



android  
auto

## COLOR CUSTOMIZATION & BRANDING

# INTRODUCTION

## Designing apps for automotive use

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

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

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Android Auto app framework uses app templates for Audio and Messaging apps which lets users learn a single navigation model that works across all of them.

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# CREATIVE VISION

## Glanceable and simple

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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.

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## Predictive, yet predictable

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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.

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## Connected

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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.

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## Naturally integrated

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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.

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# MINIMIZING DRIVER DISTRACTION

## Requirements

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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.

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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.

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**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.

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## Fonts & sizing

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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.

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## Text string lengths

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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 "...".

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## Contrast ratio

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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.

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## Review criteria:

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

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# MINIMIZING DRIVER DISTRACTION

## Night vs Day modes

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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.

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### Review criteria:

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

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## Imagery & video

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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.

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**Note:** Video and animated images are prohibited.

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## Advertising

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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.

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## Auto-scrolling text

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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.

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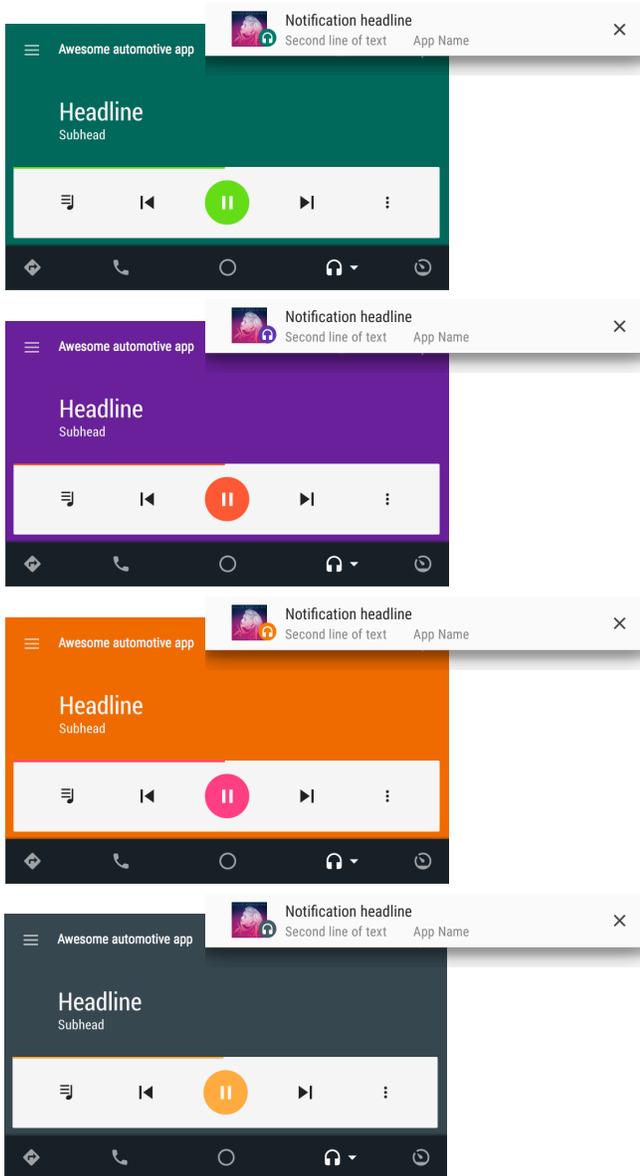
## Notifications and alerts on phone

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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.

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# CUSTOMIZATION OVERVIEW



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".

## Review criteria:

Color values in your app will be subject to qualitative testing to ensure proper contrast and minimal distraction in all lighting conditions for automotive usage.

# COLOR THEME SYSTEM



## Customizable color theme

Assigning colors is based on the named colors system introduced with the Material Design. If needed Android Auto supports a set separate and in addition the standard set used by Material. The developer can assign a special *“com.google.android.gms.car.application.theme”* designation to the style to have the Android Auto system pick from these colors instead of the default system colors used for the app.

- > ① *colorPrimaryDark*
  - > App background
  - > Drawer right side background
  - > Notification icon badge tinting
  - > Overview “now playing” icon tinting
  - > Secondary action card background (extended actions)
- > ② *colorAccent*
  - > Sparingly used as accent:
  - > Spinner
  - > Progress bar
  - > Floating action button background (Play/Pause in Android Auto audio apps)
- > ③ *colorPrimary*:  
Not currently being used in Android Auto

## Color contrast requirements

Appropriate color contrast ensures that drivers can quickly interpret information and make decisions in a timely manner. To ensure legibility, app colors have to meet the [WCAG 2.0](#) Level AA Normal Text contrast requirements (4.5:1). Android Auto automatically switches icon and text coloring between light and dark to accommodate a wide range of background colors selected by the developer.

