Buse Çarık 27/06/18

INTERRA R&D Material Design

Material Design

Text Fields

**INTRODUCTION**

**PURPOSE OF THIS DOCUMENT**

The aim of this project is analyzing material design text fields’ types, styles and attributes.

**OVERVIEW**

The project that is described in this document, includes material text fields’ types and styles. The types are filled text fields and outlined text fields and the styles are

Base.Widget.MaterialComponents.TextInputLayout

Widget.Design.TextInputLayout

Widget.MaterialComponents.TextInputLayout.FilledBox

Widget.MaterialComponents.TextInputLayout.FilledBox.Dense

Widget.MaterialComponents.TextInputLayout.OutlineBox

Widget.MaterialComponents.TextInputLayout.OutlineBox.Dense

To use the material components, add implementation 'com.android.support:design:28.0.0-alpha1' to the dependencies in build.gradle file.

To use material design text fields, also; TextInputLayout (make it easy to add material text fields in to layouts) and TextInputEditText should be used.

Types of material text fields are:

* *Filled Box*: (default) that type has a solid background. It is used to draw more attention. To use in your text fields, you should apply FilledBox style. To change the background color of field, use boxBackgroundColor.
* *Outline Box*: that type has stroked border, its background is transparent. It is used for less emphasized situation. The stroke’s color and width can change with boxStrokeColor and boxStrokeWidth. To use this, apply the OutlineBox style.

*Height Variations*

There are two height options for both filled and outline box text fields which are standard and dense. Both filled and outline’s default is standard. Dense option is reduced the height of the text field. It reduces height with reducing vertical padding within the text. You can apply the dense option with appropriate styles according to your text fields’ type.

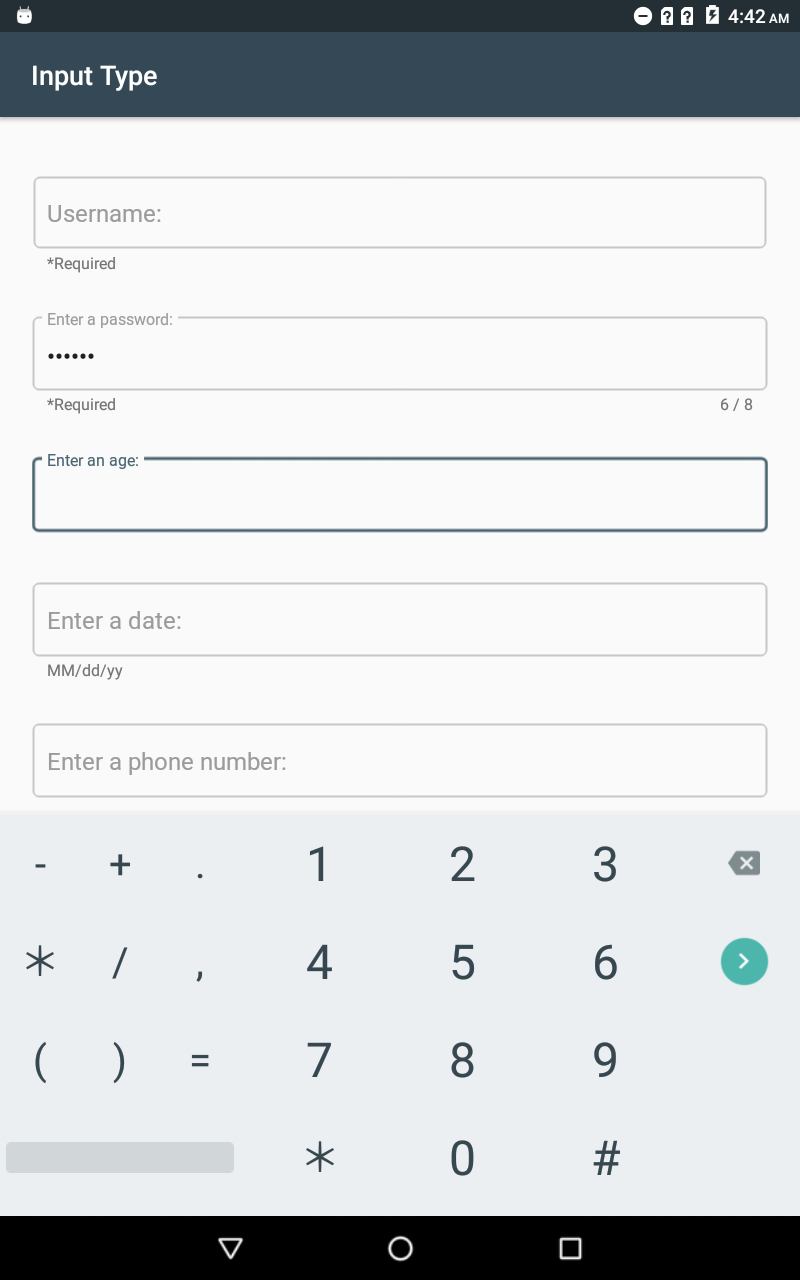
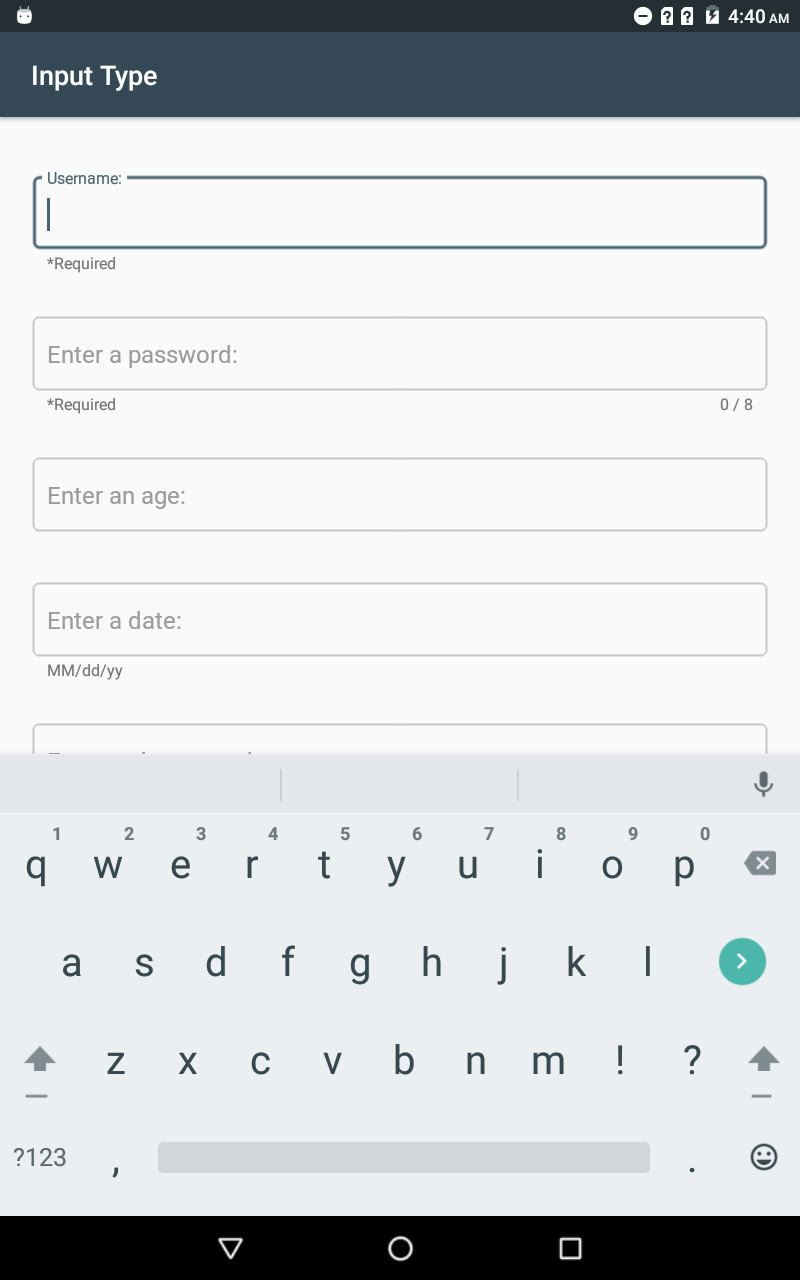
Material Text Field’s Special Styles:

* Base.Widget.MaterialComponents.TextInputLayout
* Widget.Design.TextInputLayout
* Widget.MaterialComponents.TextInputLayout.FilledBox
* Widget.MaterialComponents.TextInputLayout.FilledBox.Dense
* Widget.MaterialComponents.TextInputLayout.OutlineBox
* Widget.MaterialComponents.TextInputLayout.OutlineBox.Dense

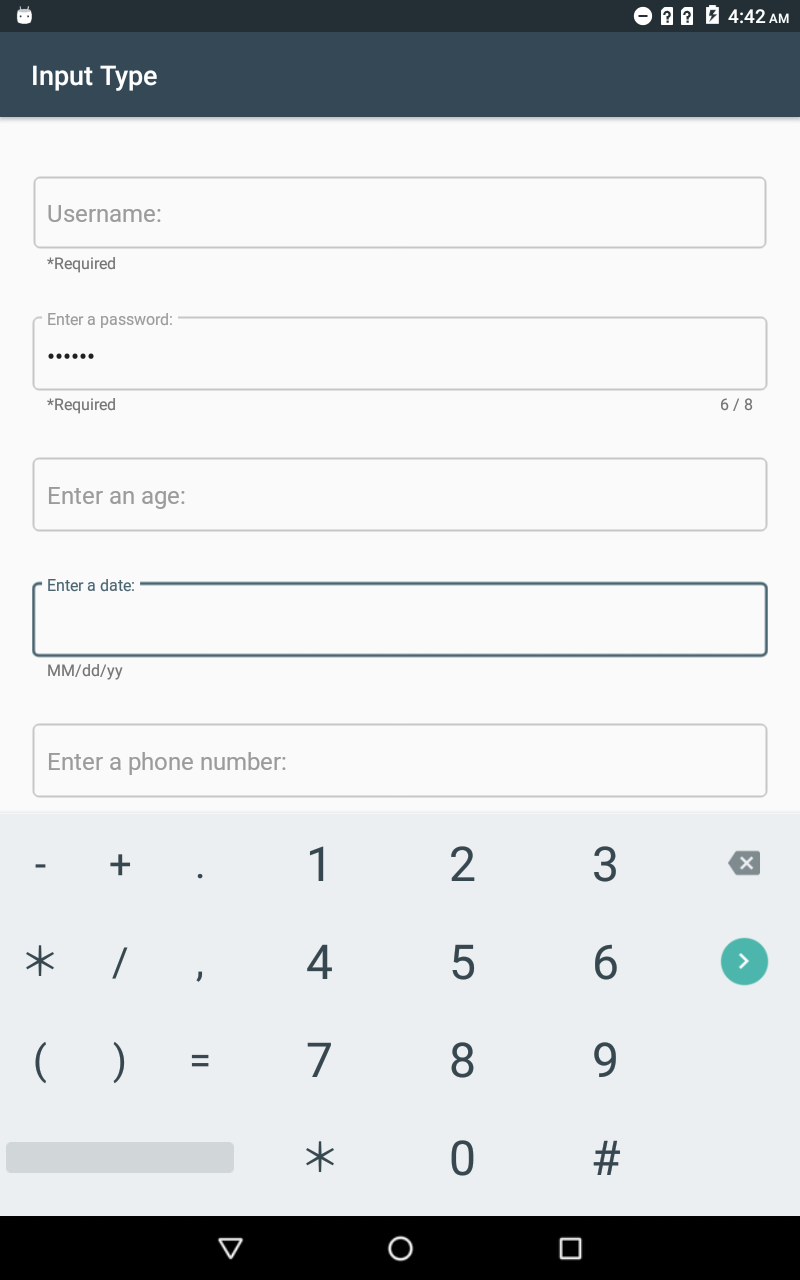
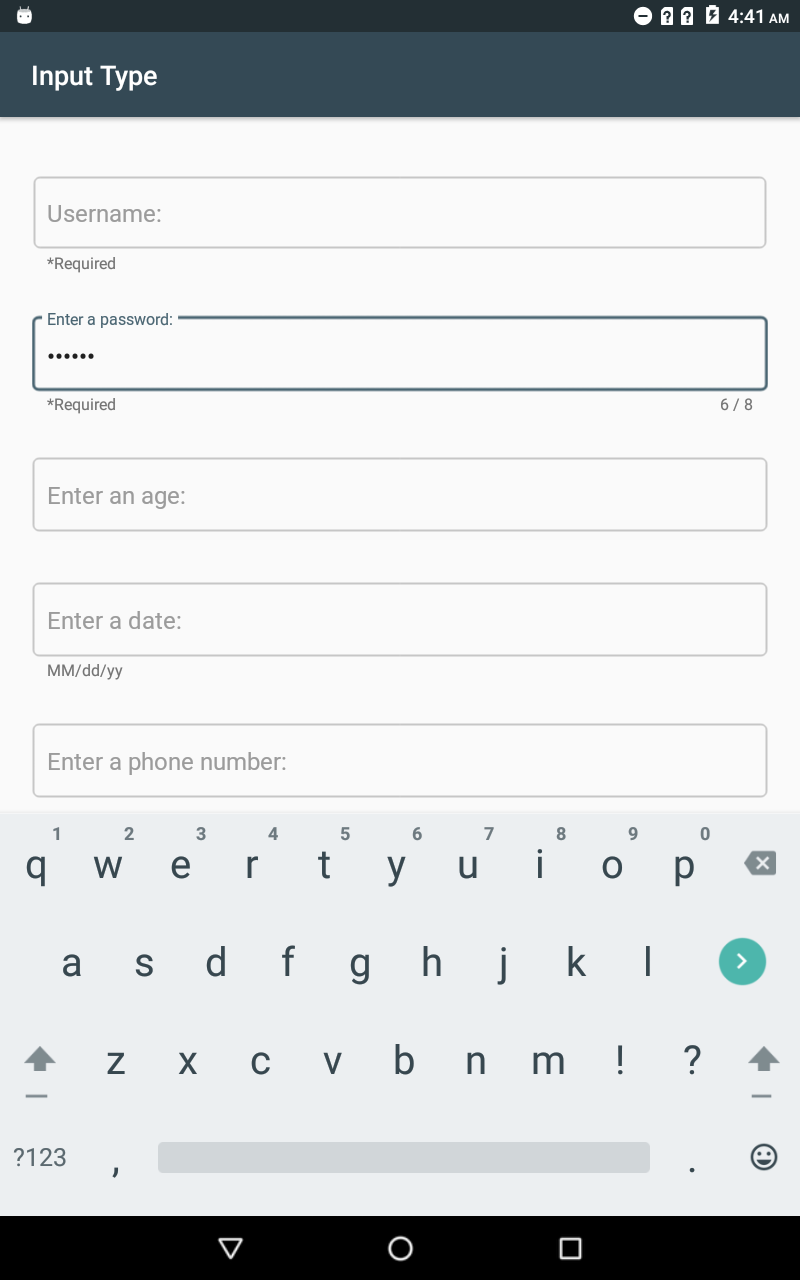
While a custom style was creating, you must extend one of those existing styles as parent.

**\*\*\***Input type: There are different input types which are text, password (instead of input, it displays \*), email (@ and .com are placed in keyboard), phone, number, numberDecimal, numberPassword, time, textMultiLine, textSingleLine…

