

ZEBRA

ZEBRA HUD SERVICE

HD4000 Intent-Based Interface

Application Overview

- Popular existing apps (e.g. Enterprise Browser, Velocity etc...) will find it difficult to integrate this SDK quickly
- Interface app removes majority of work required to integrate HD4000 into existing applications
- Uses standard broadcast intents to interface between HD4000 and any other application

The screenshot shows the HD4000 Intent-Based Interface application running on an Android device. The status bar at the top displays the time as 3:09 PM and various system icons. The application interface consists of several components:

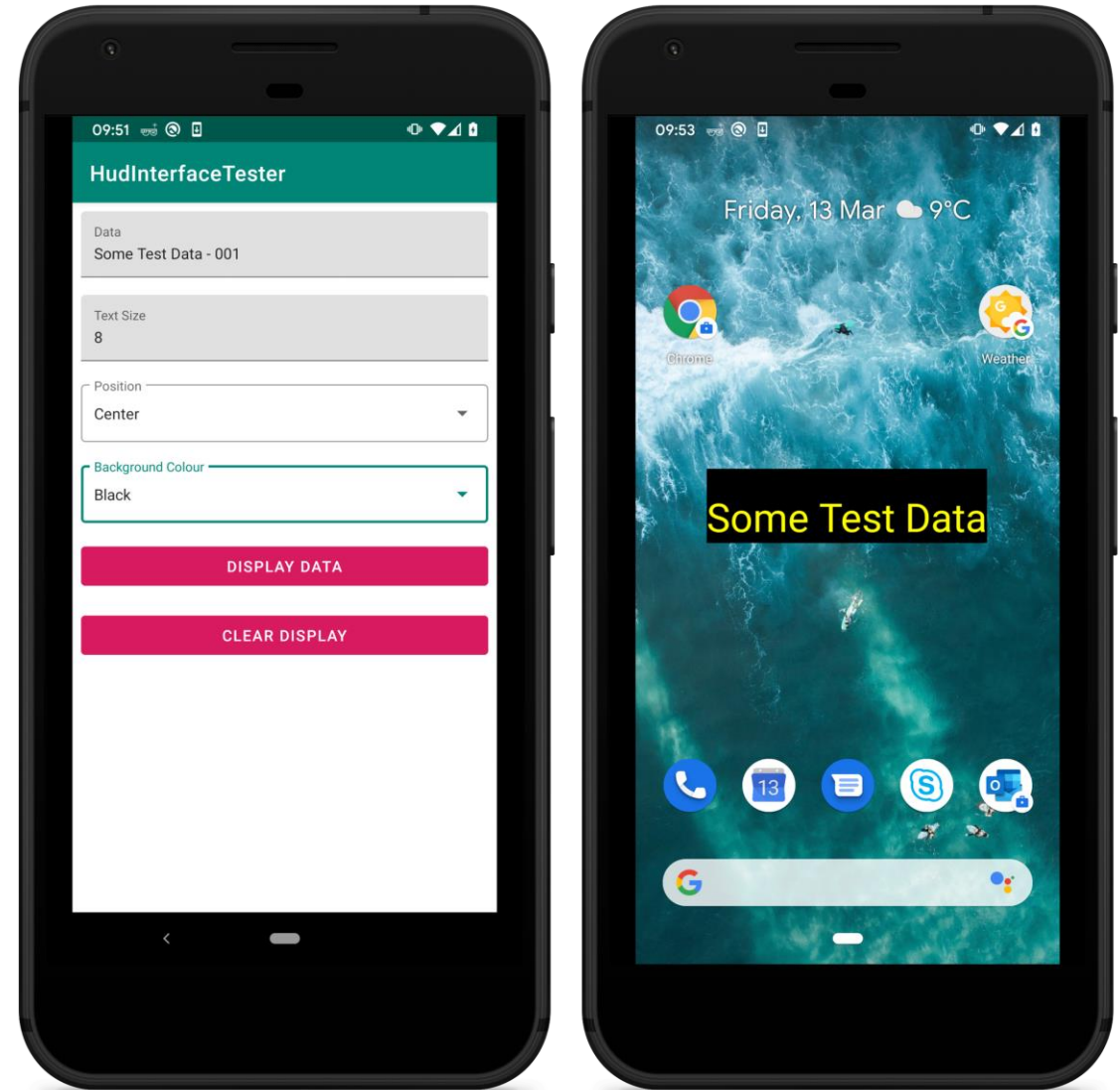
- Task Location:** A header section with a blue background and white text.
- Location Fields:** A table-like structure with three columns: Aisle, Bay, and Level. The Aisle field contains the value "M58" in yellow text on a black background. The Bay field contains the value "15" in white text on a gray background. The Level field contains the value "F10" in red text on a yellow background.
- Scan Location:** A section with a light gray background and a blue border, containing a white input field for scanning a location.
- Location Summary:** A section with a black background and white text, displaying the selected location information: "Aisle: M58", "Bay: 15", and "Level: F10".
- Action Buttons:** A row of three buttons: "Skip" (blue background, white text), "Close" (blue background, white text), and "Scan" (white background, blue border, blue text).

The bottom of the screen shows the Android navigation bar with the back, home, and recent apps buttons.

HD4000 Intent-Based Interface

Application Overview

- Runs as a foreground service to listen for broadcast intents
- Manages all SDK functions & connection to HD4000 – no need to write a native Java application
- Displays the information received from broadcast intents directly onto the HD4000
- Optional screen overlay on-device, useful for larger demonstrations when only one person can physically wear the HD4000



HD4000 Intent-Based Interface

Intent Formats

- Display Single Line of Text:

- Action:

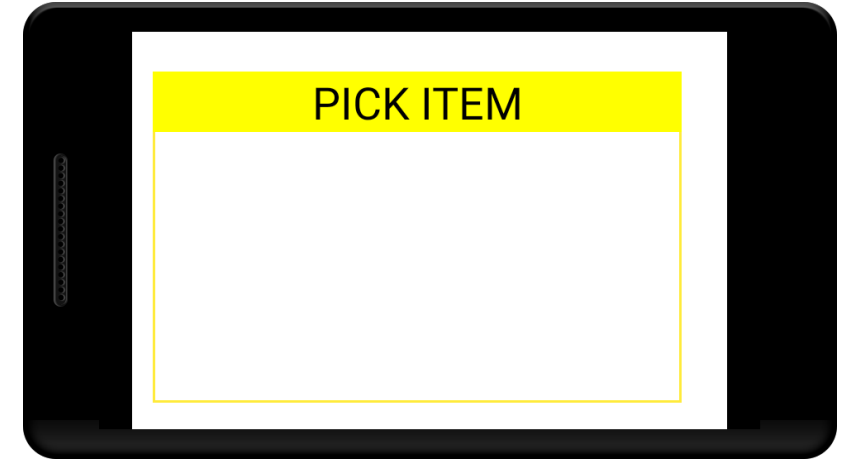
- com.symbol.zebrahudservice.DISPLAY_TEXT

- Extras (*all Strings*):

- text.text
 - text.colour (Uses [Color.parseColor\(\)](#))
 - text.size
 - text.justification (Uses [Gravity](#))
 - text.background_colour (Uses [Color.parseColor\(\)](#))

- Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_TEXT --es text.text  
'PICK ITEM' --es text.colour 'BLACK' --es text.size '12' --es text.justification  
'CENTER' --es text.background_colour 'YELLOW'
```



HD4000 Intent-Based Interface

Intent Formats

- Display Multiple Lines of Text:

- Action:

- `com.symbol.zebrahudservice.DISPLAY_TEXT`

- Extras (*all Strings*):

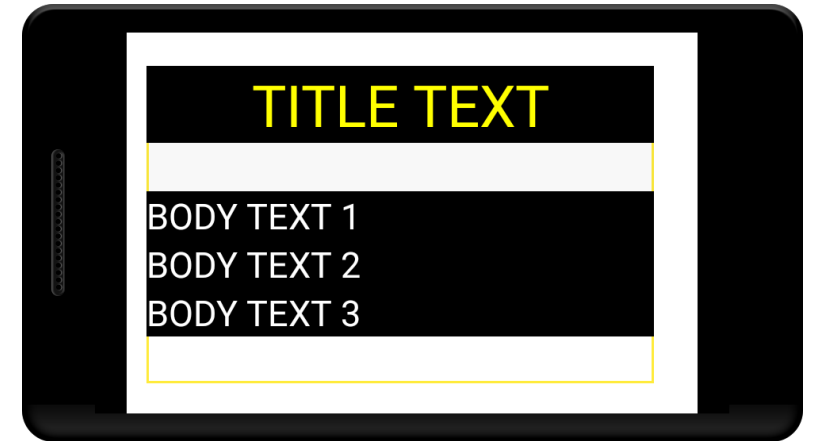
- `text.array`

- Format:

- `'data~textColour~justification~backgroundColour~size|'`
 - This format can be repeated indefinitely

- Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_TEXT --es text.array  
'TITLE TEXT~YELLOW~CENTER~BLACK~8"| "_~TRANSPARENT~START~WHITE~6"| "BODY TEXT  
1~WHITE~START~BLACK~6"| "BODY TEXT 2~WHITE~START~BLACK~6"| "BODY TEXT  
3~WHITE~START~BLACK~6'
```



HD4000 Intent-Based Interface

Intent Formats

- Display Images:

- Action:

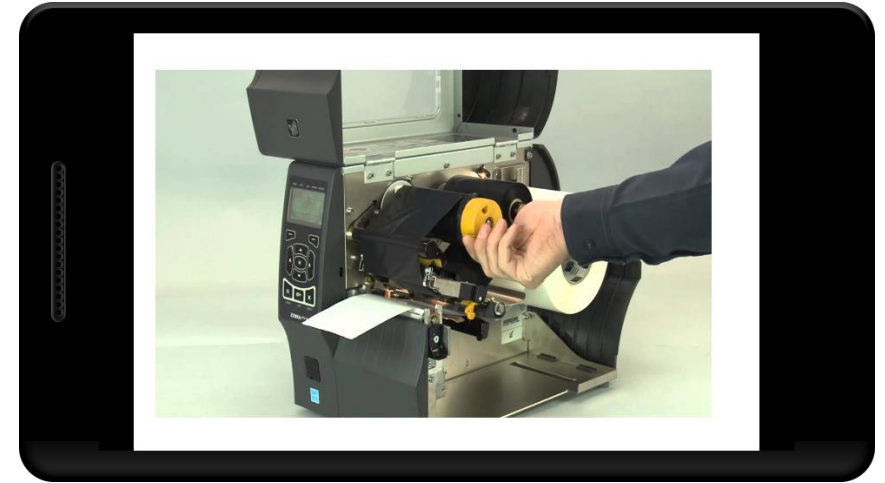
- `com.symbol.zebrahudservice.DISPLAY_IMAGE`

- Extras:

- `image.path` – absolute path to the image on the device
 - `image.width` – display width (optional, default: 640)
 - `image.height` – display height (optional, default: 400)
 - `image.scale_type` – (Uses [ImageView.scaleType\(\)](#)).

- Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_IMAGE --es image.path  
'^^/sdcard/Download/printer.jpg'
```



HD4000 Intent-Based Interface

Intent Formats

- Display Images With Text:

- Action:

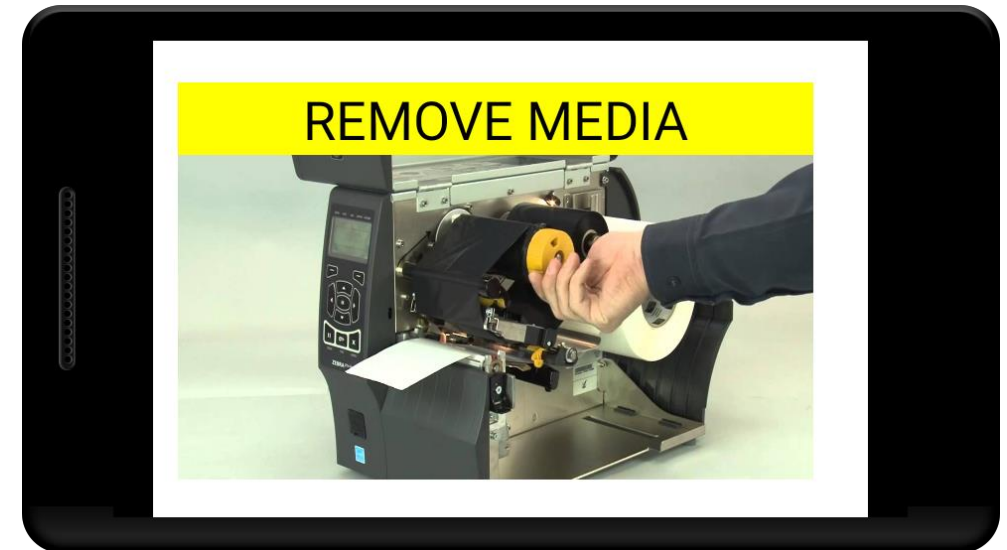
- com.symbol.zebrahudservice.DISPLAY_TEXT_AND_IMAGE

- Extras:

- image.path – absolute path to the image on the device
 - image.width – display width (optional, default: 640)
 - image.height – display height (optional, default: 400)
 - image.scale_type – (Uses [ImageView.scaleType\(\)](#)).
 - text.text
 - text.colour (Uses [Color.parseColor\(\)](#))
 - text.size
 - text.justification (Uses [Gravity](#))
 - text.background_colour (Uses [Color.parseColor\(\)](#))

- Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_TEXT_AND_IMAGE --es
image.path '^/^/sdcard/Download/printer.jpg' --es text.text 'REMOVE MEDIA' --es
text.colour 'BLACK' --es text.size '8' --es text.justification 'CENTER' --es
text.background_colour 'YELLOW'
```



HD4000 Intent-Based Interface

Intent Formats

- Display Images With Multiple Lines of Text:
 - Action:
 - `com.symbol.zebrahudservice.DISPLAY_TEXT_AND_IMAGE`
 - Extras:
 - `image.path` – absolute path to the image on the device
 - `image.width` – display width (optional, default: 640)
 - `image.height` – display height (optional, default: 400)
 - `image.scale_type` – (Uses [ImageView.scaleType\(\)](#)).
 - `text.array` – format:
'data~textColour~justification~backgroundColour~size|'
 - Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_TEXT_AND_IMAGE --es
image.path '^/sdcard/Download/printer.jpg' --es text.array 'REMOVE
MEDIA~BLACK~CENTER~YELLOW~6"| "~TRANSPARENT~CENTER~TRANSPARENT~27"| "TURN
CLOCKWISE TO REMOVE~YELLOW~CENTER~BLACK~4'
```



HD4000 Intent-Based Interface

Intent Formats

- Display JSON Image Model:

- Action:

- com.symbol.zebrahudservice.DISPLAY_JIM

- Extras:

- jim.jim – JSON to display
 - jim.imagesDirectory – Directory for relative path images

- Example:

```
adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_JIM --es jim.jim '^{"showFrame":true,"widgets":[{"position":[5,5,90,90],"type":"IMAGE","imageScale":"FIT_XY","data":"printer.jpg"}]}' --es jim.image_directory '/sdcard/Download/'
```



HD4000 Intent-Based Interface

Intent Formats

- Manage Display Settings:
 - Clear Display:
 - Action: `com.symbol.zebrahudservice.CLEAR`
`adb shell am broadcast -a com.symbol.zebrahudservice.CLEAR`
 - Clear Display before showing next intent
 - Adding a "^" before the DATA field will clear the previous intent, otherwise it will be appended to the next line
 - Note: for adb shell, we need to escape this character, so it becomes "^"
 - `adb shell am broadcast -a com.symbol.zebrahudservice.DISPLAY_IMAGE --es image.path '^/sdcard/Download/printer.jpg'`
 - Toggle Overlay:
 - Action: `com.symbol.zebrahudservice.TOGGLE_OVERLAY`
`adb shell am broadcast -a com.symbol.zebrahudservice.TOGGLE_OVERLAY`