



android
auto

MESSAGING APP UI GUIDELINES

INTRODUCTION

Designing apps for automotive use

Designing apps for cars is fundamentally different from designing for phones or tablets. It requires rethinking how experiences are structured.

Because driving is the primary activity in the car, all digital experiences should be designed to complement and augment driving.

The Android Auto Messaging app framework uses an app template, which lets users learn a single navigation model that works across all their messaging-related apps.

CREATIVE VISION

Glanceable and simple

Android Auto was designed not only to simplify the UI, but also to optimize interactions, reduce cognitive load, and improve safety. Effective apps provide just enough information for drivers to make content decisions easily, so they can quickly return their attention to the road. Good apps also limit the number of features to only those that are safe and drive-appropriate.

Predictive, yet predictable

Android Auto leverages rich, contextual awareness to keep the driver informed about important situations during the drive. Timely information is combined with predictable functions. Effective apps make use of the patterns for common tasks and show new information only when relevant.

Connected

By leveraging the user's connected apps and services, Android Auto promotes a continuous experience between the driver's various devices and the car. When drivers connect their device to their cars, their media content is instantly available.

Naturally integrated

By using the screens, controls, and capabilities of the vehicle, Android Auto feels like an extension of the car and of the user's device to the automotive environment.

MINIMIZING DRIVER DISTRACTION

Requirements

Google takes driver distraction very seriously. The Android Auto framework was developed to facilitate the creation of apps that adhere to a multitude of safety and distraction guidelines from around the world.

Drivers need to keep their eyes and attention on the road. App interfaces need to be quick and easy to navigate. To ensure that your app minimizes distraction, follow the guidelines presented in this document.

Note: All apps offered for the Android Auto platform will undergo a review process to ensure that they meet minimum safety and driver distraction guidelines.

Fonts & sizing

Roboto is used throughout the interface for consistency. To ensure readability across a wide variety of displays and vehicle layouts, two font sizes are preset. The primary text font size is used for all text that is important for making a decision, such as a song name in a playlist. Use the secondary font size to provide supplemental information that is not critical for decision making, such as the artist name in a playlist.

Text string lengths

To help ensure short glance times, make all text strings concise and brief. Strings that do not fit within their allotted space will be truncated with "...".

Contrast ratio

Proper visual contrast between the foreground (textual or iconic information) and background (colors, album art, etc.) is crucial for legibility and easy interpretation of information while driving. In-vehicle foreground/background contrast must be acceptable in various environmental lighting conditions such as nighttime, normal daylight, and direct sunlight.

Review criteria:

Color contrast in your app will be subject to qualitative testing to ensure proper contrast in all lighting conditions.

MINIMIZING DRIVER DISTRACTION

Night vs Day modes

Nighttime driving interfaces have to be tailored for low-light environments to reduce the brightness of the content being displayed. Content displayed during the daytime can be either positive (dark text on light background) or negative (light text on dark background), while nighttime interfaces can only be negative.

Review criteria:

The colors in your app will be subject to review to ensure suitability in both daytime and nighttime environments.

Imagery & video

You can use static imagery in select locations. On the Now Playing screen, album/media art displayed in the background enhances the experience. The system automatically provides a darkening overlay to enhance contrast between the artwork and the item's name. Include thumbnails in lists when it clearly helps the user make content decisions.

Note: Video and animated images are prohibited.

Advertising

Textual and graphical advertising may not be displayed at any time within the interface. Ad content may be presented via the auditory channel as part of an audio stream, but any associated textual or graphical metadata may not be displayed.

Auto-scrolling text

Text may not scroll automatically. Auto-scrolling text is considered distracting. The user must remain in control of the pace of when and how information is displayed.

Notifications and alerts on phone

When Android Auto is active, the only way to present information to the driver should be the in-vehicle system display. Your app must not push any form visual content (such as notifications, videos, or images) to the phone screen itself.