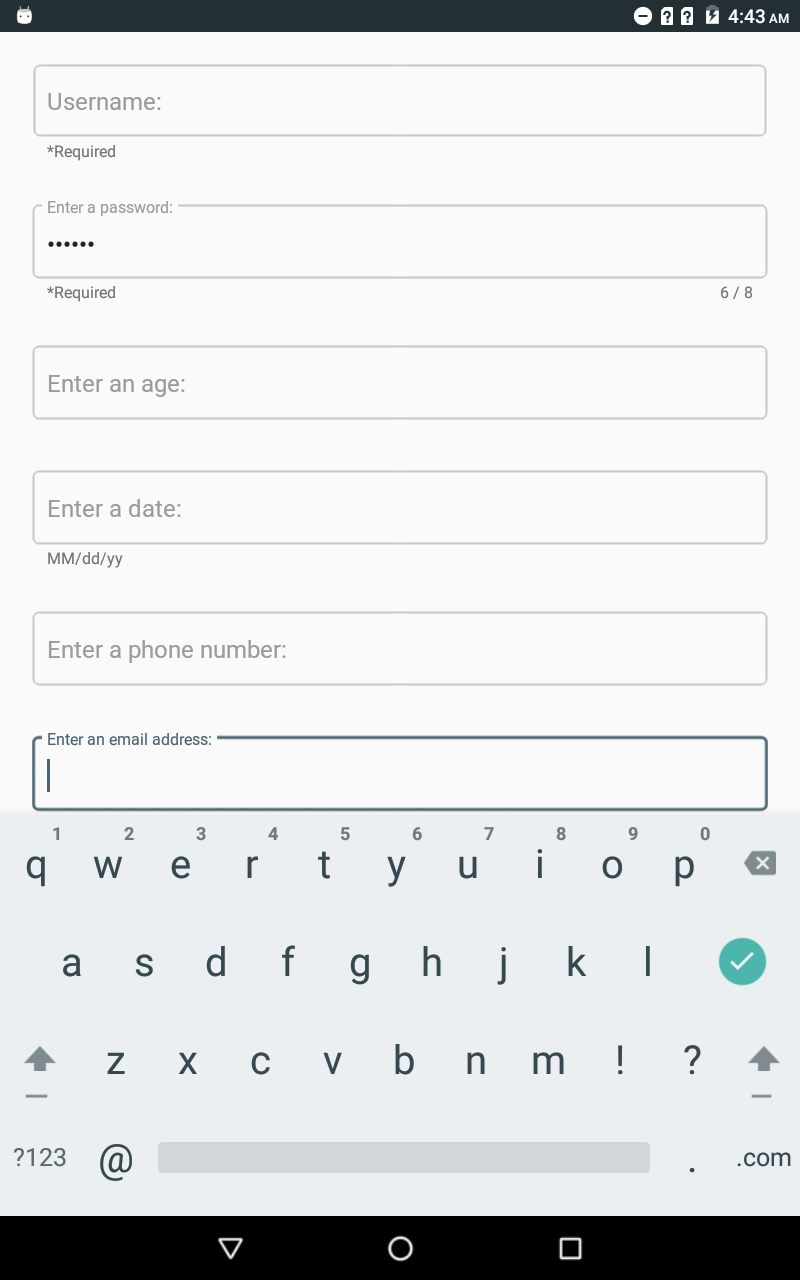
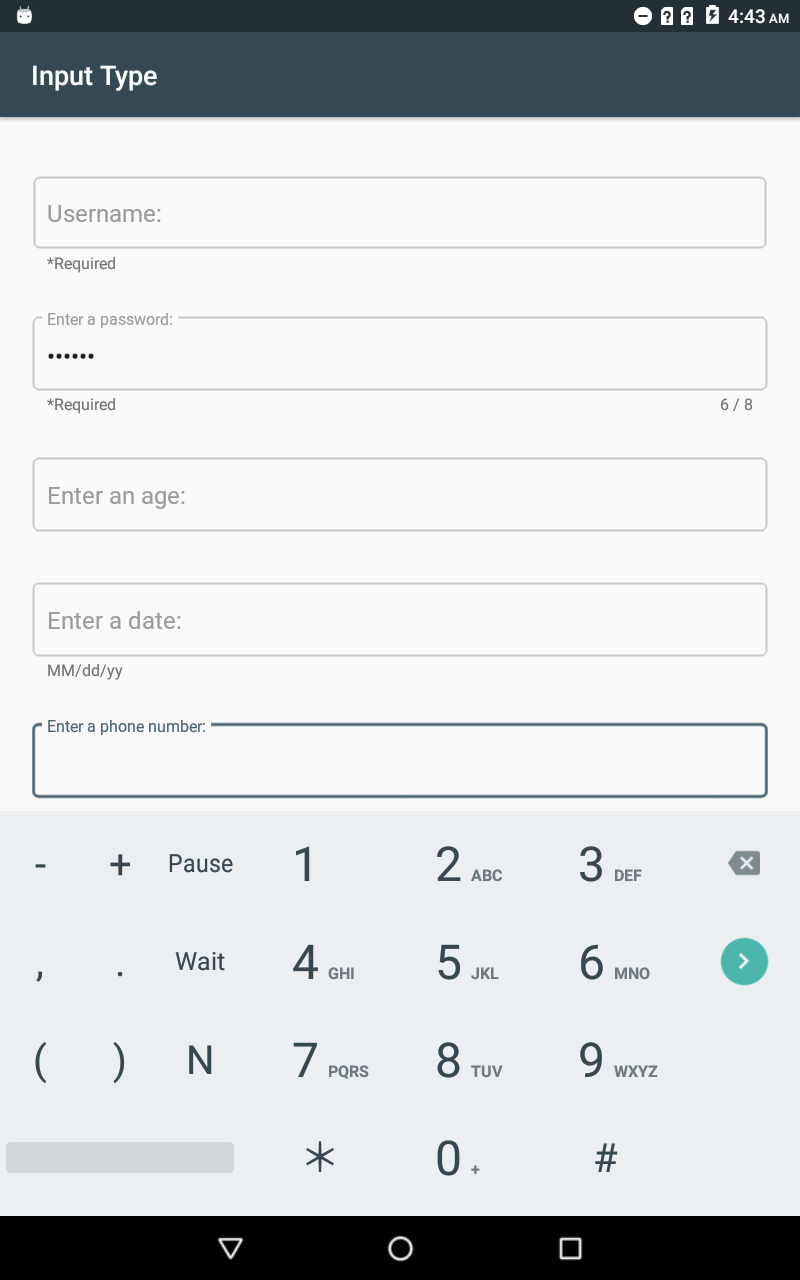
\*You cannot paste different types in that area.