## Determining contrast compliance

To check your color acceptability with both light and dark icons, use [this tool](#) and enter your color as the background color. For the foreground color, test with both pure black (RGB 0, 0, 0) and pure white (RGB 255, 255, 255). Android Auto automatically selects the most appropriate foreground icon coloring to maximize contrast.

## Color Types to Avoid

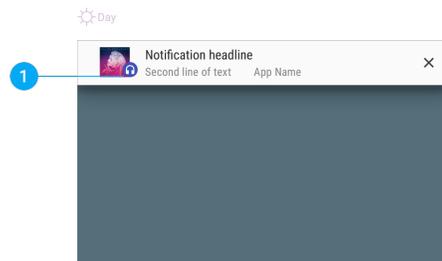
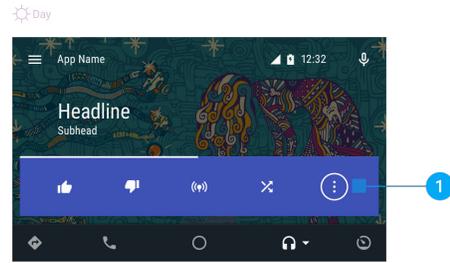
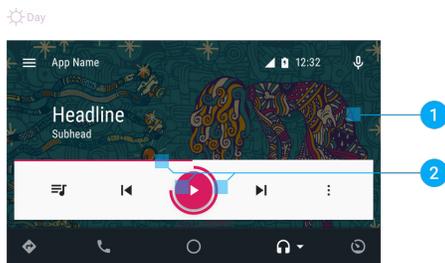
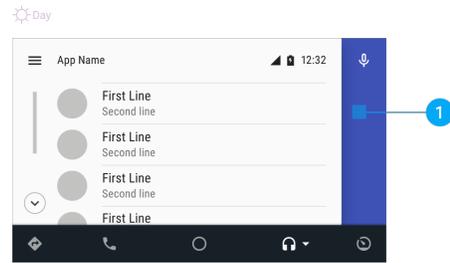
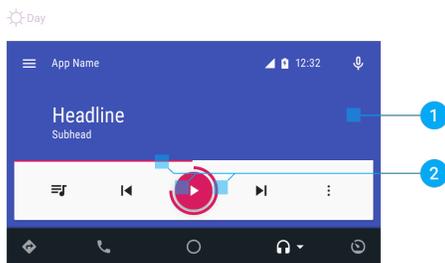
Some colors are not as friendly for easy in-vehicle readability due to the dynamic lighting environments while driving. Best practices are to avoid middle-dark colors.