ANATOMY OF ANDROID AUTO APPS

5 discrete sections:

- > Activity bar and App switching
- > Navigation drawer
- > Overview screen
- > App view and its menu
- > Demand layer



Activity bar

The Activity bar is persistently anchored at the bottom of the screen. It contains icons that afford users access to the four types of driving-related activities and an Overview screen in the center. The four activities are: Navigation, Communication, Media and car-related functions

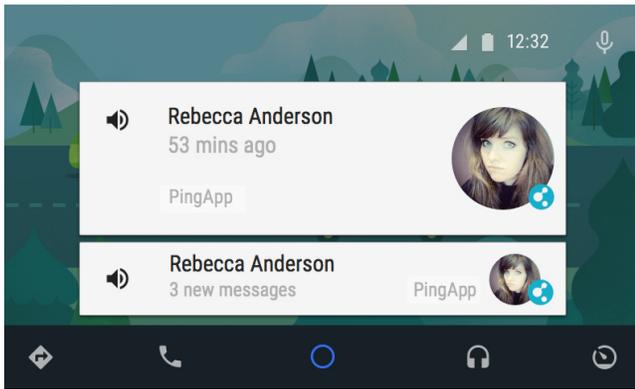
Switching applications

Touching one of the icons in the Activity Bar twice lets the user see all apps installed for that activity category. For example, touching the Media icon twice lets the user see all media/music apps.

Navigation drawer

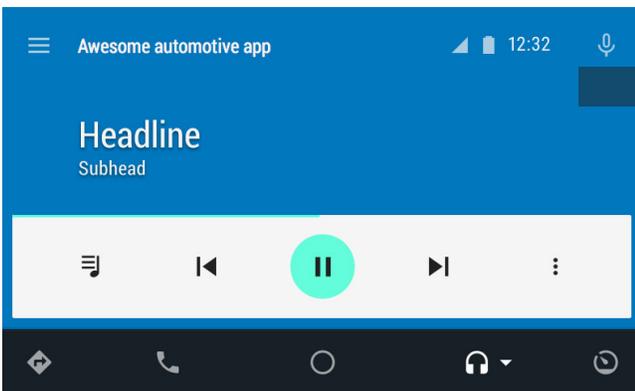
The side nav drawer patterns are designed to reduce complexity and allow for simpler and quicker access to content and a few select global actions while driving.

ANATOMY OF ANDROID AUTO APPS



Overview Screen

When a user first connects their Android device to the car, they land on the Overview screen. This screen contains contextual cards based on the user's location, time of day, etc. This is also the place where the user can view their notifications.

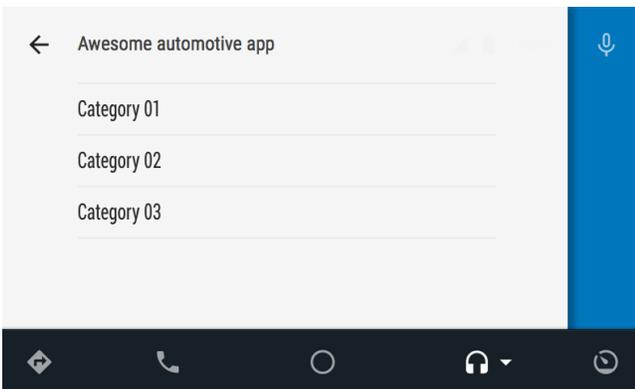


App view

Currently not supported

Within an app, the user can navigate the app's categories of content and access functions via the side nav drawer, which slides out from the left. Once a user has entered one of those categories, they can go back using the Back button at the top left (similar to Up navigation on the phone), and exit the drawer at any time by touching the colored area below the mic button.

Note: Messaging apps will support app views or a navigation drawer in a later release. Initially they are entirely controlled via Google Voice actions and prompts.



Demand layer

Touching the microphone invokes the Demand layer. The Demand layer handles voice actions and search.

MESSAGING APPS

Important design principles

- › Focus on presenting core content and primary actions only. Don't port your entire app into Android Auto. The car experience is about finding and consuming content quickly.
 - › Don't include settings or flows that require focused attention. Users should perform such tasks directly on their phones. For example, creating an account, signing in, or creating a playlist should all be done on the phone.
 - › Focus on showing recent, frequent, and favorite content that is most likely to interest the driver.
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We understand the needs for communication within a car, at the same time we wanted to design a predictable and voice-driven solution so the drivers can keep their eyes on the road. Our messaging template stays true to our glanceable and simple design philosophy.

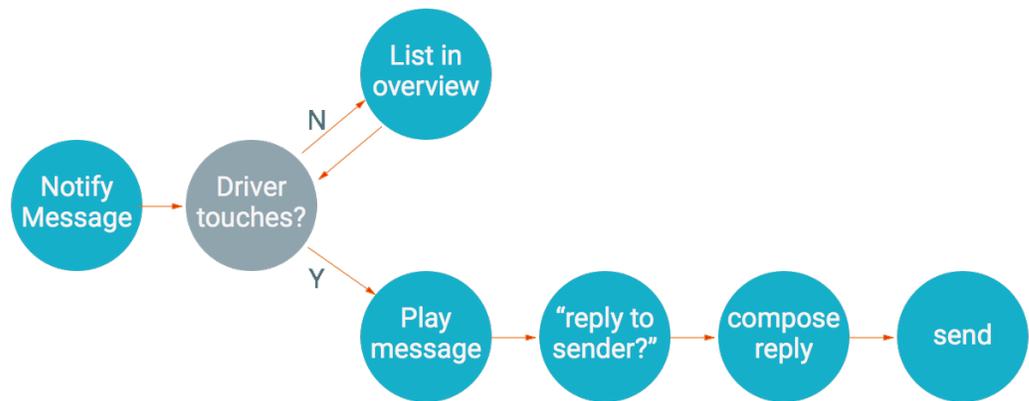
Note: Currently app developers can extend their text-based messaging experience into Android Auto.

Incoming text-based messages will be displayed as a Heads-up notification (refer to Notifications in components). They can also be accessed through the Overview.

MESSAGING APPS

Messaging app structure

To keep achieve a consistent UI with minimal learning curves across all messaging apps, Android Auto provides single template for all types of such apps. The messaging template is a voice driven flow with minimum UI elements.



Drivers can receive messages and access them in two ways.

- › Through a Heads-up Notification (Refer to Notifications)
- › Through an Overview screen (Refer to Overview)

Note: Currently only playing and responding to an incoming message is supported. Creating message will be supported in later releases.

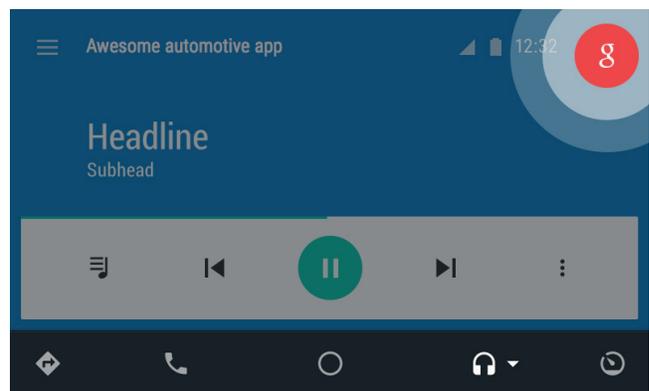
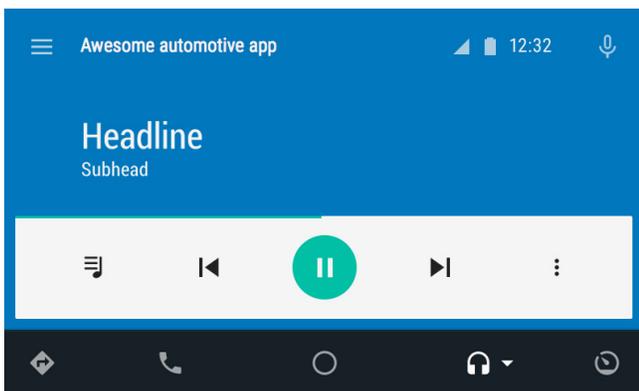
Users can play and reply to a message. All replies are handled through a single flow (Refer to Voice Interactions)