## Input type: text Input type: number

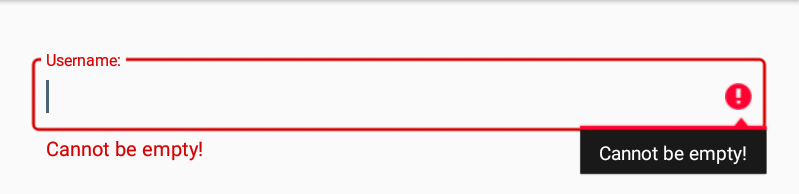


Input type: password Input type: date



Input type: phone Input type: email

\*\*\*Error Text: error text can be customized with errorTextAppearance style.



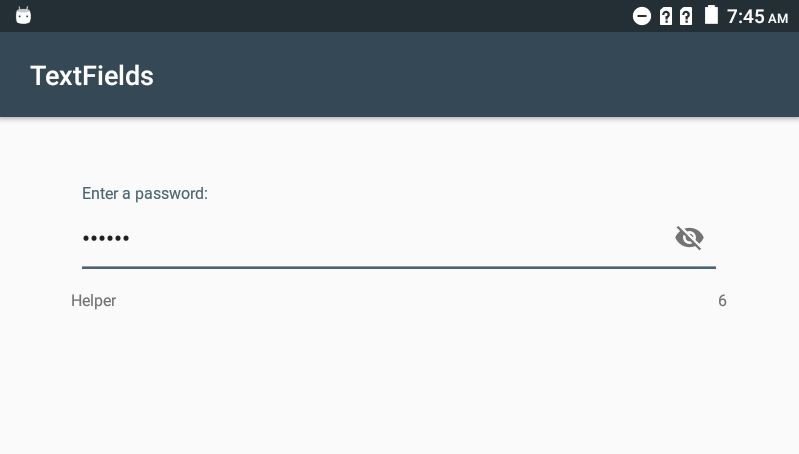
**Widget.Design.TextInputLayout**

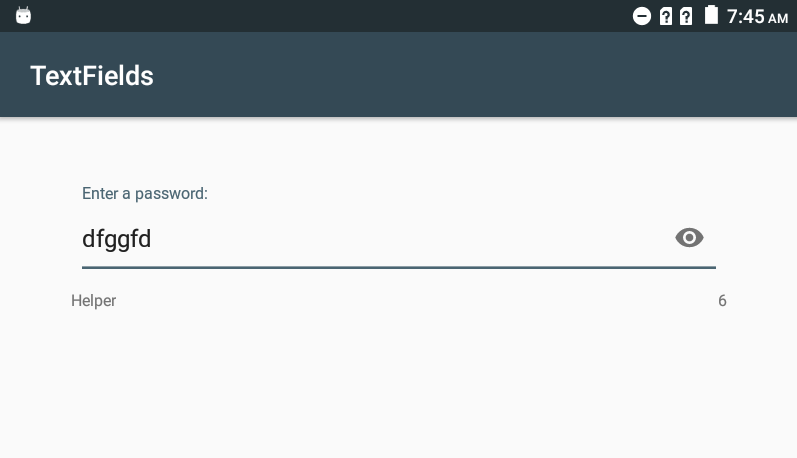
Its parent is android:Widget (it customizes only text appearance). Its customized attributes are:

* boxBackgroundMode: the options are filled, outline or none (which are the types that are explained above)
* hintTextAppearance: change the appearance of hint with another style (TextAppearance.Design.Hint (default)). It changes size and color of text.
* errorTextAppearance: change the appearance of error text with another style (TextAppearance.Design.Error (default))
* counterTextAppearance: change the appearance of character counter with another style (TextAppearance.Design.Counter (default))
* counterOverflowTextAppearance: change the appearance of character counter when number of character cross the limit with another style (TextAppearance.Design.Counter.Overflow (default))

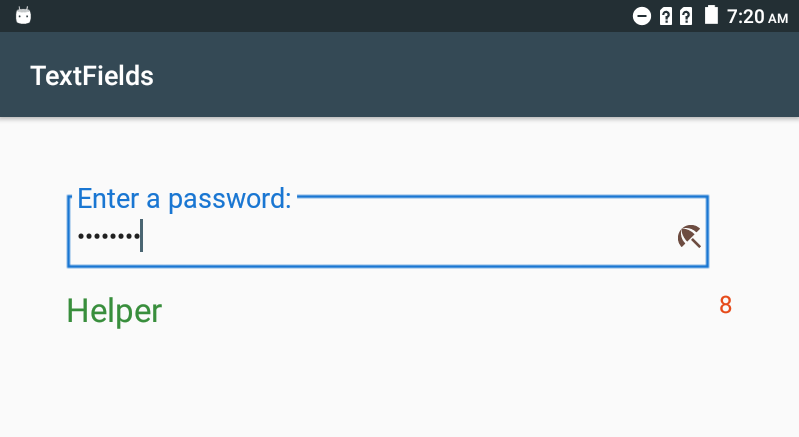
\*\*\*password toggle: it sets the appearance of password. In default, it uses an icon which is the visibility (look like an eye). When the icon is clicked it displays the input. And when it is clicked again, it hides. While it hides the input, it uses the visibility off (the eye with the diagonal line) but while it displays the input, it uses the visibility.

* passwordToggleContentDescription: a string can be set as content description
* passwordToggleDrawable: in default, the icon is visibility but with this attribute, the icon can be changed (when hide the input, no diagonal line over the icon).
* passwordToggleTint: change the color of icon.