# COLOR THEME SYSTEM



## Example scenarios

- > 1 *colorPrimaryDark*
- > 2 *colorAccent*

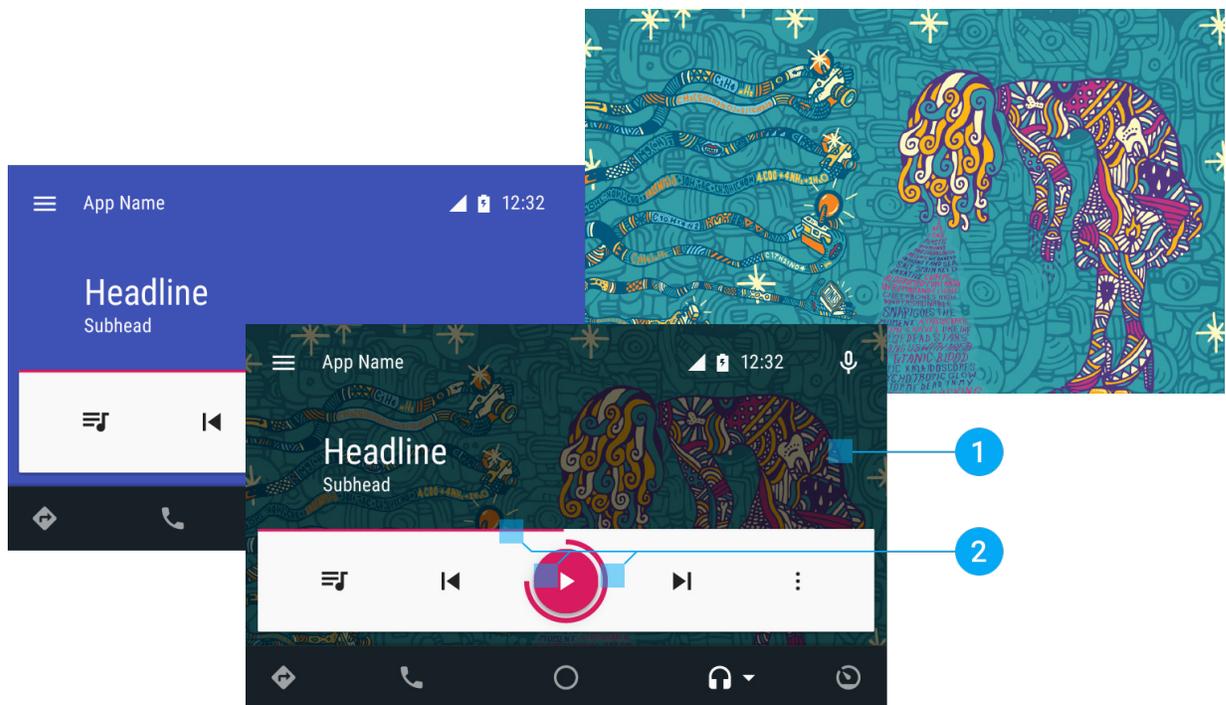


# COLOR THEME SYSTEM

## Custom backgrounds

Instead of a solid color image backgrounds may be used to provide further content or branding context (Example: album art in a audio app). Animated images and may not be used to avoid driver distraction.

Images will be automatically darkened to provide optimal contrast to text and compliance with night time driving requirements

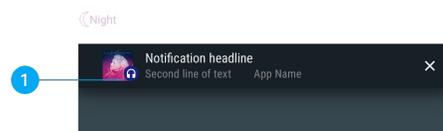
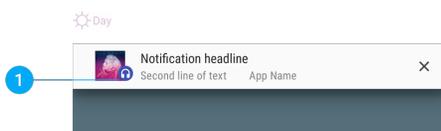
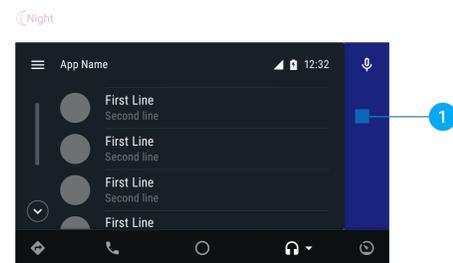
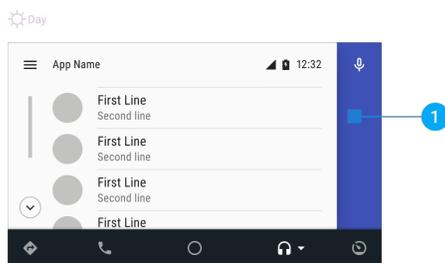
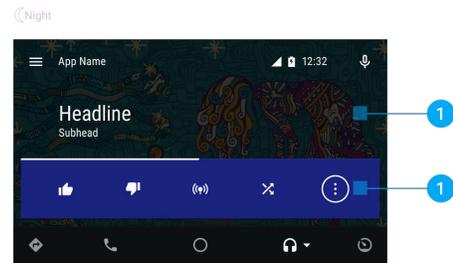
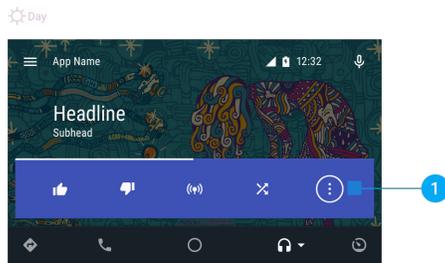
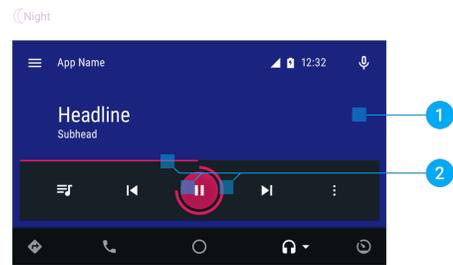
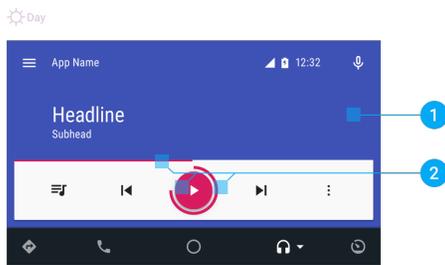


