Google Cast Gaming UX Mockup Guidelines
Usage of this document

- Replace the screenshots with your mock up screenshots. Please provide screenshots from each of your platforms (Android / iOS).

- Submit this document to your Account Manager at Google.
Initializing Cast
If a Cast device is detected and the sender device is supported, the first time that a player sees a cast option an introduction should be shown. Introduction can be shown at a time and manner suitable for the game (i.e., at the start of the game, during game instructions, etc...). Learn More should link to www.chromecast.com/tv.
A. If a Cast device is detected and the sender device is supported, tapping on the cast button displays the Cast device menu. If device discovery time is greater than one second, a loading screen must be shown.

B. Cast Connecting: While the Cast receiver is connecting, the cast button animates the waves in the icon progressively.

C. Cast connected: While the Cast receiver is connected, the Cast button appears with a filled frame shape.

D. If a Cast device is detected and the sender device is supported but Google Play Services is not up to date, tapping on the cast button displays an informative message with link to Update Google Play Services.

E. When no cast device is found, or the sender platform does not support cast, do not show the Cast button. Supported platforms:
   a. iOS: iOS 8.0+ and 1024 MB+ RAM
   b. Android 4.4.2+ and part of the Optimized devices for Android Screen casting list
Cast button availability

**Before gameplay**

- **Game Lobby**: Cast button must be visible on all screens before and after gameplay, and must be in a consistent position from screen to screen.
- **Pause Screen**: Cast button must be available in the pause menu, especially during gameplay, and should be in the top right corner of the pause menu screen. If a pause screen is not present, it must be easy to get to a screen with a Cast icon so users can disconnect from Cast at any point during the game.

**During gameplay**

- **Game Control**: Cast button availability.
- **Pause Screen**: Cast button availability.

**After gameplay**

- **Results Screen**: Cast button availability.

A  Cast button must be visible on all screens before and after gameplay, and must be in a consistent position from screen to screen.

B  **Pause Screen**: Cast button must be available in the pause menu, especially during gameplay, and should be in the top right corner of the pause menu screen. If a pause screen is not present, it must be easy to get to a screen with a Cast icon so users can disconnect from Cast at any point during the game.
Cast Button States

A  **Unavailable**: When no cast receivers available or sender device not supported, the cast button should not be shown.

B  **Connected**: When cast receivers are available, but the sender is not connected to a receiver, the cast button should be shown in a non filled in state.

C  **Connecting**: While the Cast receiver is connecting, the cast button animates the waves in the icon progressively.

D  **Connected**: While the Cast receiver is connected, the cast button appears with a filled frame shape.
Cast Menu
When the sender app is not connected to a Cast receiver, tapping the cast button shows the cast menu.

The cast menu title "Cast to" is visible on the top left.

The cast menu shows a list of available Cast receivers and are listed with a TV icon.

Active receiver indicate status with secondary source text, generally the app name (e.g. "Casting YouTube").

Inactive receivers do not display secondary text.

For reference see [Android MediaRouter](https://developer.android.com/training/basics/networking/using-rtp):

A. When the sender app is not connected to a Cast receiver, tapping the cast button shows the cast menu.
B. The cast menu title "Cast to" is visible on the top left.
C. The cast menu shows a list of available Cast receivers and are listed with a TV icon.
D. Active receiver indicate status with secondary source text, generally the app name (e.g. "Casting YouTube").
E. Inactive receivers do not display secondary text.
When the sender app is connected to a Cast receiver, tapping the cast button shows the currently casting dialog.

The currently casting dialog title "Receiver-Name" is visible on the top left (e.g. "Living Room").

The currently casting dialog shows a STOP CASTING button. Pressing STOP CASTING ends the cast session. The receiver app exits and the game resumes locally on the sender device.

Android: The currently casting dialog may include receiver volume controls. This is default behavior in the Android MediaRouter.

iOS: The currently casting dialog must include receiver volume controls.
Cast Status
A **Pause screen**: Game should support a pause screen. If one is not present it must be easy to get to a screen with a Cast icon (e.g. quit) so users can disconnect from Cast at any point during the game.

B When connected or when Cast devices is detected, the Pause screen must have Cast button at the top right of the screen. Tapping the cast button shows the currently casting dialog.

C Restarting gameplay or returning to game home screen (quit) must not disconnect Cast.
Sender App
Input Controls

A  Sender application should not duplicate receiver display. Design the game for the ten-foot experience using TV design guidelines and for the one-foot experience using mobile guidelines. You’ll need to direct the user’s attention to the right screen at the right time.

B  If the game is fast paced and requires player attention on the TV it must not encourage users to look at their device (no screenshot necessary).

C  If volume control is present, it must be able to control the volume on the receiver device when connected (i.e. either with physical volume buttons on the sender device or with a virtual volume controller). Note: hardware rocker on Android will always control receiver volume when connected.
NOTE:  For the best game experience, we recommend the use of Accelerometer and Gyroscope, Gestures and Non-Targeted Touch Input, or any combination of these.
Input Interaction Model (2/2)

**D**  Split Info: gameplay must have essential reasons for players to look at a specific screen.

**E**  Targeted Touch Input: must be absolutely necessary.

**NOTE:** Split Info and Targeted Touch Input are less ideal candidates as they force a player to switch focus between sender and receiver device. However, games that uses hidden info (e.g. Poker) can benefit from this interaction model. When designing your game, be aware of focus fatigue. Direct the player’s focus in very obvious ways at the right times.
Tapping “Stop Casting” stops the app running on the receiver, and ideally returns the user to a paused state on the local device.
Receiver App
Receiver Performance, Accessibility, and Reliability (1/3)

A  **Accessibility:** All fonts must be readable. Design the game for the ten-foot experience.
B  **Accessibility:** All content must remain within the safe area (5% padding surrounding).
Receiver Performance, Accessibility, and Reliability (2/3)

**C** **Accessibility:** Volume control adjustment must display volume overlay on receiver application indicating current volume level.