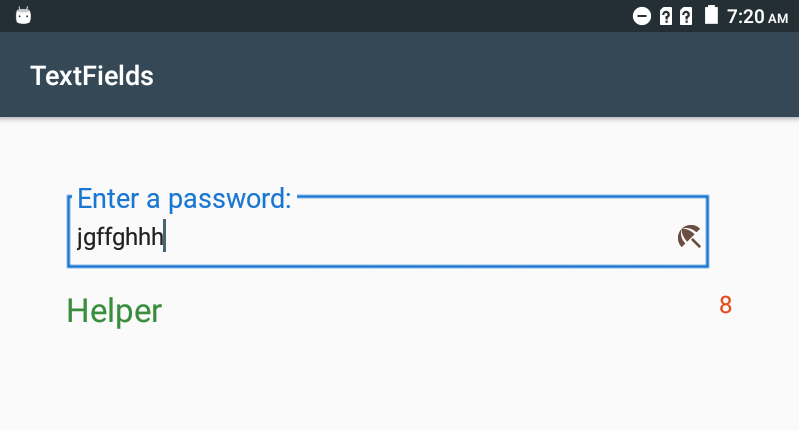




Custom Design:



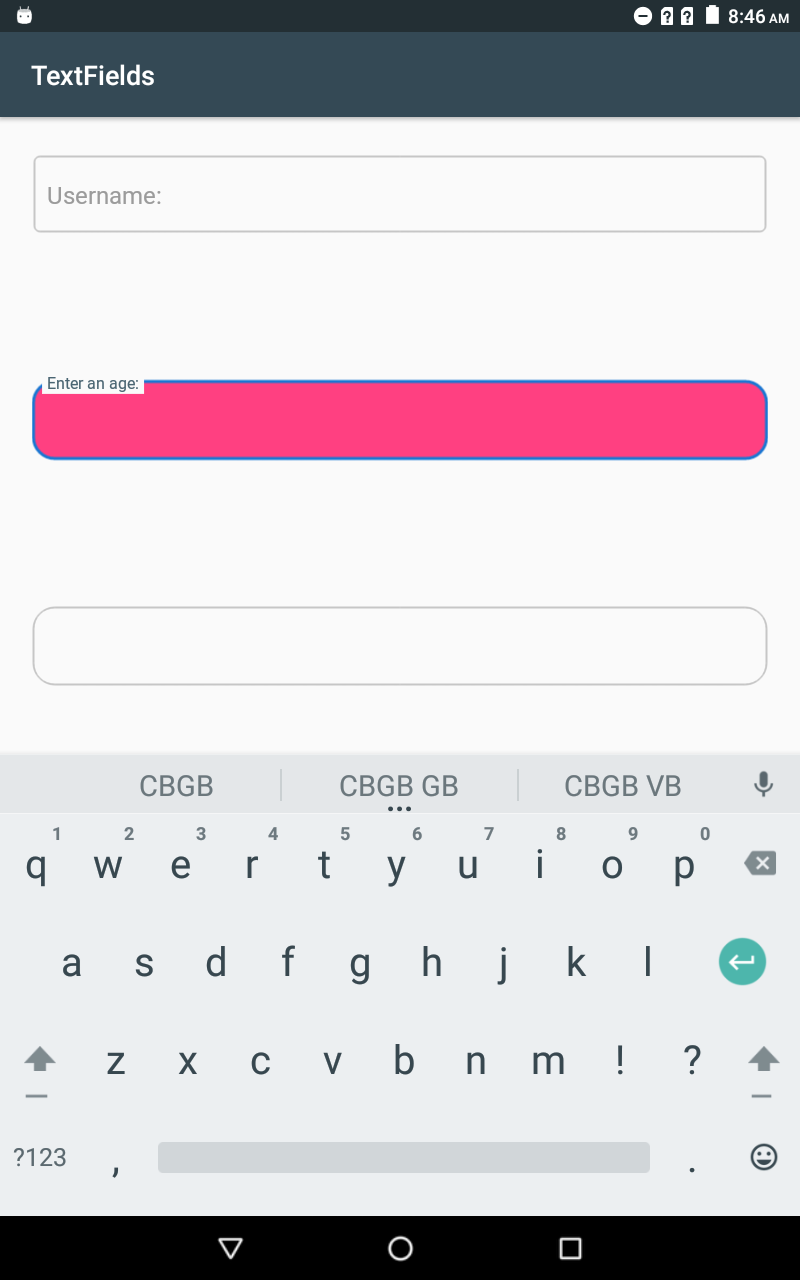
boxBackgroundMode: outline, passwordToggleDrawable: icon beach access, passwordToggleTint: brown, also, the appearance of hint, error, counter texts are customizes style.



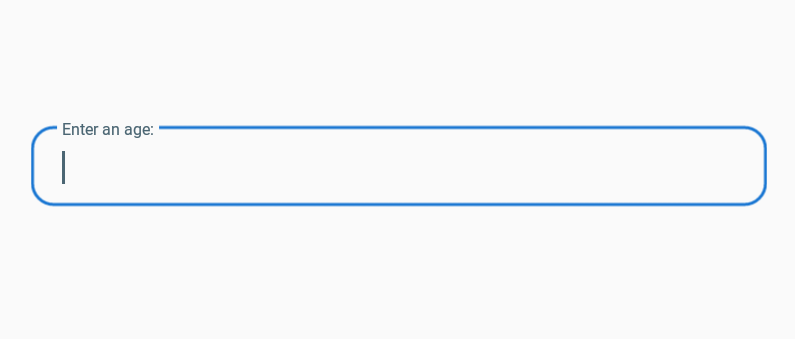
**Base.Widget.MaterialComponents.TextInputLayout**

Its parent is Widget.Design.TextInputLayout. Its special attributes are:

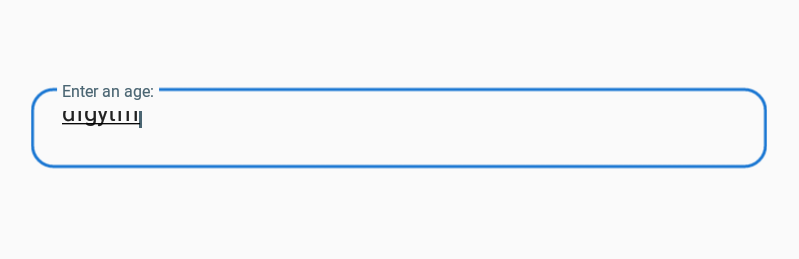
* boxBackgroundMode: the options are filled, outline or none (which are the types that are explained above) the default is outline.
* boxBackgroundColor: change the color of container. The default is null because of the outline type.
* boxCornerRadiusTopLeft: set the roundness of the field. Default: 4dp
* boxCornerRadiusTopRight: set the roundness of the field. Default: 4dp
* boxCornerRadiusBottomRight: set the roundness of the field. Default: 4dp
* boxCornerRadiusBottomLeft: set the roundness of the field. Default: 4dp
* boxStrokeColor: change the color of stroke.
* boxPaddingLeft: moves the input +hint to the left. Default: 12dp
* boxPaddingRight: moves the input + hint to the right. Default: 12dp
* boxCollapsedPaddingTop: it moves the input to the upwards. Default: 0dp for outline, 12dp for filled
* boxCollapsedPaddingBottom: it moves the input to the downwards. Default: 20dp for outline, 12dp for filled
* boxExpandedPaddingTop: moves the hint to the upward. Default: 16dp for outline, 20dp for filled
* boxExpandedPaddingBottom: moves the hint to the downward. Default: 16dp for outline, 20dp for filled



When you change the background color of the outline text field, the input is not visible. This is useful for filled text field.



boxPaddingLeft/Right : 24dp, boxStrokeColor: blue



boxCollapsedPaddingBottom: 60dp



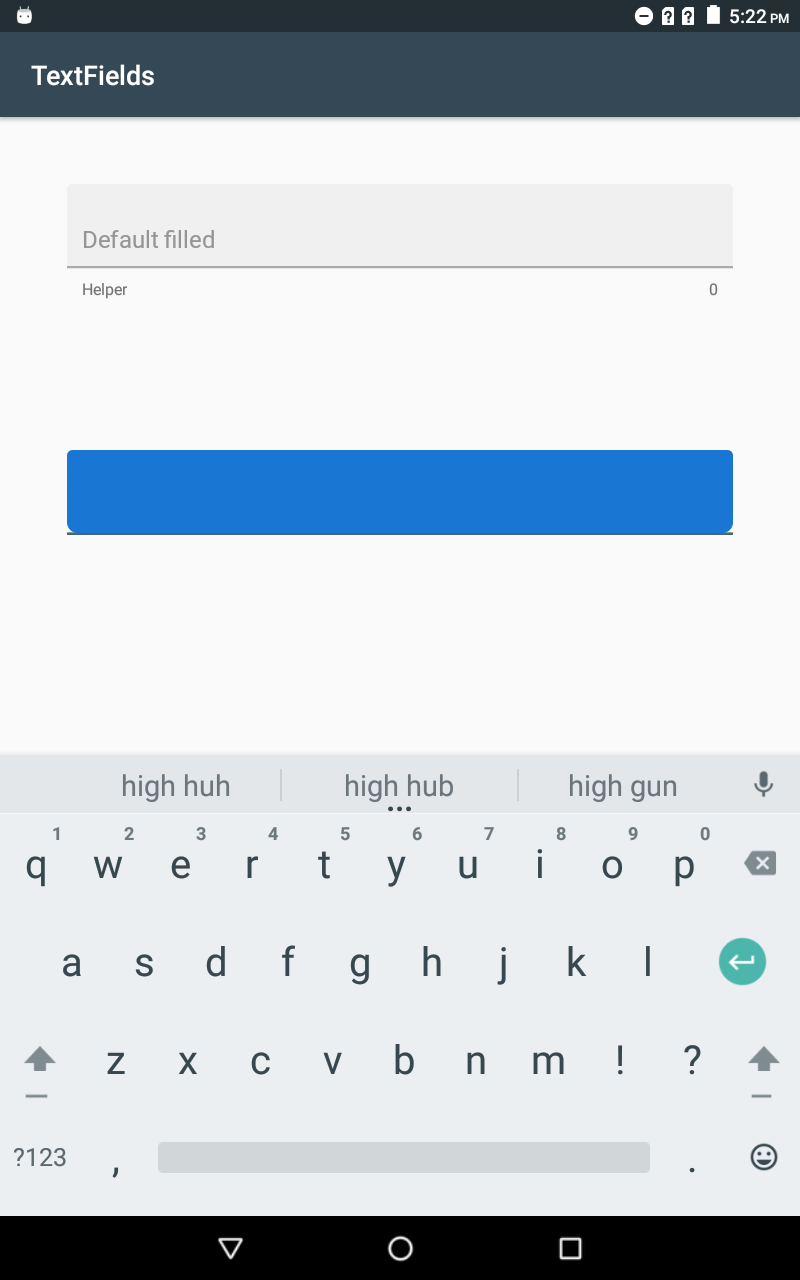
boxExpandedPaddingBottom: 32dp

**Widget.MaterialComponents.TextInputLayout.FilledBox**

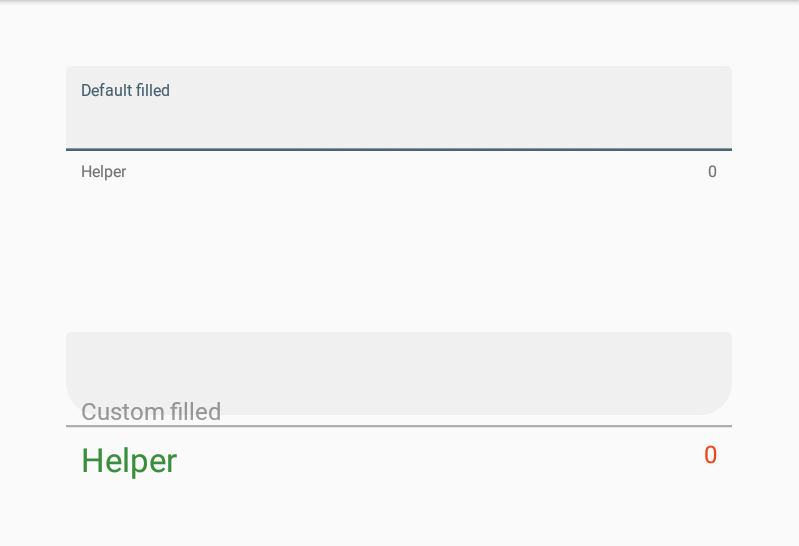
Its parent is Base.Widget.MaterialComponents.TextInputLayout. It customizes: (These all are the same with above attributes.)

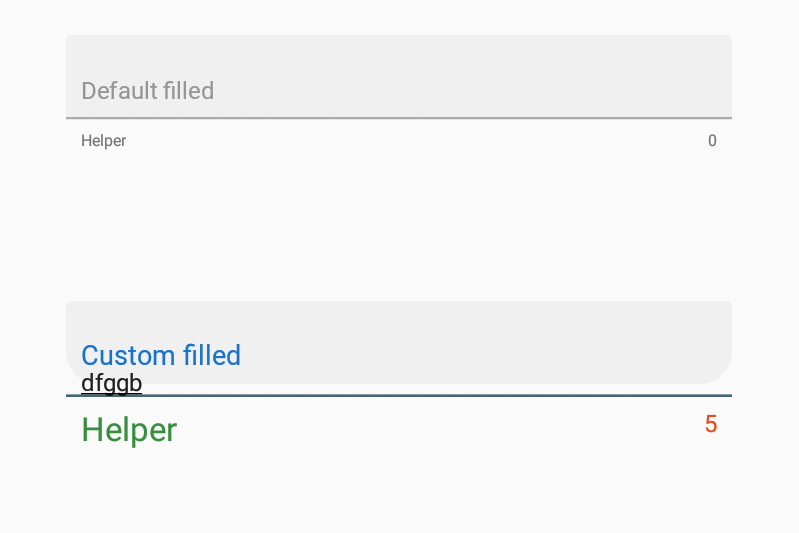
* boxBackgroundMode: filled is chosen.
* boxBackgroundColor: #0A000000.
* boxCornerRadiusBottomLeft: 0dp
* boxCornerRadiusBottomRight: 0dp
* boxCollapsedPaddingTop: 12dp
* boxCollapsedPaddingBottom: 20dp
* boxExpandedPaddingTop: 20dp