- > 1 *colorPrimaryDark* + media background  
+ automatic scrim for text legibility against light backgrounds
- > 2 *colorAccent*

# COLOR THEME SYSTEM

## Day and Night modes

To fully support Android Auto night mode, developers can provide *a second darker set of* ① *colorPrimaryDark* and ② *colorAccent* for night time driving.



# COLOR THEME SYSTEM

## Automatic contrast compensation

For optimal contrast and legibility, Android Auto provides the automatic ability to set icon and text colors based on a color provided by the developer.

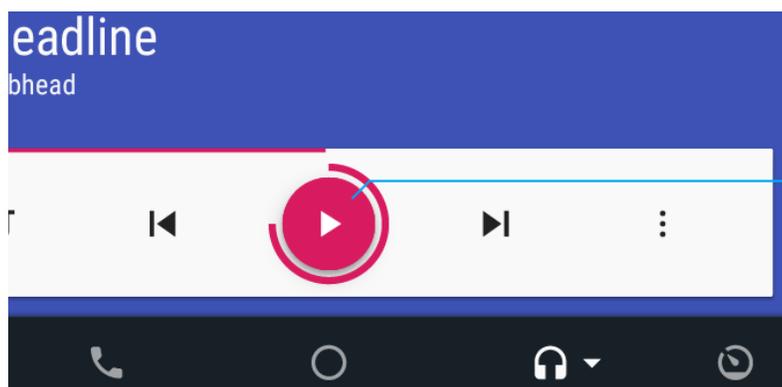
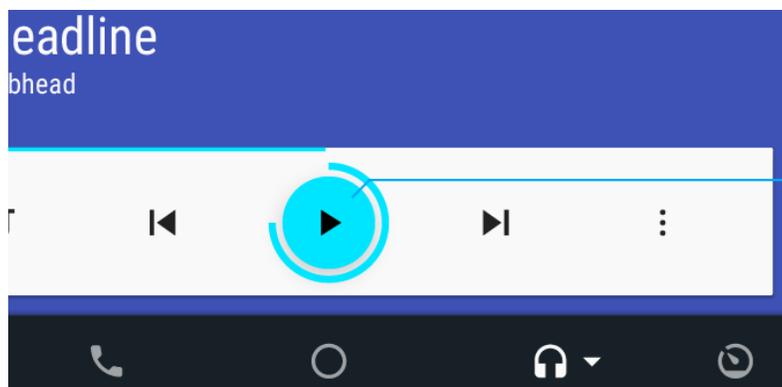
For example on the floating action button (FAB), the play/pause icon on top gets automatically set to light or dark based on colorAccent provided for the FAB background by the app.

### 3 automatically adjusted icon color

To ensure this automatic contrast compensation by the system developers are required that action card icon resources be submitted in monochrome *white* color. (See the following chapter on icon best practices)

## System drawn elements

Elements critical to user interaction are drawn by the system for legibility in daytime and night time driving conditions: the status area, the drawer, primary action card, notification and overview card backgrounds



# ACTION CARD ICONS

## Icon color - best practices

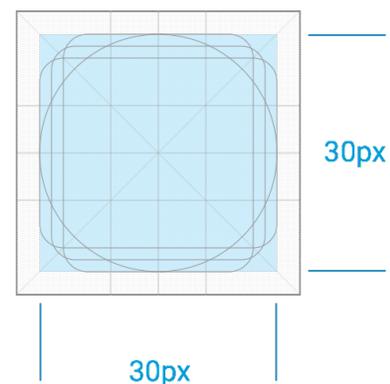
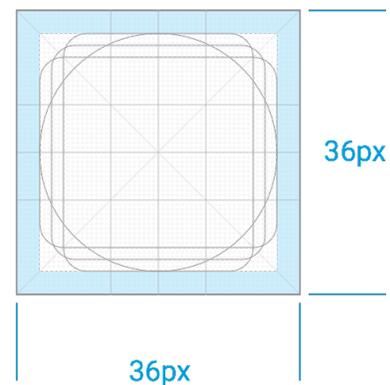
Action card icons are to be designed by the app developer in monochrome *white*.