**D** **Reliability:** Whenever a player explicitly disconnects, or their connection times out, the receiver app must indicate so (i.e. “Player X” has left the game).
**Reliability:** Whenever a user performs an action and the UI is unresponsive for more than 1 second a loading state must be displayed.

If a player is disconnected from the game, and that player is critical to the game running, the receiver app should hold (or pause) its current state and give that player time to reconnect and continue where they left off.

If user is critical to gameplay and the app is backgrounded during a gameplay state the receiver should be paused.

Once connected, audio must always be played on the receiver, SFX may be played on the sender.

Once connected, non-gameplay screens must not be directly mirrored to TV. Sender and receiver ui must be different.

UI elements shown on the television should not look tappable.
Receiver App Loading

A On app loading: Display app name / logo.
B On app loading: Display loading indicator.
C On app loading: Display loading progress.
Receiver App Gameplay Not Started

A On connected / idle: Display attract mode if available. If attract mode is not available, display brand/app.
B On connected / idle: Disconnect after 5 minutes.
C On connected / idle: Receiver must display status similar to “Start game play from your mobile device”. Give clear instructions on what actions to take next.
Receiver Paused

A  **Paused state**: Display identifier for who paused the game if game supports multiplayer mode.

B  **Paused state**: The receiver app must quit after 20 minutes.
**Receiver Gameplay**

**Gameplay state:** Gameplay must always be shown on the receiver once connected.

**Gameplay state:** To prevent confusion, UI elements shown on the receiver should not look interactive.
Results state: If your game supports a results screen it must be shown on the receiver device as well as optionally on the sender device.
Appendix
If a Cast device is not found but the sender device is supported, the cast button may optionally be shown. An optional “Play on TV” label may appear to the left of the cast button as an advertisement that the game can be played on the big screen. Tapping on the Cast button may display an optional informative message and provides Retry, Learn More and Close actions. Learn More link: google.com/cast/.

NOTE: You may use the Chromecast illustration provided here or alternatively, you may choose to use one of the new Chromecast image available on our toolkit. Please note that the image in the toolkit can only be used on a white background.

NOTE: Google Cast Terminology: Google Cast products embodies both Chromecast and Android TV. When referring to Cast devices, please use “Chromecast and other Google Cast Device”.
Multiplayer
Multiplayer / Receiver

A
Lobby screen: Game may support lobby screen if multiplayer is supported

B
Lobby screen: Max number of players may be clearly indicated by text or open slots

C
Lobby screen: Current number of players connected may be clearly indicated

D
Lobby screen: Instructions for how the game can start should be clearly stated
Cast Required Games

Game Manager Game Sample: SpellCast
**Cast Button / Introduction** *(Cast-Required Games Only)*

A. The first time that a player sees a cast option an introduction must be shown. Introduction can be shown at a time and manner suitable for the game (i.e., at the start of the game, during game instructions, etc.). Learn More should link to www.chromecast.com/tv.

B. Cast button is visible and discoverable upon first launch inside a call-to-action button. **Note:** For titles which are partially Cast Required a separate non-Cast cast button may be located beneath this.

C. CTA (call to action: e.g. "START") button: includes Chromecast icon.
The Cast button is visible and discoverable upon first launch inside a call-to-action button.

If device discovery time is greater than one second, a loading screen must be seen.

If device is detected, show Cast device menu.

If device is not detected, show an informative message and provide a Retry, Learn More and Cancel link. Learn More link: google.com/cast/

Cast Connecting: While the Cast receiver is connecting, the cast button animates the waves in the icon progressively.

Cast connected: While the Cast receiver is connected, the Cast button appears with a filled frame shape.

When the sender device is not supported, do not show the Cast Button.
Sender Stops Cast

A  When the last or only sender device is connected to a receiver (TV), tapping “Stop Casting” stops the app running on the receiver, and puts the player back at the 1st screen or current screen the sender device.

B  When multiple senders are connected to a receiver, pressing “Stop Casting” from one sender app does nothing to the receiver and removes Cast controls and notifications from that sender device. The remaining connected sender device(s) stay connected with cast controls available.

C  When a sender app disconnects implicitly (e.g. sender device battery dies, sender device Wi-Fi network drops), it does nothing to the receiver unless that specific sender is integral to gameplay (e.g. if a game is a two player game, and one player disconnects, receiver should pause the game in progress while waiting for reconnect of the disconnected player’s sender device). The sender app should keep track of implicit disconnections and attempt to reconnect to a receiver when the sender app is opened again.
**Sender Resumes Cast** *(Cast-Required Games Only)*

A Accidental disconnect: Affected sender should display suitable error message.

B Accidental disconnect: The game must at least give the user an option to reconnect the affected sender.

C Accidental disconnect: Affected sender reconnect should timeout after a set amount of time and then display available actions for that sender.

D Accidental disconnect: Sender should allow user to try to reconnect or start a new game.