MESSAGING APPS

Demand Layer

Since Android Auto’s messaging framework is a voice-driven UI, it doesn’t have many components. All interactions are done through the Demand layer (refer to Demand layer...), which will handle compose and reply capabilities for apps.

To avoid driver distraction, the current screen context does not change. All of the interaction happens via voice.



MESSAGING APPS

Sequence for replying to an incoming message

Context: Driver listens to an incoming message after tapping on it in the notification or on a previous message in the overview space.

Driver: "Reply!"

Voice: "What's the message?"

Driver: "I'll be 10 minutes late. Please start without me. I'll find you when I get there."

Voice: "Here is your message to Firstname Lastname: 'I'll be 10 minutes late. Please start without me. I'll find you when I get there.' Do you want to send it?"

Driver: "Yes."

Voice: "Message sent to Firstname Lastname"

Sequence for creating a new message

Currently not supported

Context: Driver listens to an incoming message after tapping on it in the notification or on a previous message in the overview space.

Driver: "Send a message!"

Voice: "Who do you want to text?"

Driver: "Firstname."

Voice: "Which Firstname? Firstname1 Firstname 2?"

Driver: "Firstname1."

Voice: "What's the message?"

Driver: "I'll be 10 minutes late. Please start without me. I'll find you when I get there."W

Voice: "Here is your message to Firstname Lastname: 'I'll be 10 minutes late. Please start without me. I'll find you when I get there.' Do you want to send it?"

Driver: "Yes."

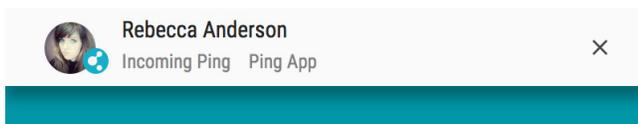
Voice: "Message sent to Firstname Lastname"

MESSAGING APPS

Notifications

Incoming messages will be displayed as a heads-up notification. Notifications may be throttled by the system should there be higher-priority items to show.

Notifications should be shown based on whether they are important enough to warrant interrupting the driver. Well designed apps should respect driving as a primary task and control noise level. Not all messages are appropriate for driving for example: friend request notifications. Notifications add to driver distraction, and are subject to regulations and guidelines before being approved for driving.



Anatomy of heads-up notification

Identification area: An avatar image for the origin of the message, badged with an app icon

Content area: Content area: To play the message via TTS, the user selects it. Reply prompts are given after the message plays.

Only text-based content is currently supported. Pictures, voice, video, and other rich type messaging are not.

Dismissal: Can be dismissed by the driver by touching the close icon

Sound: Provided by the system

Lifespan

- > Apps can withdraw/expire notifications.
- > Notifications may be displaced by the system if a more important notification needs to be shown. Displaced notifications:
 - > Are accessible as cards in the Overview space afterwards
 - > Are cued up with other notifications on the driver's phone
- > Notifications may be grouped if multiple notifications get shown by an app within a certain interval
- > If not dealt with, a notification showing will timeout after n seconds max
- > User can dismiss the notification immediately by pressing the close icon

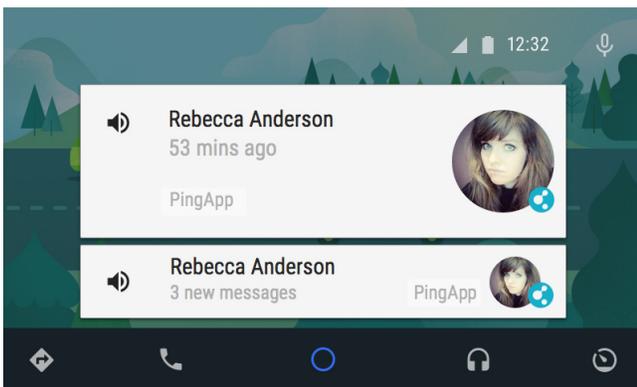
Accessing past notifications

- > Are accessible as cards in the Overview space afterwards
- > Are cued up with other notifications on the driver's phone

MESSAGING APPS

Overview space

Previous messages from your driving session can be found in the Now Space. Android Auto may rank and group your appropriate messages together. The number of cards presented in the Overview space will be capped to prevent too long of a list. Thus your messages may be rolled off the Overview screen if a large amount of new and relevant content comes in. In this case the message notifications will still be available on the phone for after driving consumption



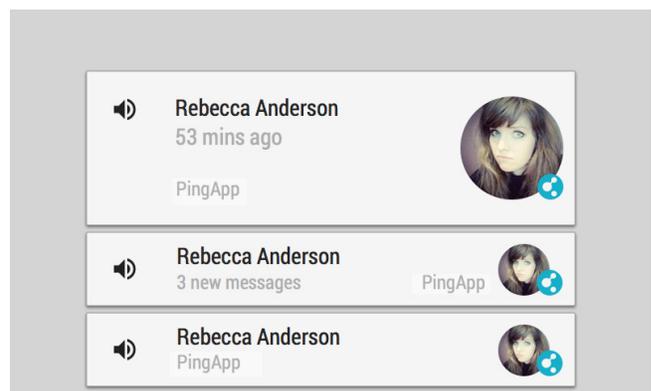
Anatomy of a message card

Action area: only text-based playback is supported (No picture, voice, video, and other rich type messaging for now)

Content area: Message can be played (through Google Voice) by touching it or the action icon. Reply prompts are given after.

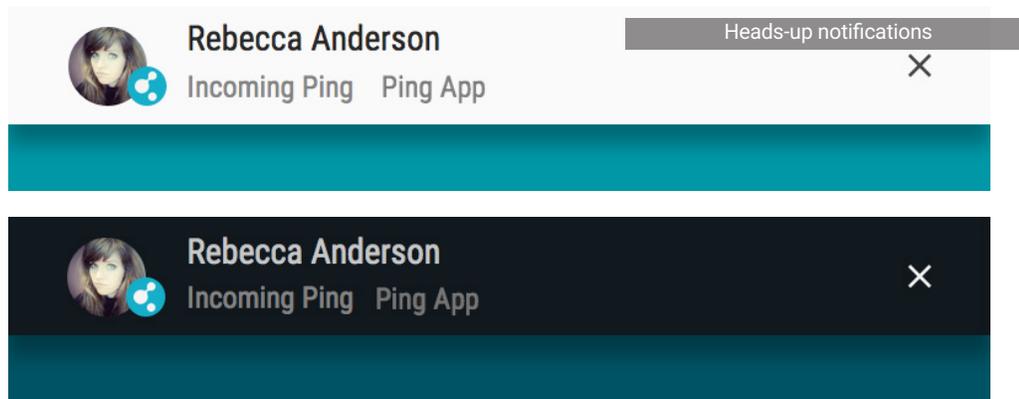
Identification area: An avatar image for the origin of the message, badged with a app icon

The system will resize cards based on priority in the overall overview card stack. The app provides: Person information, metadata, and the app/service name to be shown. The latter will automatically use the apps "colorPrimary" color for branding.



APPENDIX: CUSTOMIZING AND BRANDING

Colors, icon and text



Color and notification icon provides branding opportunity for the app. Android Auto apps make use of the same theme colors that Android Lollipop uses for Material apps.

The app developer also needs to provide a second, darker set of these same colors to be used when the system switches to "Night mode".

See "[Color customization & branding for apps](#)" Android Auto UI guidelines for detailed color and customization descriptions.