To meet regulatory contrast requirements, the system automatically takes care of rendering the icons with the appropriate brightness on dark or light backgrounds.

## Sizing - best practices

Icons for the navigation drawer on action cards follow the same sizing guidelines as specified in the material design spec for system icons. There is one difference, however: due to the specific reading distance and legibility requirements for driving, the icons are scaled up, as if they were from the next dpi bucket. That means that for our current set of supported in-vehicle touchscreens with 800 by 480 px, Android Auto icons end up being 36px by 36px, including a 3px padding on all sides.

In material design, this padding is referred to as trim area, and icons should include it for clarity and legibility. The active area for the actual icon shape is 30px by 30px. Content should only extend into the trim area if additional visual weight is needed in rare cases.



# ACTION CARD ICONS

## Icon shapes and legibility - best practices

### 1 Stroke terminal

- › Do not round ends of strokes.

### 2 Corner rounding

- › Use a consistent corner radius of 3px when rounding outside corners.

### 3 Interior space

- › Shapes use multiples of 3px wherever possible.

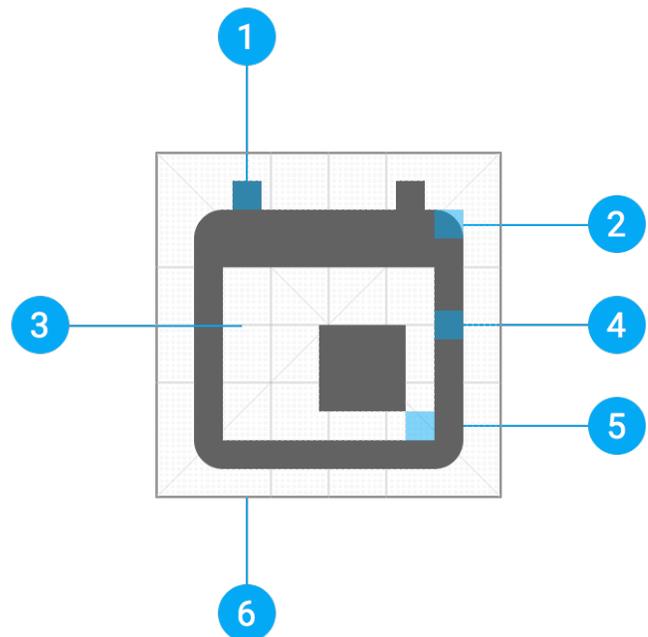
### 4 Stroke

- › Keep a consistent stroke of 3px throughout the icon design.

### 5 Counter stroke interior corners

- › Interior corners should not be rounded.
- › Interior spaces should never be smaller than a stroke or 3px.

### 6 Bounding box with 3px inside trim area



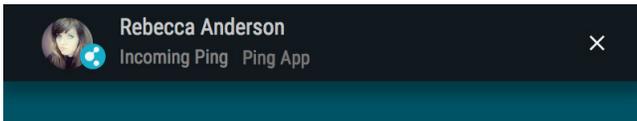
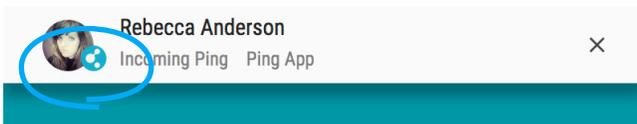
# EXPRESSION OF BRAND

## Icons and Brand example

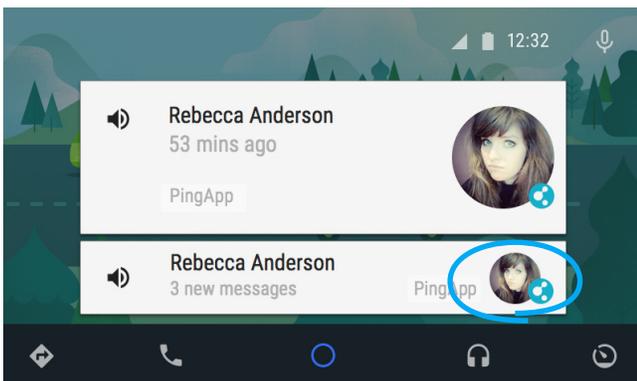
Apps express themselves in the Android Auto system by showing the brand name, icon and brand colors.



Notifications:



Overview:



This is your app brand:



App colors:

