paste in text field, as VIN is complex and hard to type without mistakes.





Visibility of system status

Outages

Visibility of system status

Observations & recommendations

Outages occurred twice within the 4 week evaluation, and the first outage had a duration of almost a week. In particular, features that were unavailable were basic features such as login, which prevented the user from using the app at all. Outages of this type and duration are not typical for a mobile app experience, particularly for paid apps. Onboarding experience during outage is frustrating, particularly since the user has just paid for the vehicle.

Recommendations:

Preventing or reducing the impact to the users would improve the experience. The outages seem scheduled, and better messaging and notifications not just to current users but to prospective users would better manage expectations.

Instead of locking the users out of the app entirely, consider making only certain features unavailable. Perhaps implement smaller scale adjustments that would not keep the app off-line for as long.



Notifications

Visibility of system status

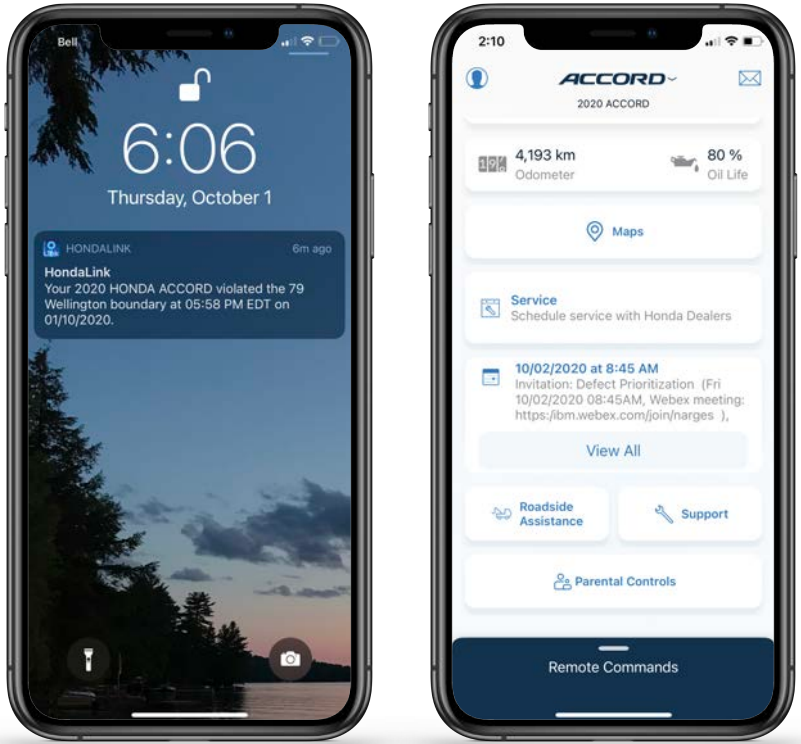
Accord Hybrid Touring – HondaLink™

Observations & recommendations

Although app notifies user of parental control alerts, the notification is not available to view in the app's messages centre, only under the parental control tile. In addition, the tile for parental controls does not indicate that there is a new violation, and is not discoverable.

Recommendations:

Store notifications in the messages centre, where the user typically expects to find it. If the notification is easy to find in the message centre, then there is no need to see the indicator on the parental controls tile.



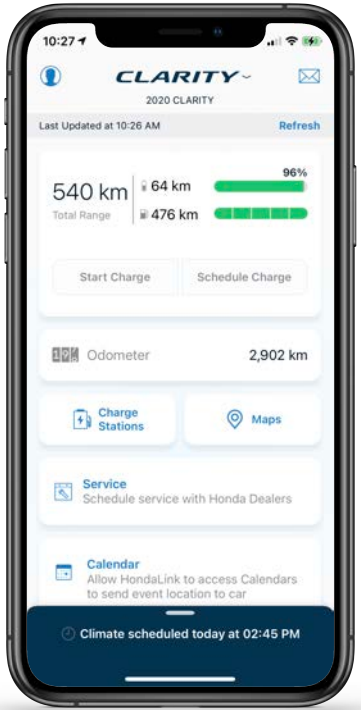
Schedule climate

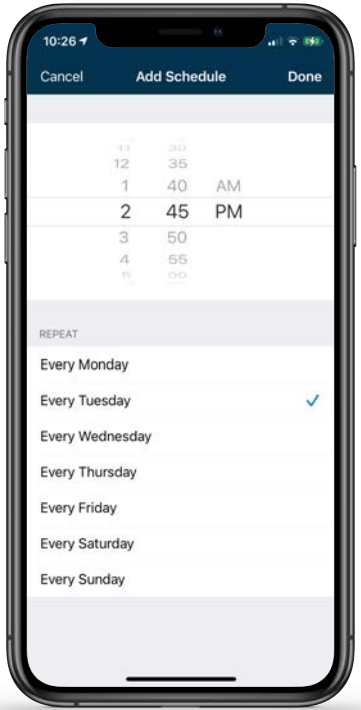
Visibility of system status; error prevention

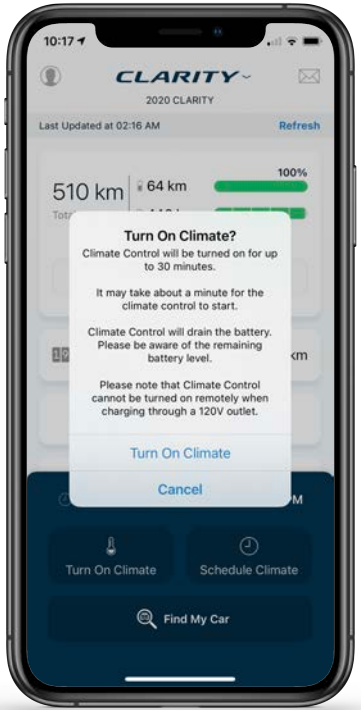
Observations & recommendations

Scheduled climate only occurs when car is properly charged.

Recommendations:
The user should be warned if scheduled climate setting won't be met ahead of time so that they have the opportunity to do something about it. For example, if the user is notified, they are reminded to plug in the car instead of having to remember this condition.

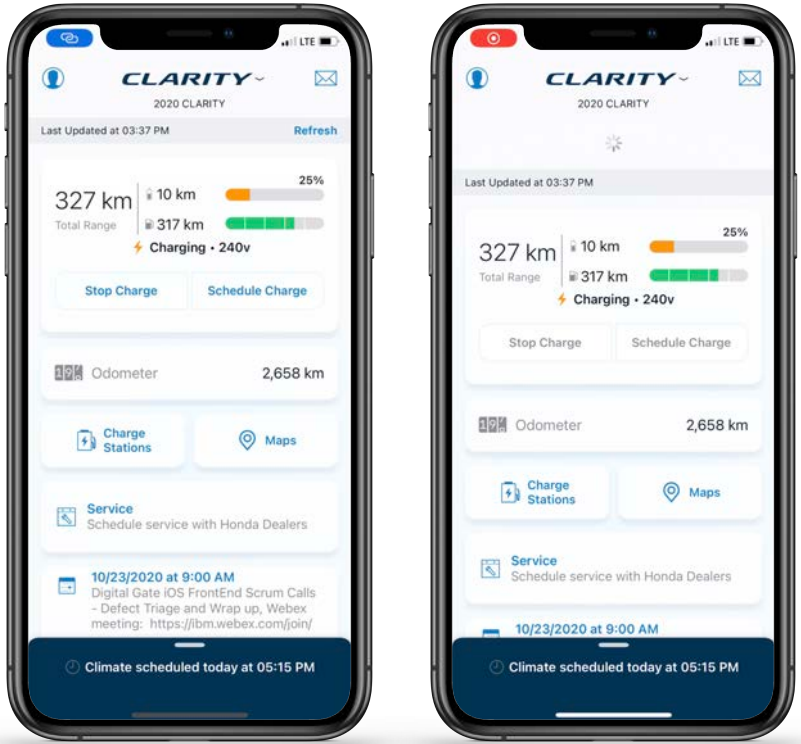






Charging

Visibility of system status



Observations & recommendations

Once the car is plugged in, the app does not show how long user must wait for charge to be full. This is important information for user to be able to plan around the charging time, particularly if they are charging outside the home at a charging station. User must mentally calculate rate of charge by returning to the vehicle, checking how much it's charged in X period of time, and guess how long it will take to complete charge.

Recommendation:
Prominently display the estimated time to full charge, so that the user will be able to plan accordingly. By providing the information, it takes the mental load to calculate off the user.

Charging

Visibility of system status

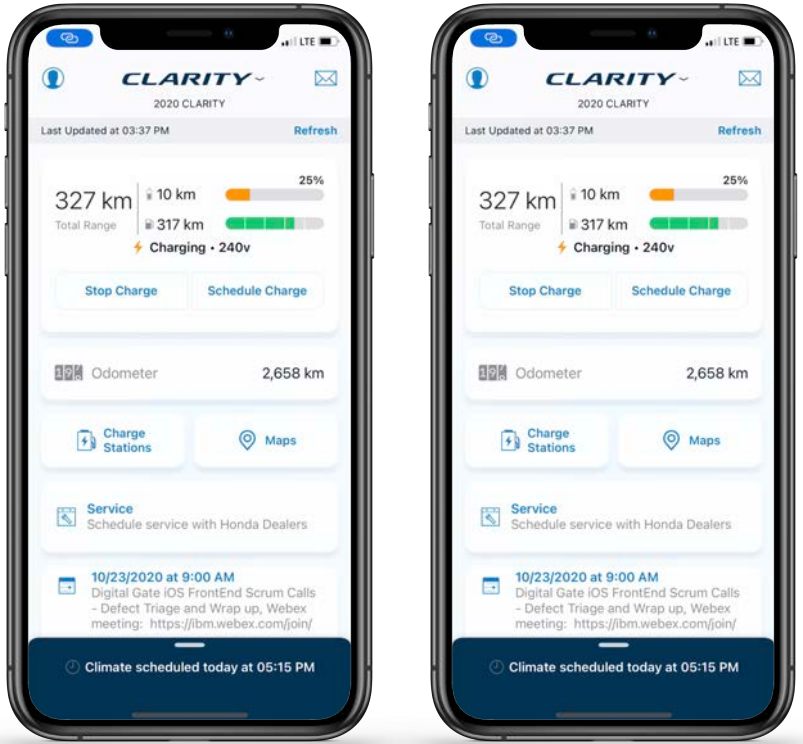
Observations & recommendations

User can pull to refresh, however that gesture and animation can be deceiving. The app does not actually refresh any of the content, and the last updated time does not change. However, there is no clear indication that the refresh failed other than that the information remains static, which may be detail that the user does not notice.

Recommendation:
If the refresh action failed, then the app should show the user that the information was not updated. For example, if the app is offline then an alert can be displayed after the user pulls to refresh so that is is clear that no update occurred.

Pull to refresh only seems to be enabled if the vehicle is on. This requires the user to physically return to the vehicle check the charge status, which is inconvenient. It is frustrating for the customer who wants convenient and reliable data to make decisions.

Recommendation:
The app needs to display accurate and timely information to be trusted, and the user needs to be able to access that information remotely to understand the true state of the vehicle.



Authorize Account

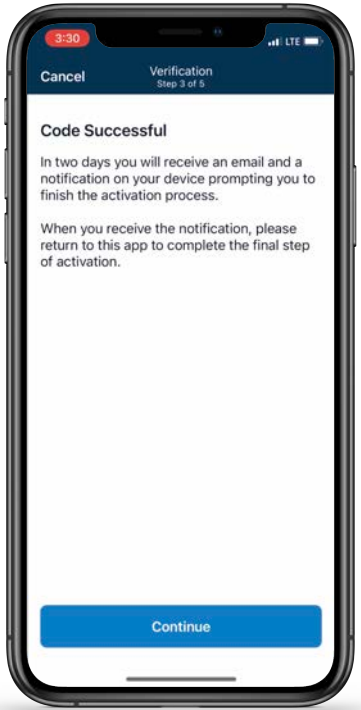
Visibility of system status

Observations & recommendations

User must wait 48 hours to receive an activation email. This amount of time is uncommon, particularly for mobile apps.

Recommendation:

Reduce time to receive email. If the duration is due to constraints and cannot be changed, provide up more information up front on why this step takes so long. If possible, break this down to smaller steps and update the user on when those steps are complete to provide feedback and reassure the user that this is progressing.



Notifications

Visibility of system status

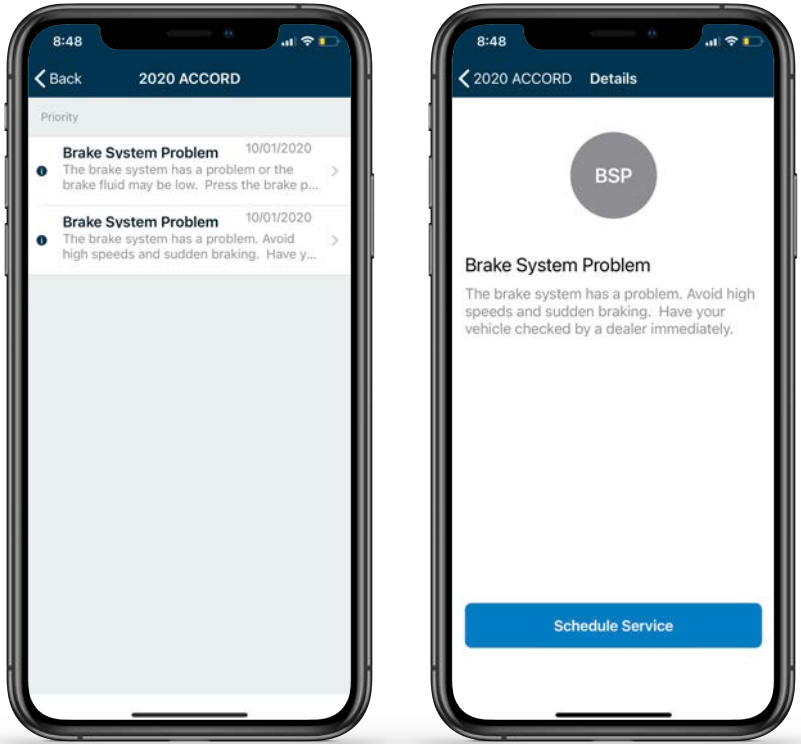
Observations & recommendations

- Information provided to the user in the app and in the vehicle do not align. The user was sent this alert, but according to the vehicle, the brake system was not a problem. This is particularly alarming for the confused user, as it is a safety issue.

  Recommendations:
  The user needs to be confident that they can trust the messages and notifications being provided. Having the vehicle and app send two conflicting messages erodes that trust. Ensure that that the two sources of information are in sync, and that the information provided is reliable.

- The wording on the alert is alarming, and can create panic for the user.

  Recommendations:
  Any communication sent to the user regarding safety, or that causes concern, should be carefully vetted so that is reliably true. Repeated false alarms could cause the user to ignore any serious warnings. In addition, consider categorizing the types of alerts in high/medium/low issues so the user can respond appropriately, particularly for those users who don't have much car knowledge.



Connectivity

Visibility of system status

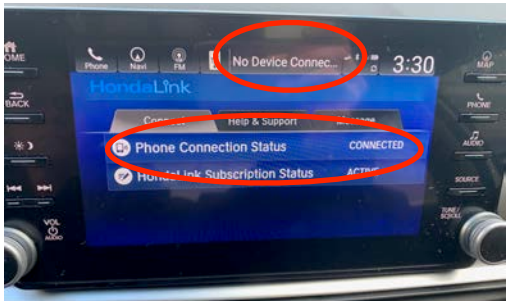
Accord Hybrid Touring – HondaLink™

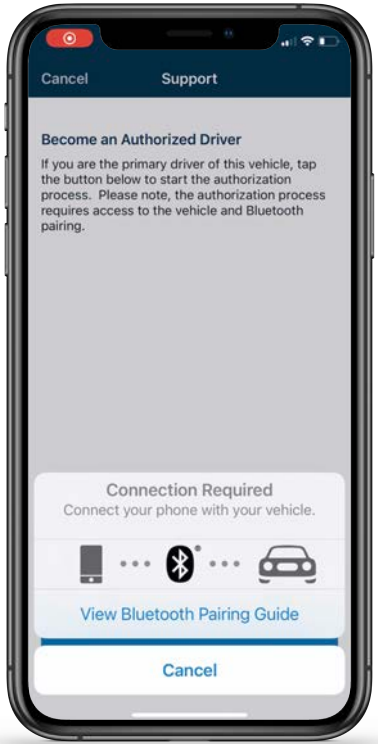
Observations & recommendations

When connecting the device to the car, there are mixed messages, which reduce trust in the experience. The screen shows both a connection and no connection, and the mobile app may or may not show the connection.

Recommendations:
The user needs to be confident that they can trust the messages and notifications being provided. Having the vehicle and app send two conflicting messages erodes that trust. Ensure that that the two sources of information are in sync, and that the information provided is reliable.







Remote features

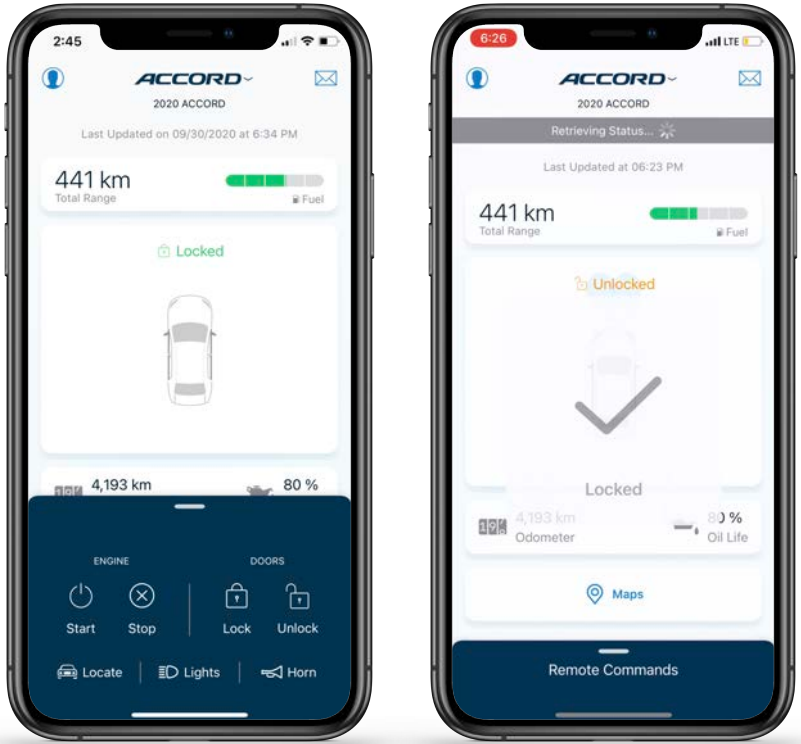
Visibility of system status;

Accord Hybrid Touring – HondaLink™

Observations & recommendations

The state of the vehicle shown in the app is misleading. The locked/ unlocked status of the app only changes when a remote command is issued. If the vehicle is locked and unlocked via the key, or in the car, the status does not change and they are out of sync.

Recommendations:
Vehicle state in the app should reflect the true state of the vehicle. It erodes trust to have the vehicle and app show two conflicting messages.



Remote features

Visibility of system status

Accord Hybrid Touring – HondaLink™

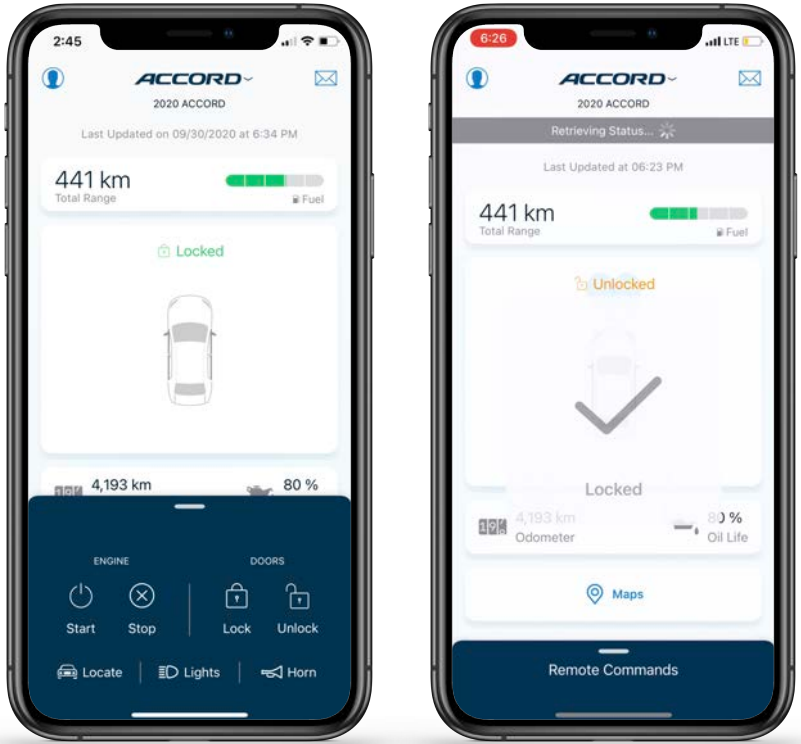
Observations & recommendations

- Remote commands and vehicle status are separated in the app, and does not look connected even though one affects the other.

  Recommendation:
  Consider visually merging the two sections to provide a clearer picture of the app's current status, so the user does not have to look in two different areas.

- Remote commands for the Accord are static. The button state doesn't change, and it's difficult to tell what the user's last action was.

  Recommendation:
  Commands should be tied to the state of the vehicle, if possible. Note that this is already implemented the case for the Clarity, where the button state does change.



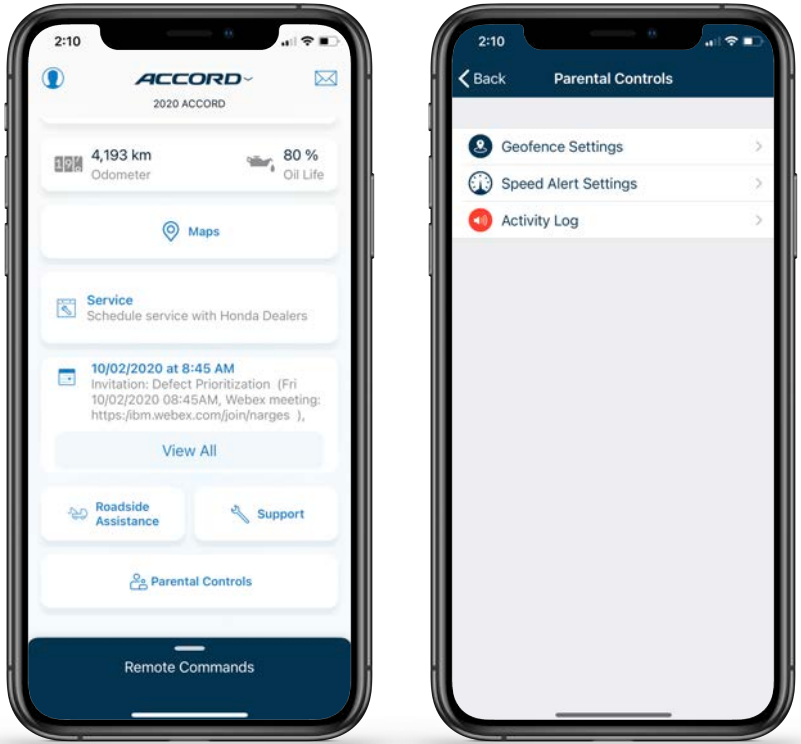
Parental controls

Visibility of system status

Observations & recommendations

While users are notified when parental control restriction has been violated, there are no details of the event provided.

Recommendation:
For example, if it was speeding violations, the detail could include what was the maximum speed reached or how long was the duration of the violation. The additional information provides clarity for the user as to the severity of the violation, and they have more context to make decisions.



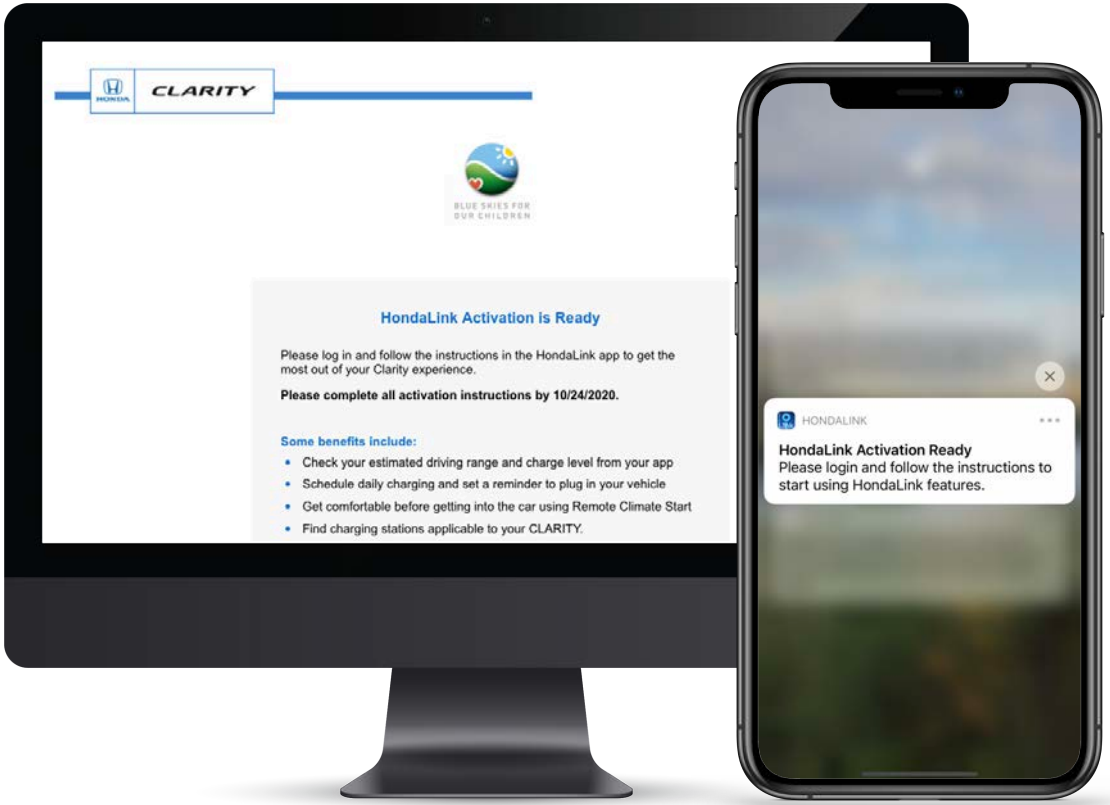
Authorize Account - messaging / notifications

Visibility of system status

Observations & recommendations

User is informed that the activation is ready via an email as well as a push notification on the app. However, the push notification disappears and is not available in messages.

Recommendations:
Store notifications in the messages centre, where the user typically expects to find it.



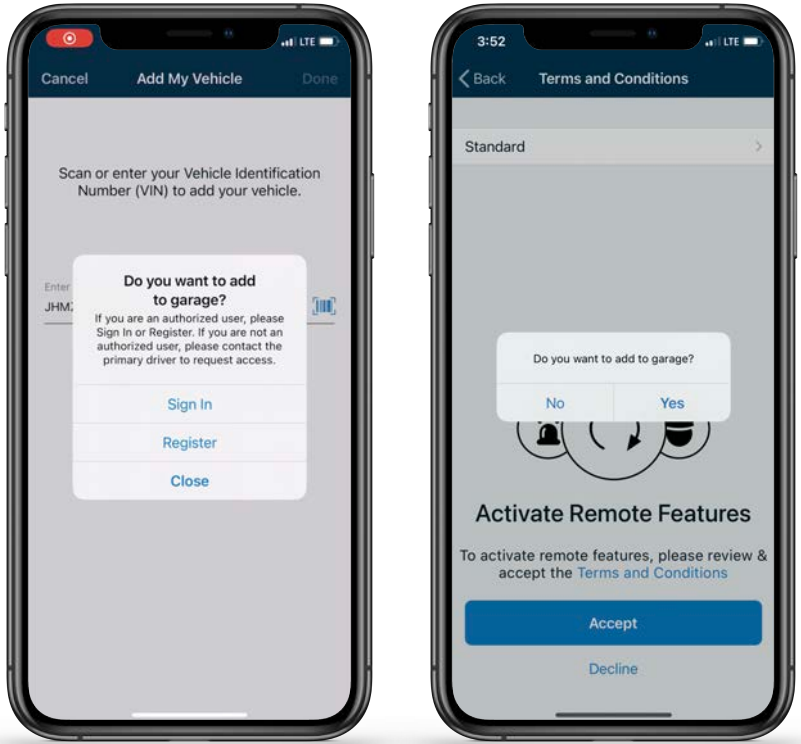
Add to garage alert

Visibility of system status; user control & freedom

Observations & recommendations

It is unclear as to what adding to garage does. The alert shows many times even if the user taps yes and there is no discernible difference in the app. In addition, it is not clear in the app where to find this information, or how to remove from the garage if the user changes their mind.

Recommendations:
Provide more context to the user. Help them understand what add to garage means and help them understand what change has taken place once they have added something to garage.
Have clearer information architecture in the app so the user is aware of where the feature can be found.



Charging

Visibility of system status

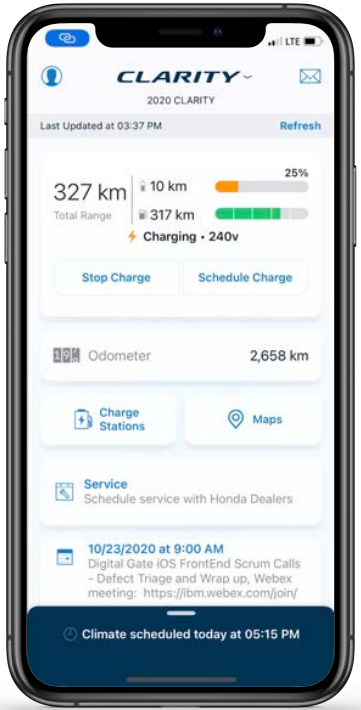
Observations & recommendations

There is no indicator on the landing screen if a charge has been scheduled, or a reminder has been set.

Recommendations:
Display on landing screen whether a reminder/scheduled charge has been set or not. This will stop the user from having to discover it themselves.

This alert may not be necessary as the user has only just set the reminder themselves, and the action is easily reversible.

Recommendations:
Remove the alert if it's not necessary to confirm the action.







Recognition vs. recall

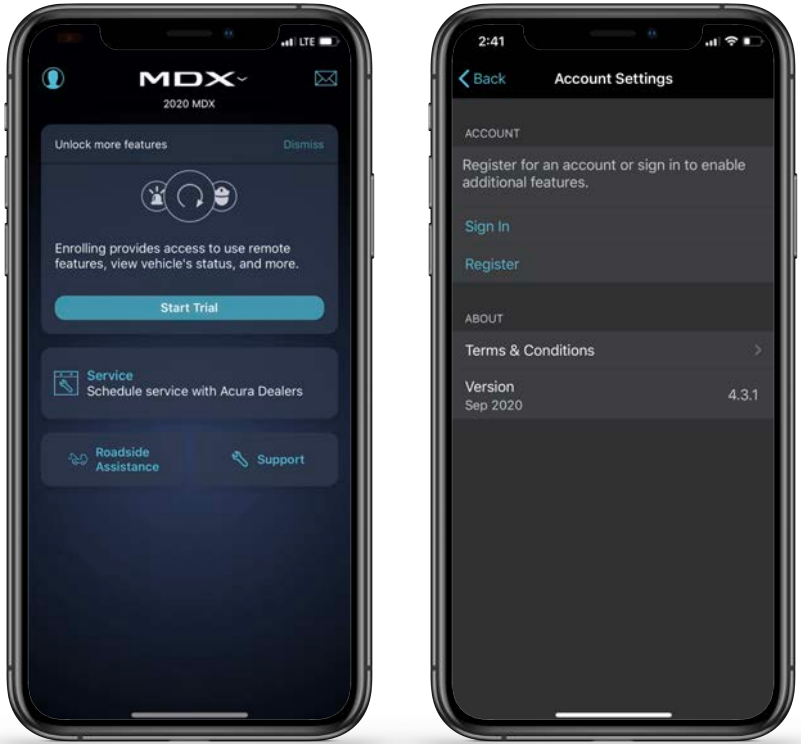
Onboarding

Recognition vs. recall

Observations & recommendations

After dismissing the card with the trial option, there is nowhere for the user to access the trial again. It is not apparent to the user that that they are also able to start the trial through the registration flow in settings (it is an identical flow). It seems like the option to start the trial disappears and the user is unable to access it, which can be disconcerting.

Recommendations:
Be clear that the trial can be started from settings, so that the user knows how to access this once it is dismissed. The user would feel more comfortable in taking the action (dismiss) if they are aware it can be reversed. Consider adding additional context to the start trial card, and to settings itself.



Support

Recognition vs. recall

Observations & recommendations

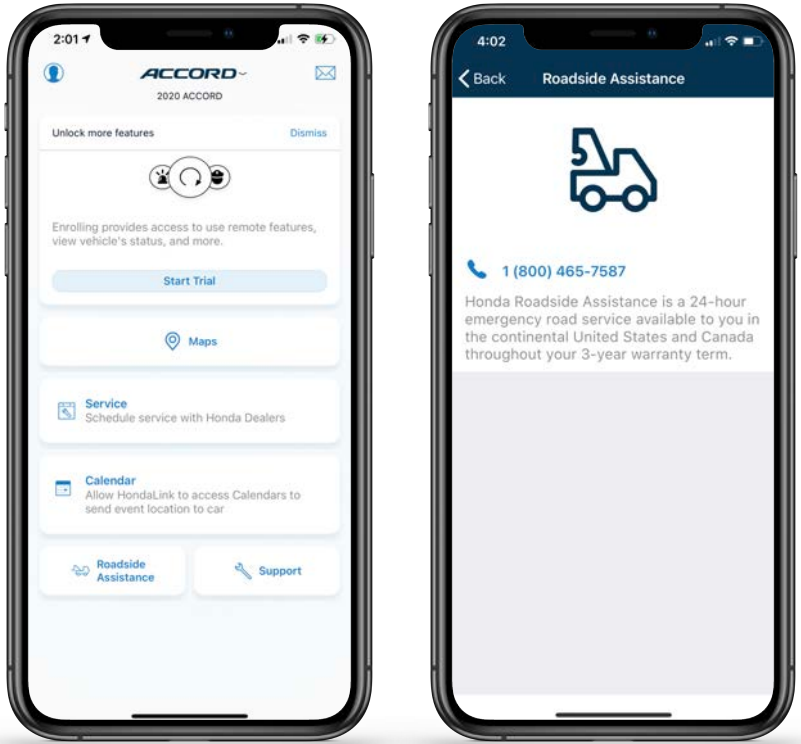
Within the roadside assistance features, the user does not know what type of coverage they have.

Recommendations:

Showing the available coverage on this screen would be helpful and would not depend on the user to remember their coverage type. This would help them in determining if calling roadside assistance is the right course of action.

Display more details to the user about their roadside coverage using the member's account information.

- Where is the closest help?
- When does my subscription expire?
- What is my coverage like?





Aesthetics & minimalism

Overall UX/UI

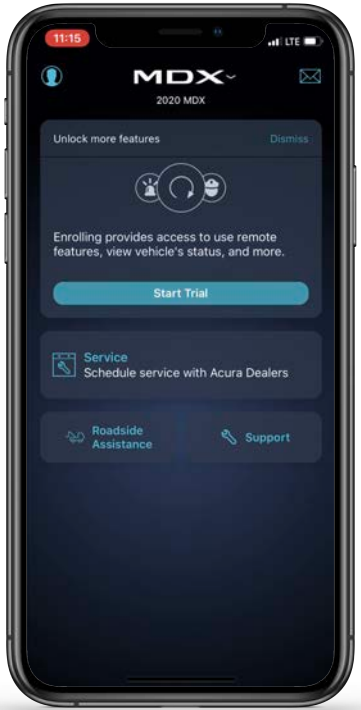
Consistency & standards; aesthetics & minimalism

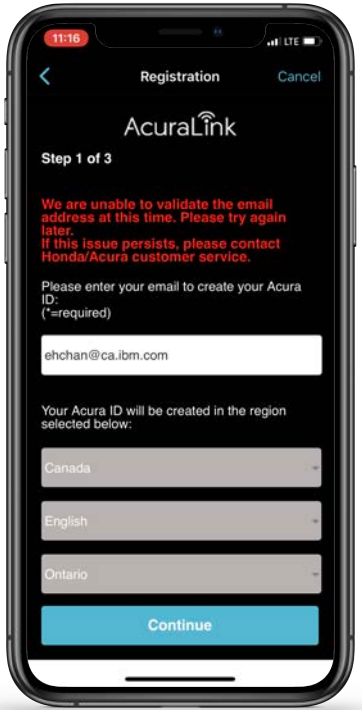
Observations & recommendations

Screens inside the app have varying look and feel, as well as design inconsistencies. For example, there are different background colours used throughout the app, different fonts, and different button styles.

Recommendations:
Both apps should have a uniform visual design. Establish a design system/guidelines then update apps to align. Use native patterns wherever possible for ease of maintenance and consistent device experience.







Service

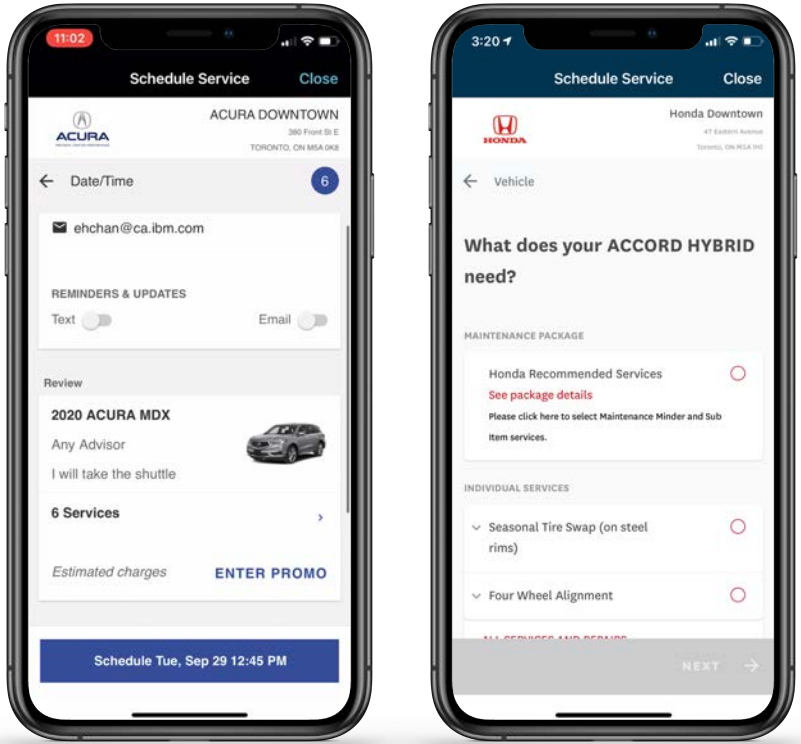
Consistency & standards; aesthetics & minimalism

Accord Hybrid Touring – HondaLink™

Observations & recommendations

Visual design of scheduling a service doesn't align with the rest of the app. This section is not completely optimized for mobile (some horizontal scrolling to select appointment slots)

Recommendations:
Screens should have a uniform visual design. Establish a design system/guidelines and update apps to align. Since this view is a third-party view, using standard visual design will help tie it closer together with the app. For example, keeping the tint colours the same, and using the same background colours.



Notifications

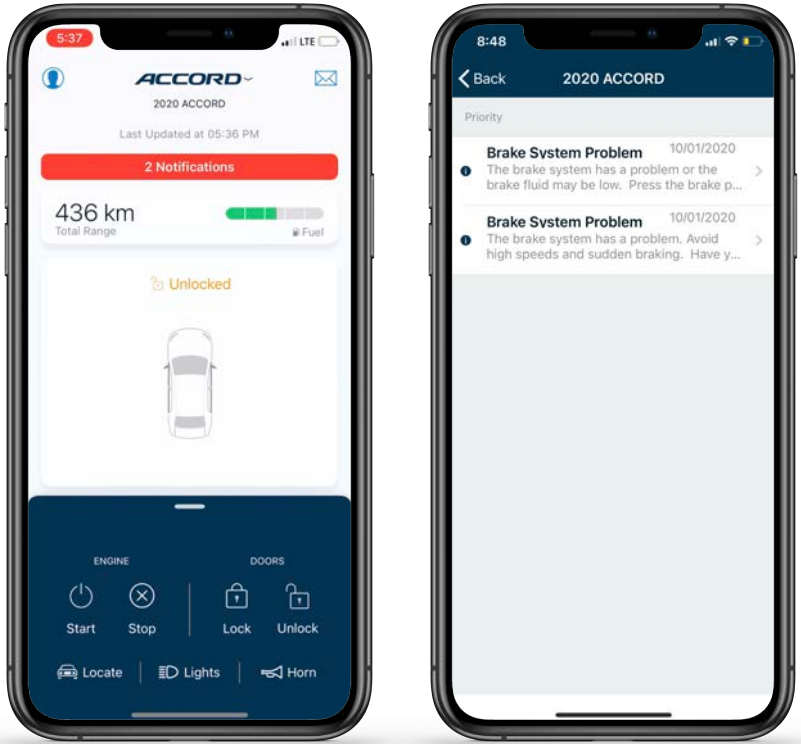
Aesthetics & minimalism

Accord Hybrid Touring – HondaLink™

Observations & recommendations

While it is good that important notifications are surfaced, it is redundant to have notifications button and the message icon.

Recommendation:
Consolidate the button and icon indicator so they are in one place. Using a badge on the message icon to indicate new messages, or important messages. This will achieve the same effect of indicating to the user that attention should be paid.



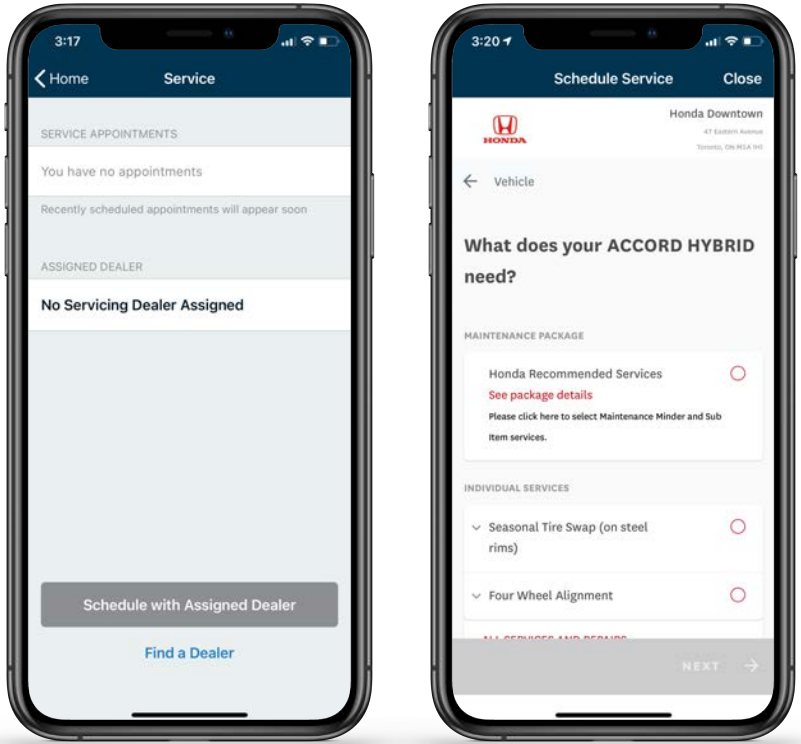
Service

Consistency & standards; aesthetics & minimalism

Observations & recommendations

Red used as the tint colour is normally reserved for errors, warnings and notifications.

Recommendations:
Keep the same tint colour as the HondaLink and AcuraLink app.



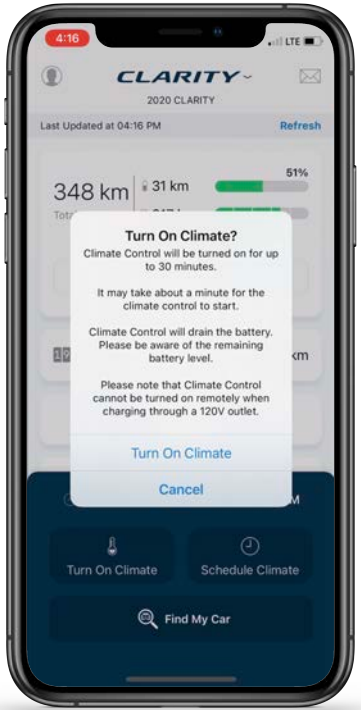
Alert – remote features

Consistency & standards; aesthetics & minimalism

Observations & recommendations

- This is a lot of information on the alert, almost overwhelming. Some information the user may not need to be seen every time and could be placed elsewhere. Standard alerts do not normally show this much text.

  Recommendations:
  Follow conventional guidelines for messaging on alerts.





Match system & real life

Range

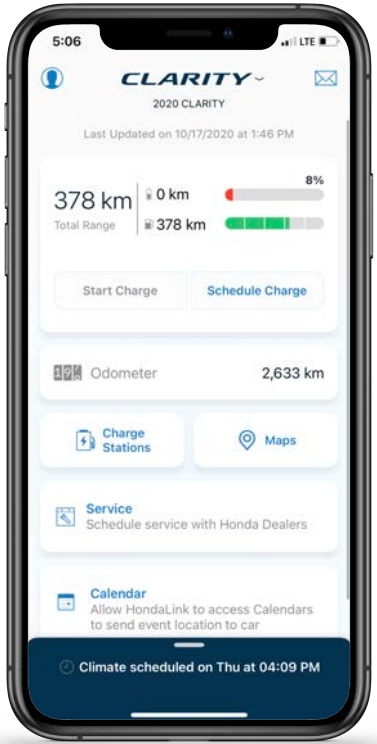
Match system & real life

Observations & recommendations

Total range on the vehicle and the app sometimes becomes out of sync. The vehicle seems like the most up to date. For example, the range on the vehicle's dash reads 330km, and the app reads 378km. This means that the app information may be unreliable for the user. This does not update even if user pulls to refresh.

Recommendations:
The users needs to trust that the app is providing the correct information. If the data provided by the app is old, or cannot be updated, there needs to be clearer messaging to convey that.





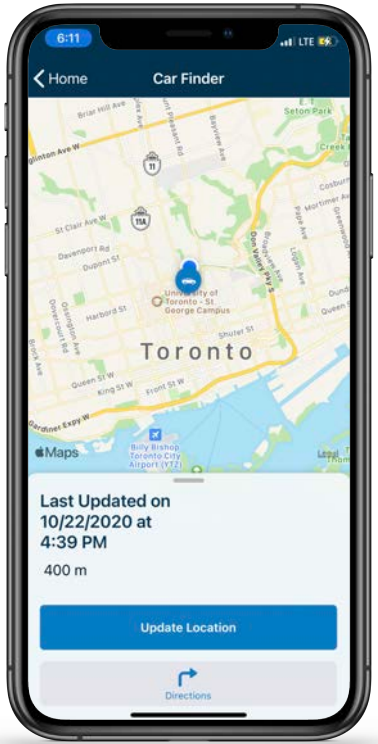
Find my car

Match system & real life

Observations & recommendations

The Find My Car feature is not always accurate. The car location is not always where the app says it is, which diminishes the value of the feature. Even after the user manually updates the location, the incorrect location does not update to the correct one. It is unclear how or when the car location is updated.

Recommendations:
The user needs to be confident that they can trust the information in the app. If the information cannot be updated, then use clearer messaging to explain why the update was unsuccessful. Perhaps also allow the user to manually set the location, if the automatic update does not work.



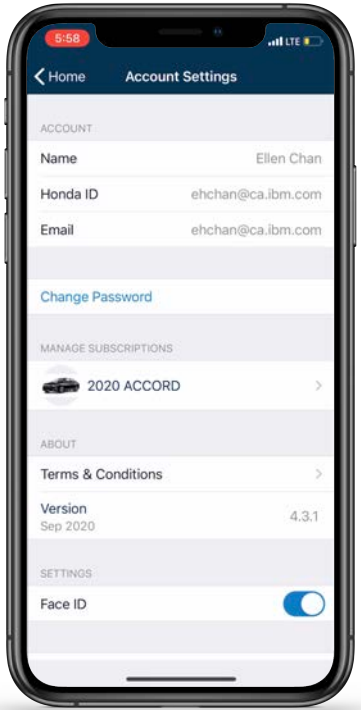
Overall UX/UI

Match system & real life

Observations & recommendations

The vehicle in the photo thumbnail is not the right car, since the vehicle in real life is white, not black.

Recommendations:
Although this is a minor issue, it speaks to level of detail paid in the app. Having these minor things not match gives the users pause, and introduces doubt to the accuracy of the app and the information given. If automatically showing the correct vehicle is difficult, consider allowing the user to upload their own photo of the car to solve this issue.



Support

Match system & real life; flexibility & efficiency

Observations & recommendations

All warning lamps are shown in support, even the ones not available for this model. Not all this information is useful, and requires the user to sift through it in order to find what they need. This can be time consuming, and also requires the user to figure out which warning lamps are applicable.

Recommendations:
Only show the warning lamps that are applicable to the user.





Consistency & standards

Overall UX/UI

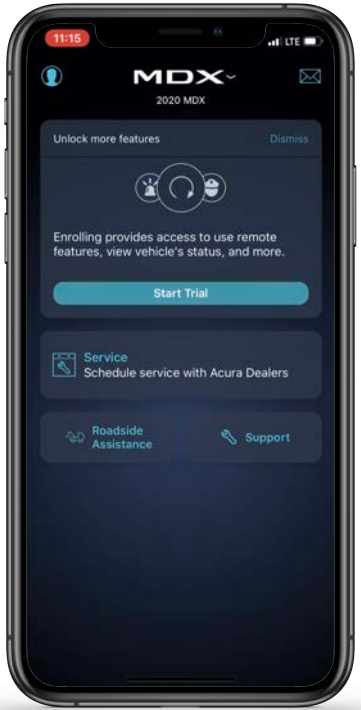
Consistency & standards; aesthetics & minimalism

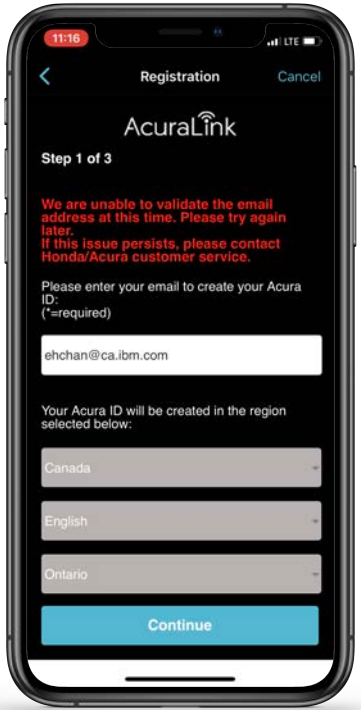
Observations & recommendations

Screens inside the app have varying look and feel, as well as design inconsistencies. For example, there are different background colours used throughout the app, different fonts, and different button styles.

Recommendations:
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Remote features

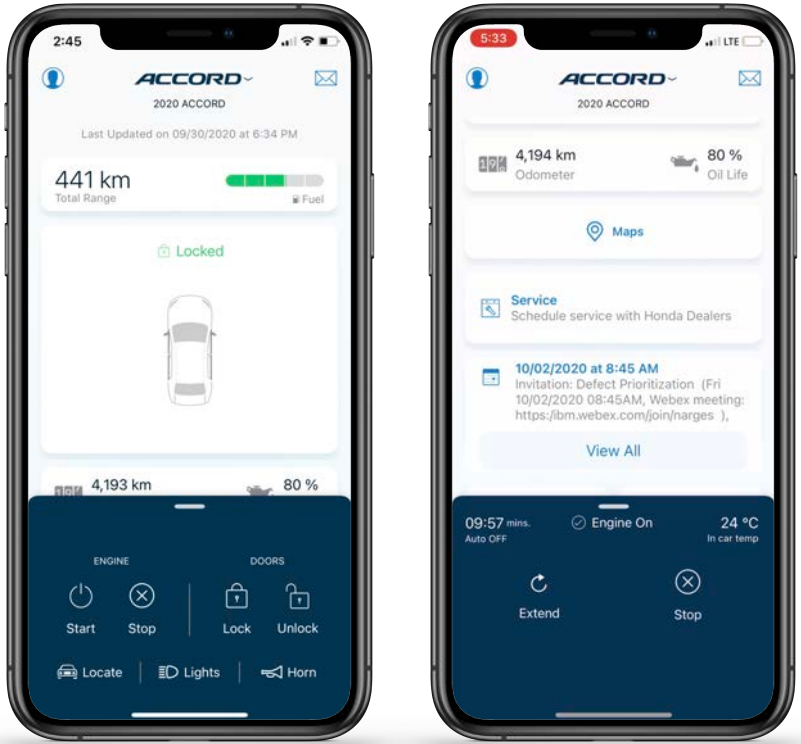
Consistency & standards

Accord Hybrid Touring – HondaLink™

Observations & recommendations

Once engine is on, it is difficult to know what is tappable in this card, as actionable items and regular text both use white.

Recommendation:
Make adjustments to the UI and content to ensure that the user has visibility on what is actionable within the context of their current flow.



Service

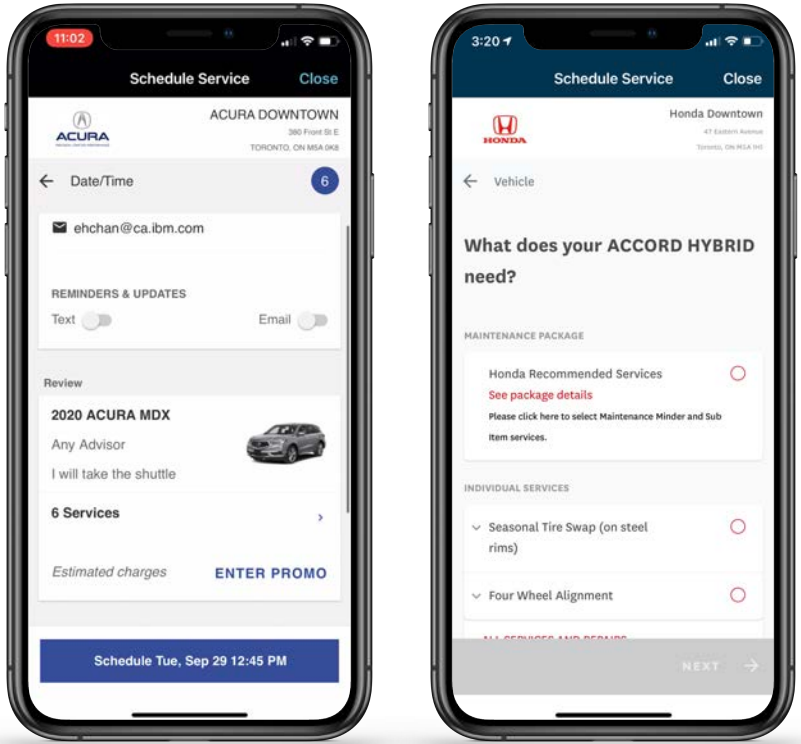
Consistency & standards; aesthetics & minimalism

Accord Hybrid Touring – HondaLink™

Observations & recommendations

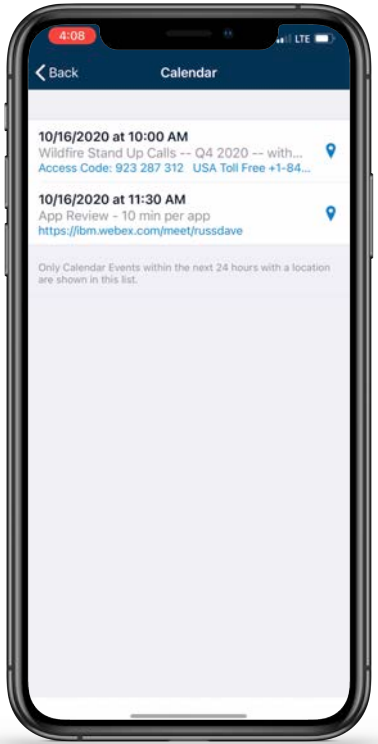
Visual design of scheduling a service doesn't align with the rest of the app. This section is not completely optimized for mobile (some horizontal scrolling to select appointment slots)

Recommendations:
Screens should have a uniform visual design. Establish a design system/guidelines and update apps to align. Since this view is a third-party view, using standard visual design will help tie it closer together with the app. For example, keeping the tint colours the same, and using the same background colours.



Calendar

Consistency & standards



Observations & recommendations

Generally, calendar entries will link out to a map app and sync with Apple CarPlay and Android Auto to view the location and handle directions. It is difficult to compete with established and frequently used apps such as Google Maps for the same functionality.

Recommendations:
Use an analytics tool to assess how frequently this feature is actually used by customers to ensure it solves a real user pain point. Users likely also have preferred calendar apps, and may bypass this feature.

The date and time format could be easier for the user to scan. For example, 10/16/2020 at 10:00AM is more difficult to read and has less info than Fri. Oct. 16 at 10:00AM

Recommendations:
Change the format of the date listed

Connecting

Consistency & standards

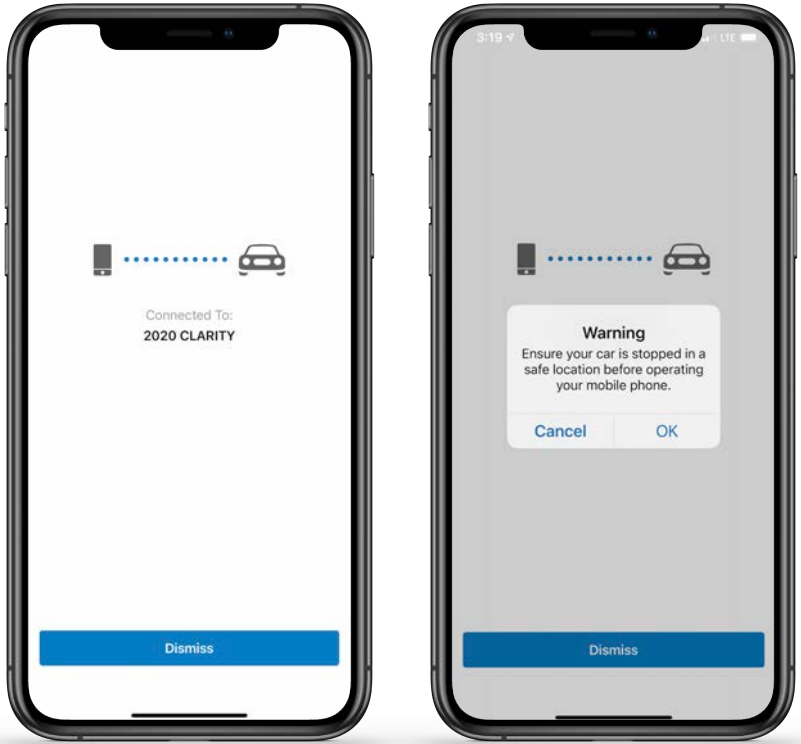
Observations & recommendations

Dismiss button leaves the user no other option to exit the screen, and the user can remain stuck on this view. The term dismiss is also a negative message, and the user may be afraid to tap on the button.

Recommendations:
Dismiss should be changed to leverage an affirmative message representing progression into the app. For example, continue, ok, or next.

In the alert cancel and ok do the same thing - dismiss the alert window and returns the user to the initial screen. Having the two different options is confusing, as they typically indicate two different outcomes.

Recommendations:
Adjust the UI to leverage a single message of confirmation, such as ok.



Onboarding – connectivity – outages

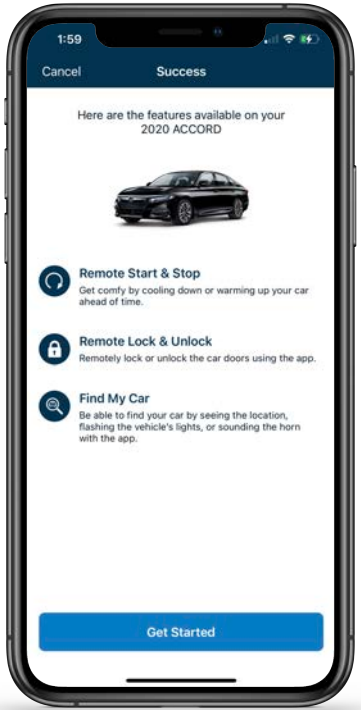
Consistency & standards

Accord Hybrid Touring – HondaLink™

Observations & recommendations

The final screen when connecting to vehicle promotes features that are not available because registration is required. Users are unable to access the features because registration was not available due to system outages.

Recommendations:
Consider only showing features that are currently available to the user, and what features will be available later to manage expectations. This will reduce frustration later on when these advertised features cannot be accessed.



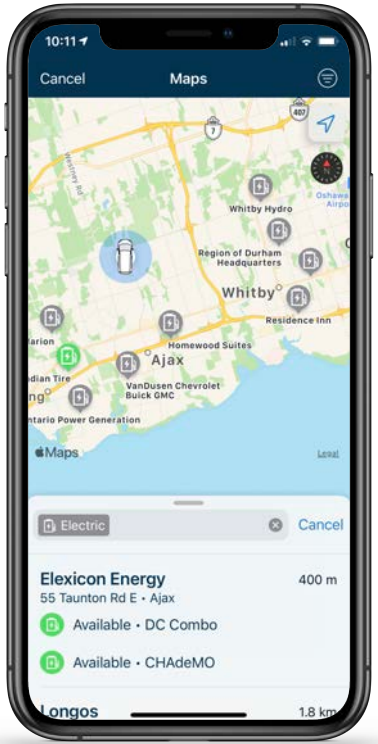
Mapping charge stations

Consistency & standards

Observations & recommendations

Currently the user enters the map view by tapping charge stations but once in this area, they can delete this option and view other map-based location categories such as restaurants or fuel.

Recommendations:
While displaying the charge stations, hiding the option to delete electric would avoid frustrating the user. In the current information architecture, this section is focused on charging so it should only show information pertaining to that topic.
Other map categories should be shown when tapping maps only.



Support

Consistency & standards; recognition vs. recall

Observations & recommendations

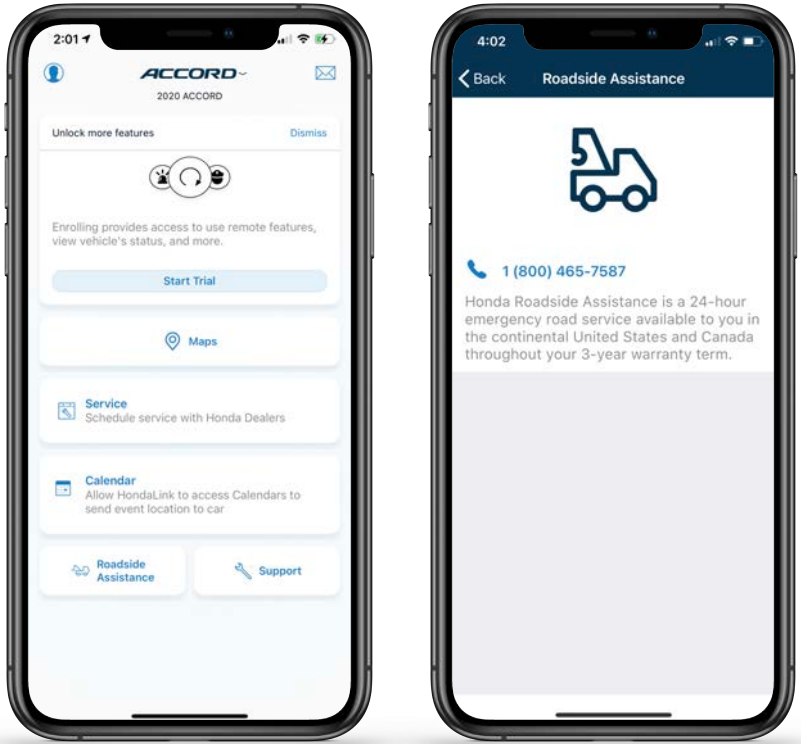
Within the roadside assistance features, the user does not know what type of coverage they have.

Recommendations:

Showing the available coverage on this screen would be helpful and would not depend on the user to remember their coverage type. This would help them in determining if calling roadside assistance is the right course of action.

Display more details to the user about their roadside coverage using the member's account information.

- Where is the closest help?
- When does my subscription expire?
- What is my coverage like?



Overall UX/UI

Consistency & standards

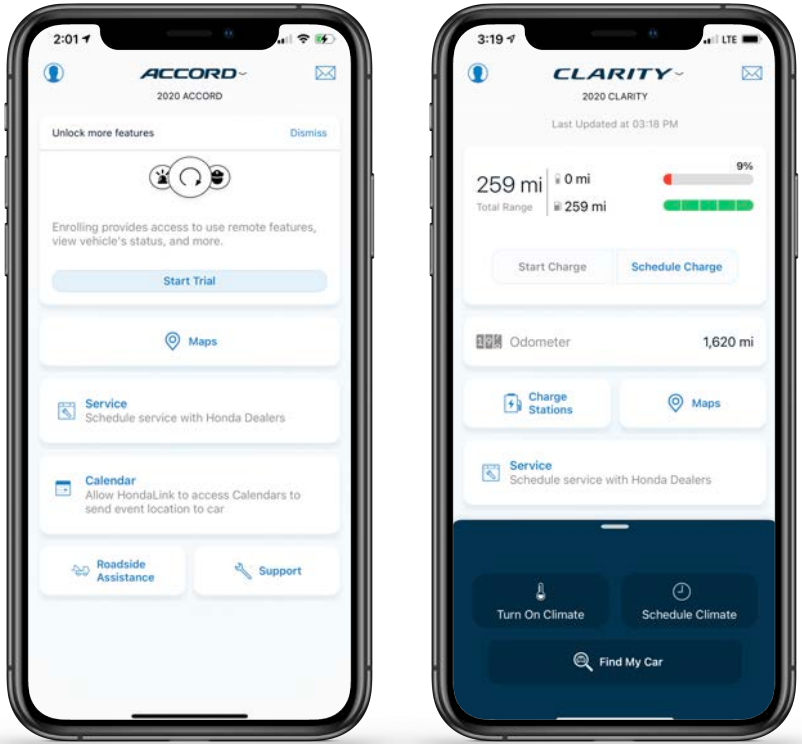
Observations & recommendations

More could be done with “Maps” tile, as it does not surface additional information to the user like the other tiles. It would also align more stylistically with other tiles such as Calendar.

Recommendations:
Provide more context to the user by including additional information, or a map thumbnail. Additional information could be the user’s last route, or upcoming route etc that was sent to the vehicle.

Find My Car is map-based but not with the other map-based content.

Recommendations:
Rethink informational hierarchy, and consider reorganizing to place map-based content closer together (not necessarily in the same tile).



Overall UX/UI

Consistency & standards

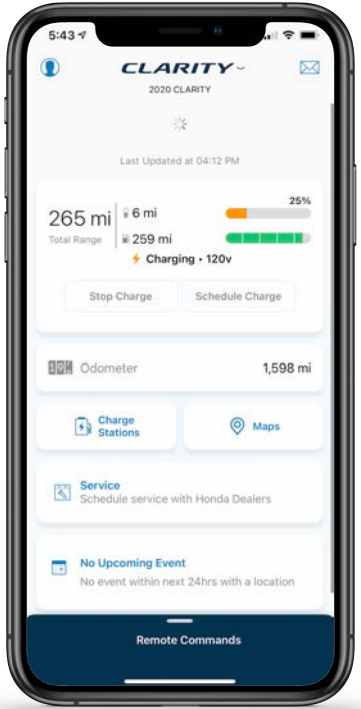
Clarity Touring – HondaLink™

Observations & recommendations

- For the Clarity, the visual indicators that indicate amount of fuel and amount of charge differ greatly in the app and in the vehicle.

  Recommendations:
  It is easier for the user to switch between these medium if there is more consistency between the indicators. The app should adopt a visual language that corresponds better with in-car instrumentation.





Overall UX/UI

Consistency & standards

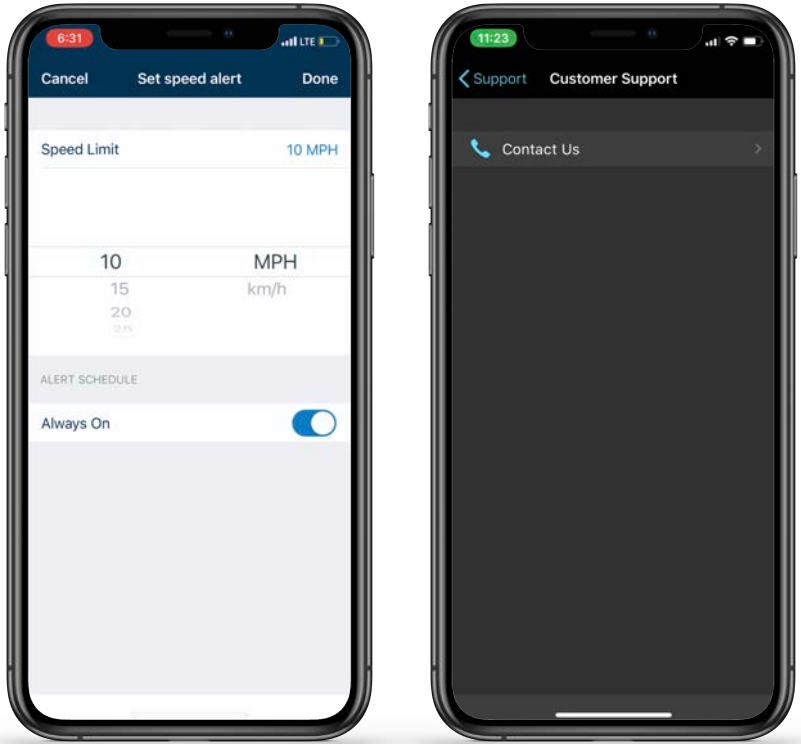
Observations & recommendations

- HondaLink is a light app, while AcuraLink is a dark app. iOS and Android systems are designed to support both light and dark modes. It takes the user out of the experience to use an app that doesn't align with other apps on their device.

  Recommendations:
  Support light and dark mode for both apps, and allow the user to choose which style to use.

- In some screens, the app is not optimized to support larger devices sizes and there is an area at the bottom that is visibly different.

  Recommendations:
  Ensure that the screen are optimized for all screen sizes.



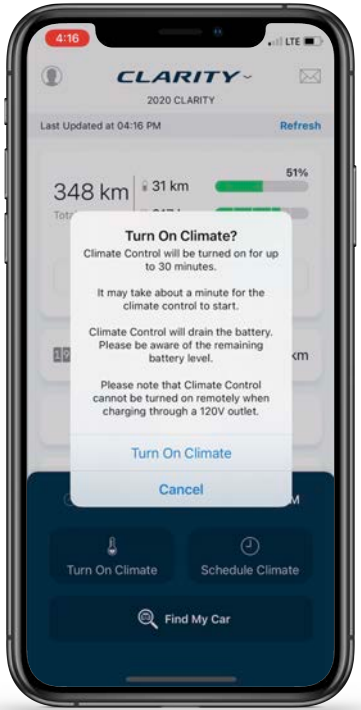
Alert – remote features

Consistency & standards; aesthetics & minimalism

Observations & recommendations

- This is a lot of information on the alert, almost overwhelming. Some information the user may not need to be seen every time and could be placed elsewhere. Standard alerts do not normally show this much text.

  Recommendations:
  Follow conventional guidelines for messaging on alerts.



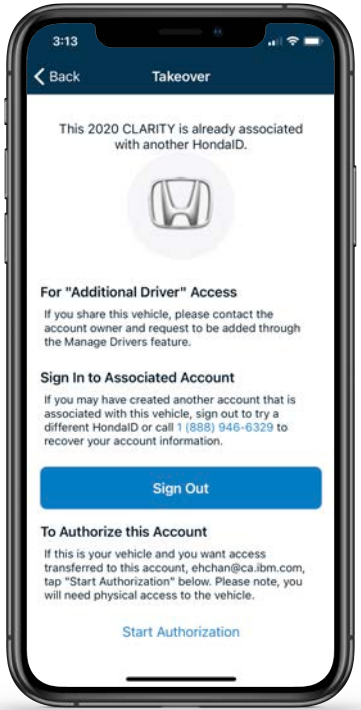
Authorize Account

Consistency & standards

Observations & recommendations

Start authorization is the most important call to action on the authorize account flow. However, it is not the primary button on this screen.

Recommendations:
Adjust UI and content on this screen so that the primary action is clear.



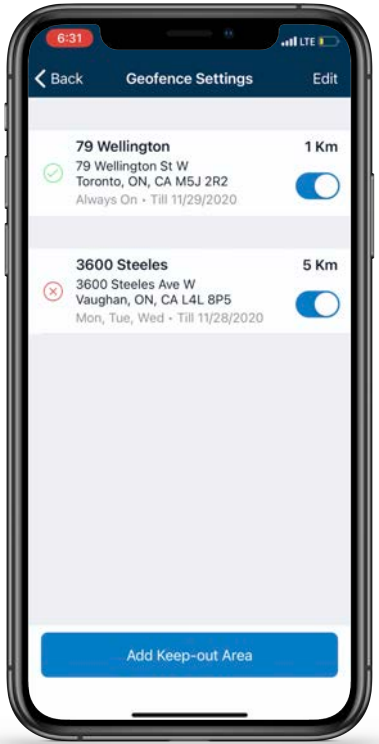
Parental controls

Consistency & standards

Observations & recommendations

Checkmark and X symbols are meant to indicate keep in and keep out areas, but they are misleading. The X symbol looks tappable, and looks like it should be used to delete this restriction.

Recommendation:
Use symbols that more closely reflect its purpose. In this case, symbols are not necessary, and table cell headers can be used to differentiate the keep-in, and keep-out settings.



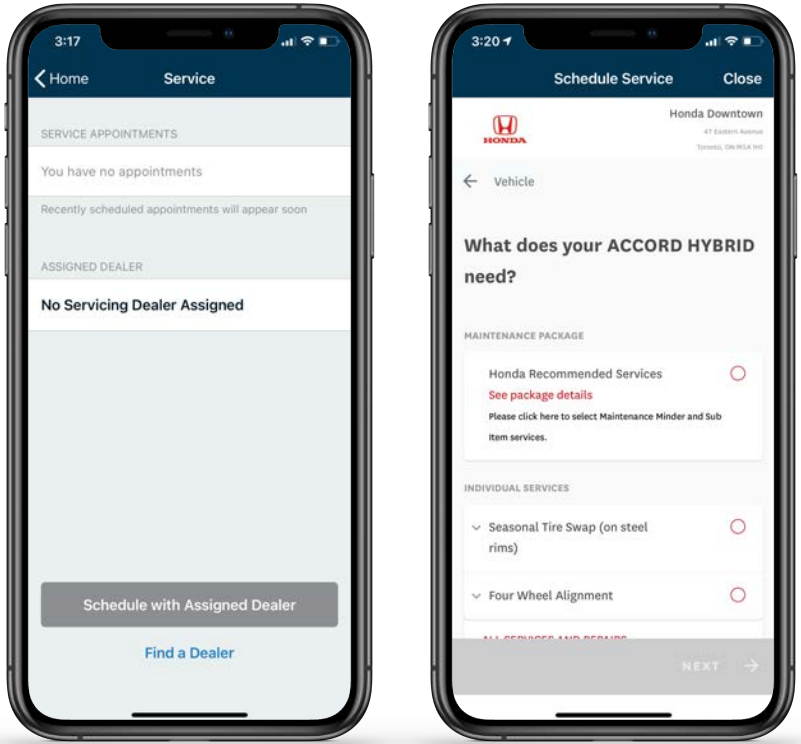
Service

Consistency & standards; aesthetics & minimalism

Observations & recommendations

Red used as the tint colour is normally reserved for errors, warnings and notifications.

Recommendations:
Keep the same tint colour as the HondaLink and AcuraLink app.





User control & freedom

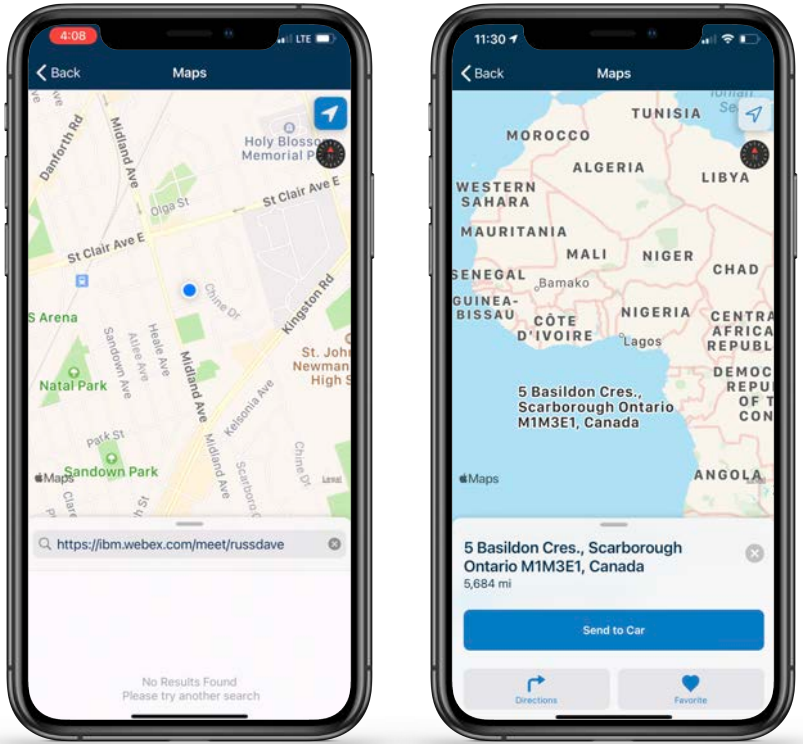
Calendar

User control & freedom; flexibility & efficiency

Observations & recommendations

The address listed in the calendar can take the user to the Atlantic Ocean off the coast of Africa (Long. 0º / Lat. 0º). This happens if the address isn't precise. It is also not compatible with many of the newest forms of calendar listings (Webex, Zoom, and Skype).

Recommendations:
Ensure that the locations of calendar items show up on the map correctly, even if the user does not enter a location with a precise format. Implement a way to recognize and handle virtual meetings gracefully, by perhaps linking out to the appropriate app.



Onboarding

User control & freedom; error prevention;

Observations & recommendations

It is unclear that tapping on accept would accept the trial for all three subscription packages. From this screen, it seems like tapping on each of the packages would allow the users to subscribe to each individual package.

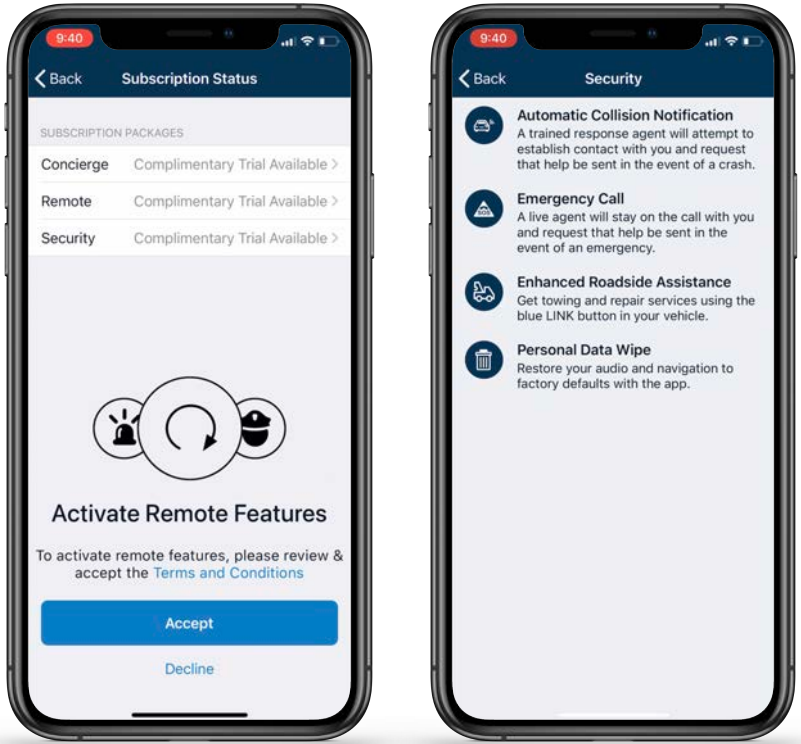
Recommendations:
Redesign the subscription flow to make it clear to the user what they are signing up for.

The user is not able to subscribe to only one package.

Recommendations:
Give the user the control to only subscribe to the package they want.

There is no information given on how long each trial lasts, or when the last day would be. These is also no information on pricing for after the trial period ends, or if the user will be charged.

Recommendations:
Proving this information upfront will reassure the user on what to expect, reducing uncertainty and building trust.



Remote features

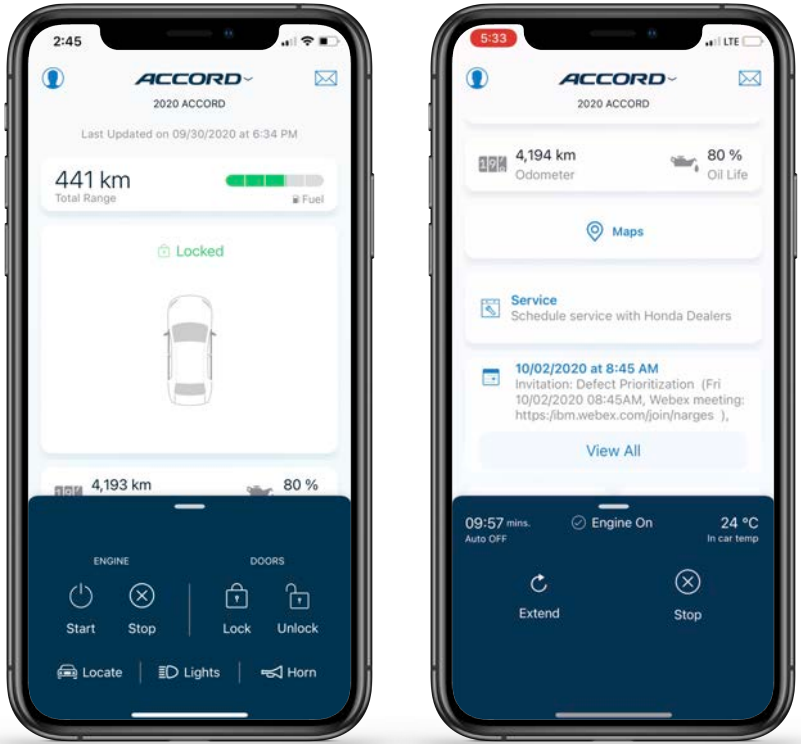
User control & freedom; flexibility & efficiency

Accord Hybrid Touring – HondaLink™

Observations & recommendations

As the UI of the card changes when the engine is on, the user cannot take another action without stopping the engine.

Recommendation:
Consider redesigning this flow to that the user is not restricted from taking other actions, which gives the user more freedom and control.



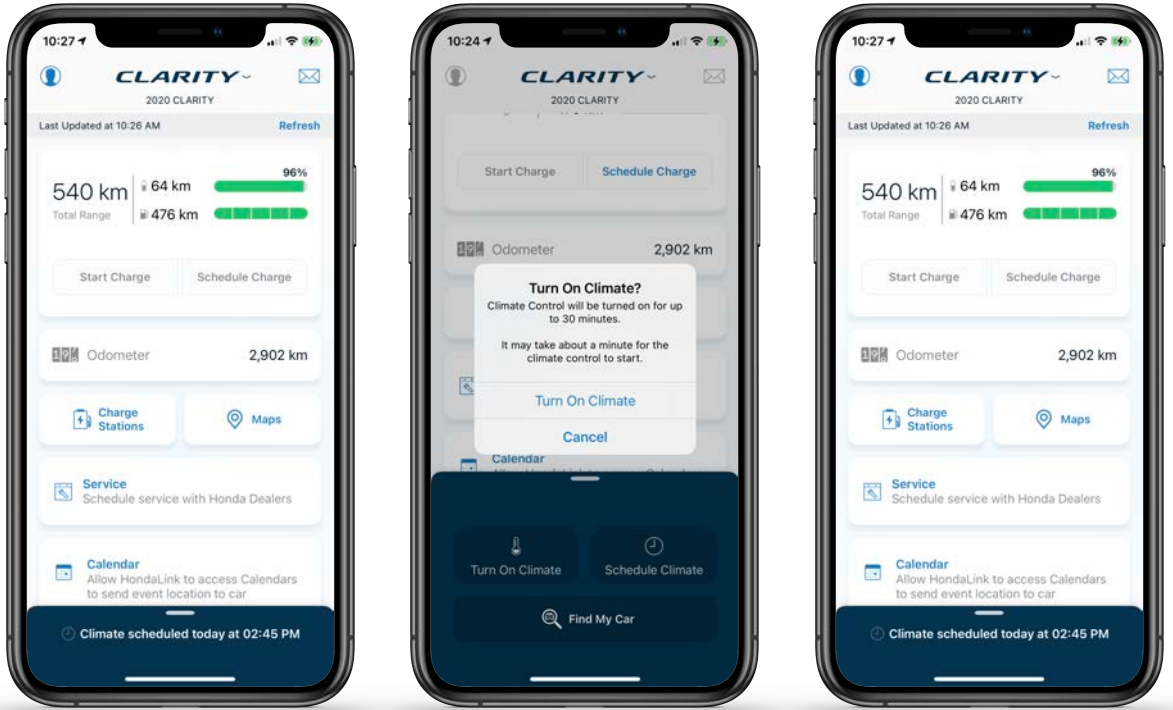
Turn on climate

User control & freedom

Observations & recommendations

It is unclear to the user what what climate means, or what happens when it is turned on. There is no way for the user to control climate preferences, such as temperature or duration.

Recommendations:
Users should have clarity on what climate is. If the user isn't able set a preferred climate, then messaging should indicate what temperature it will be set to. Ideally, user should be able choose what climate settings they prefer, which gives them more freedom and control.
Consider a different label to make the action clearer, such as turn on heat, if that is the case.



Mapping charge stations

User control & freedom

Observations & recommendations

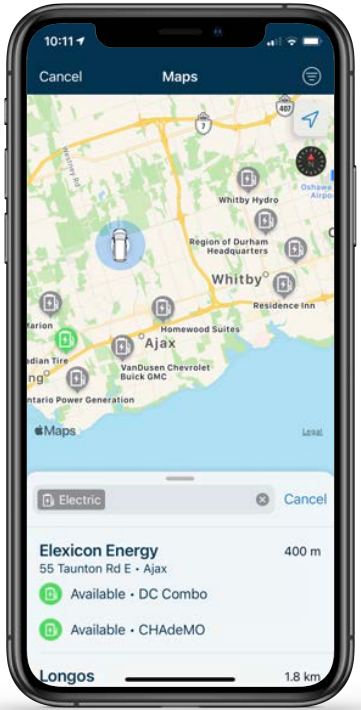
There are multiple types of charging stations, each has slight variations. The list is currently shown by closest location.

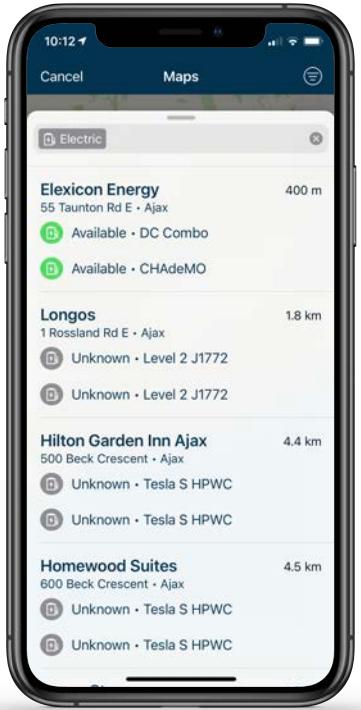
Recommendations:

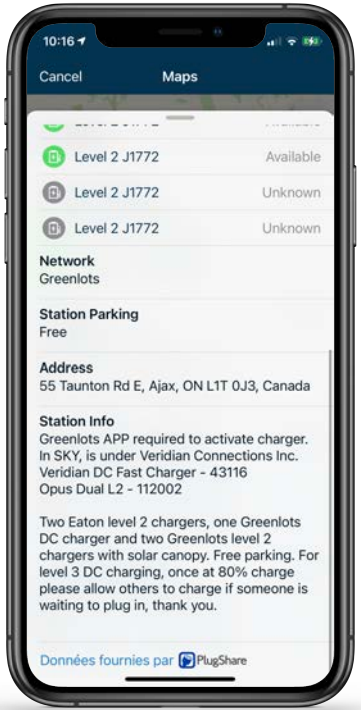
For customers new to electric vehicles, providing additional information about the types of charging stations may be valuable.

If there are different costs or speeds for charging stations, it would be valuable to let customer know with quick visual indicators. An option to filter or narrow down these results could also be helpful as they may have a membership with certain charge stations, or they are looking stations free of charge.

In addition, the list could hide all electric outlets not compatible with the user's vehicle, which lessens the cognitive load.







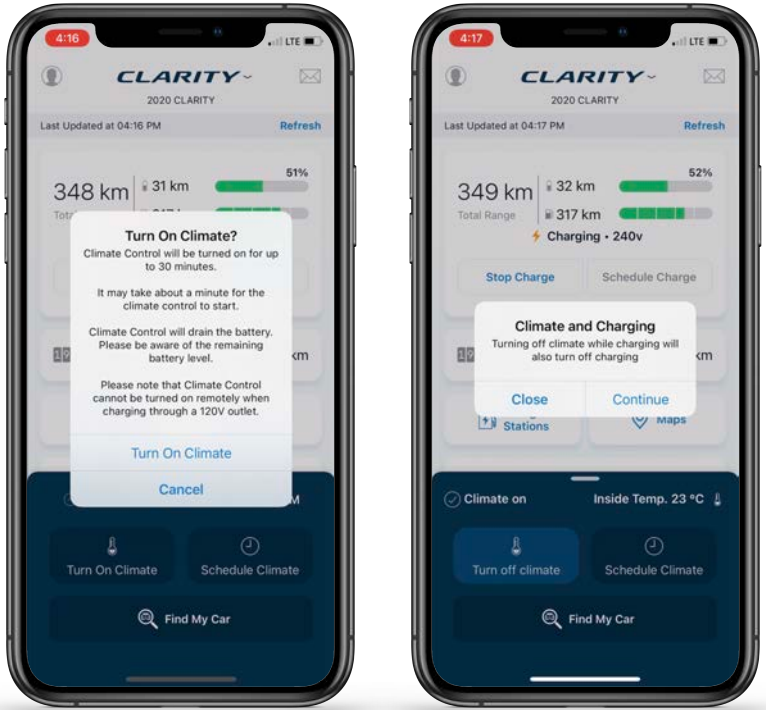
Alert – remote features

User control & freedom

Observations & recommendations

Users are forced to turn off changing if they turn off the climate, which may not be what the user intended. If user would like charging to continue, they would need to turn it back on, which would be an extra step.

Recommendations:
These two actions should not be tied together, and the user should be able to separately turn on and off climate as well as charging. This choice is currently out of the user's control, and they are forced to take an action they may not want.



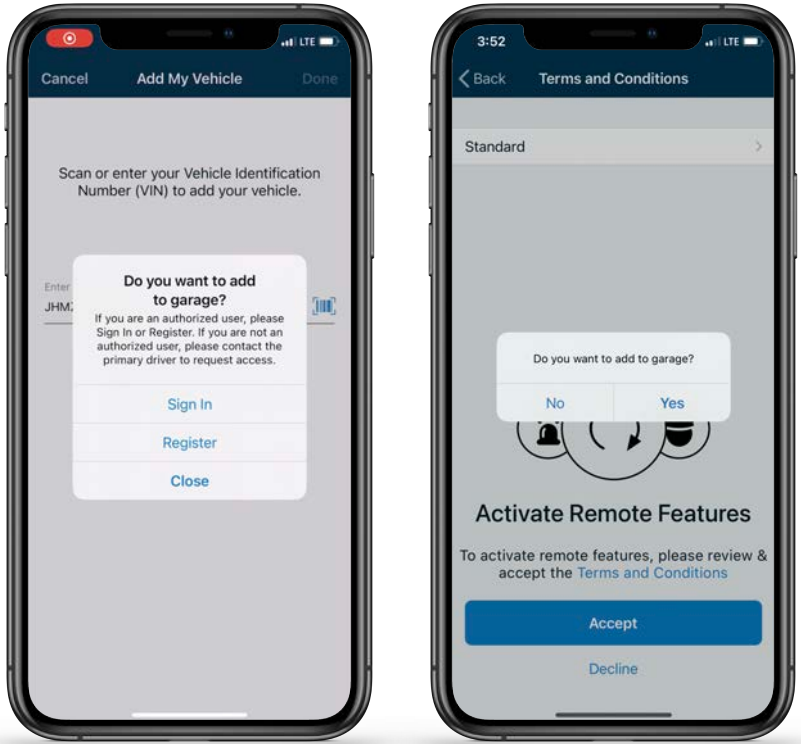
Add to garage alert

Visibility of system status; user control & freedom

Observations & recommendations

It is unclear as to what adding to garage does. The alert shows many times even if the user taps yes and there is no discernible difference in the app. In addition, it is not clear in the app where to find this information, or how to remove from the garage if the user changes their mind.

Recommendations:
Provide more context to the user. Help them understand what add to garage means and help them understand what change has taken place once they have added something to garage.
Have clearer information architecture in the app so the user is aware of where the feature can be found.



Next steps





Recommendations

Enterprise Design Thinking

A framework for adopting the practice of Enterprise Design Thinking organization-wide, creating outstanding user experiences and repeatable outcomes at scale.

Design prompts



Putting the power of IBM Enterprise Design Thinking into the hands of our subject matter experts and users.

Design must solve a specific problem or pursue an opportunity and is evaluated by how effective it is at that. Design prompts define the problem to be solved and are a declaration that conveys the challenge at hand.

Prioritized design prompts:

1. Design a better way for HondaLink™ and AcuraLink™ users to leverage the IoT data available from the vehicle.
2. Design a better way for HondaLink™ and AcuraLink™ users to take control of their vehicle using remote features.
3. Design a better way for HondaLink™ and AcuraLink™ users with older or unconnected vehicles to take advantage of experiences within the applications.

Additional design prompts backlogged for future opportunities:

1. Design a better way for HondaLink™ and AcuraLink™ users to onboard to their vehicle's corresponding application.
2. Design a better way for HondaLink™ and AcuraLink™ users to understand and take advantage of the application subscription models available to them.
3. Design a better way for HondaLink™ and AcuraLink™ users to manage their vehicle's maintenance.





Appendix
Bugs

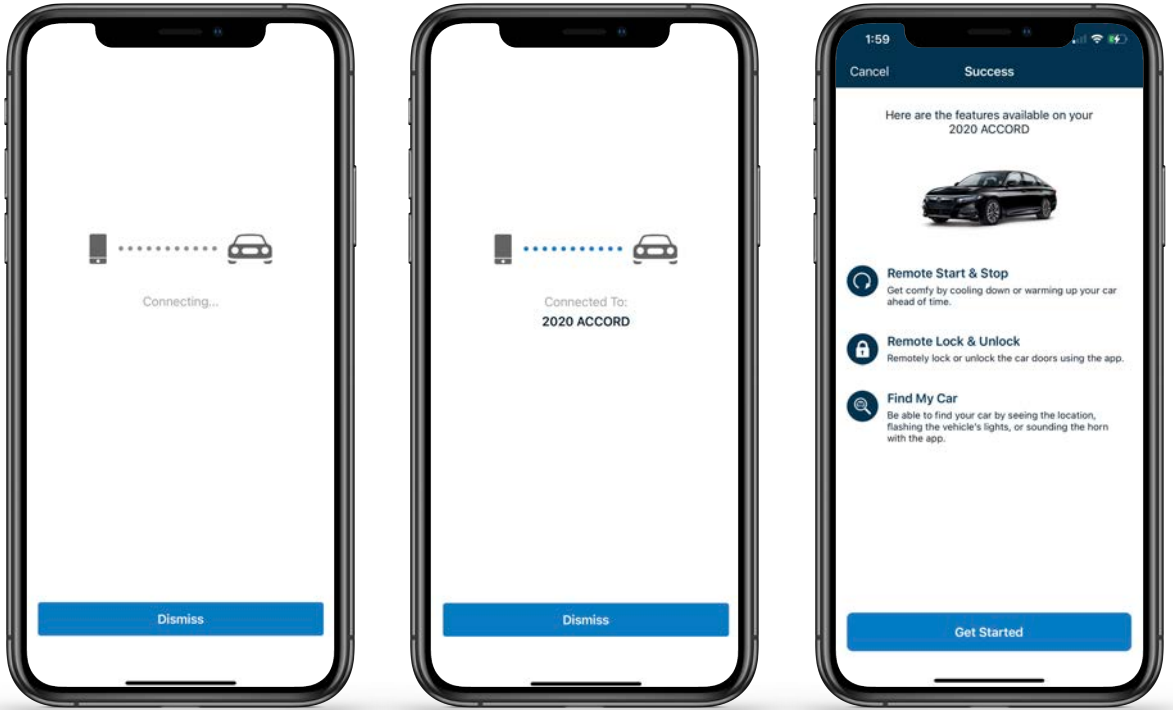
Onboarding – connectivity – outages

Accord Hybrid Touring – HondaLink™

Error prevention; recognize, diagnose, recover – error states; help & documentation

Observations & recommendations

- When you initially open the app after entering the car the first screen “connecting” just remains. Only after force quitting the app and re-opening does the app work.

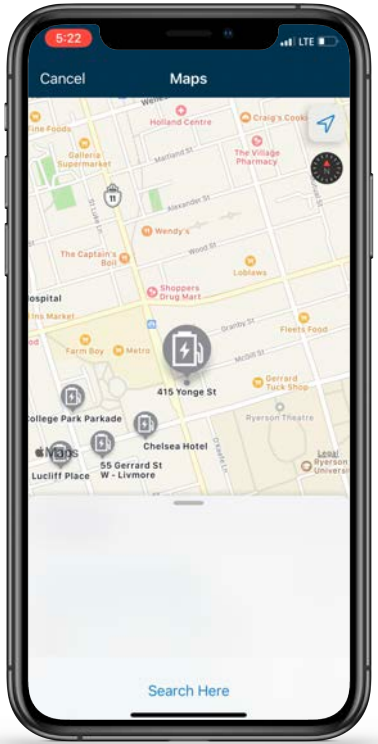


Charge Stations

Visibility of system status; Recognize, diagnose, recover – error states; help & documentation

Observations & recommendations

- There seems to be defect for Charge Stations, where sometimes tapping on the station shows no information.



Connectivity – onboarding

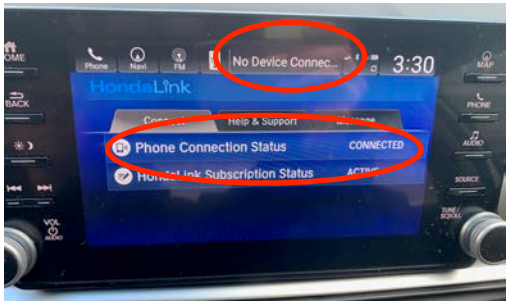
Visibility of system status; consistency & standards; recognize, diagnose, recover – error states; help & documentation

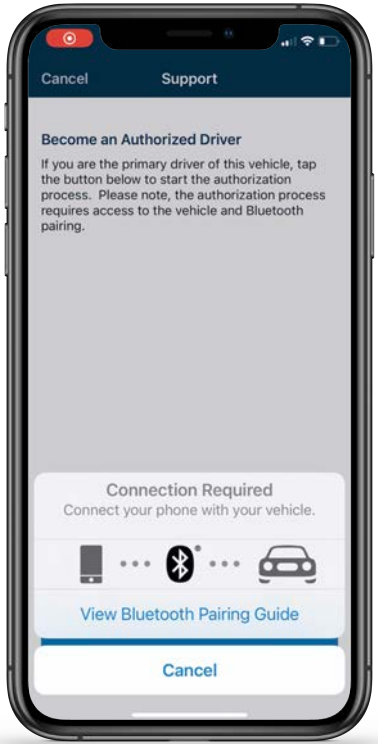
Accord Hybrid Touring – HondaLink™

Observations & recommendations

- Final step of starting the trials included pairing via bluetooth with the vehicle to authenticate. There was some issues with bluetooth connection, both the vehicle and the phone said the connection was established, but HondaLink™ did not acknowledge the connection. Eventually, the app was deleted and reinstalled to fix the issue.







Charging

Visibility of system status; user control & freedom

Observations & recommendations

- This feature did not result in any progression within the app. The user is left waiting on the spinner and has to force quit to cancel/ abandon this process.