* boxExpandedPaddingBottom: 16dp

The appearance of helper, hint, error and counter text can be customized.



When the background color is changed, the writings cannot be visible.





The custom filled: boxCornerRadiusBottomLeft/Right: 24, boxCollapsedPaddingTop: 30dp, boxCollapsedPaddingBottom: 25dp, boxExpandedPaddingTop: 28dp, boxExpandedPaddingBottom: 5dp. Also, there are used custom text styles.

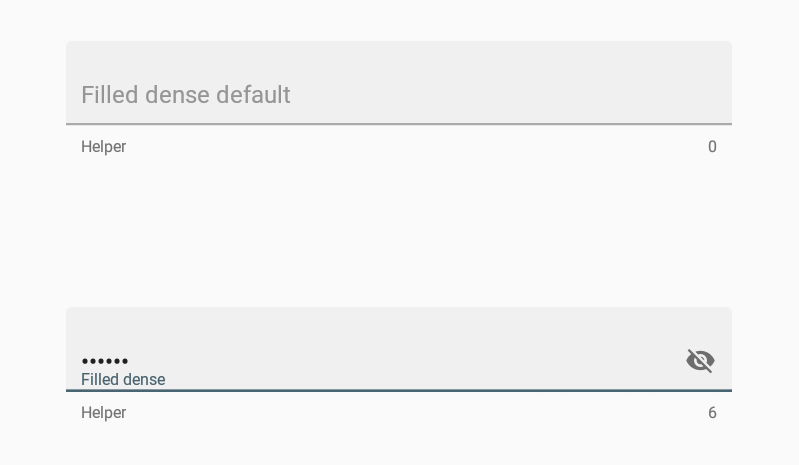
**Widget.MaterialComponents.TextInputLayout.FilledBox.Dense**

It customizes boxCollapsedTop: 16dp, boxCollapsedBottom: 16dp, boxExpandedPaddingTop: 16dp and boxExpandedPaddingBottom: 16dp.

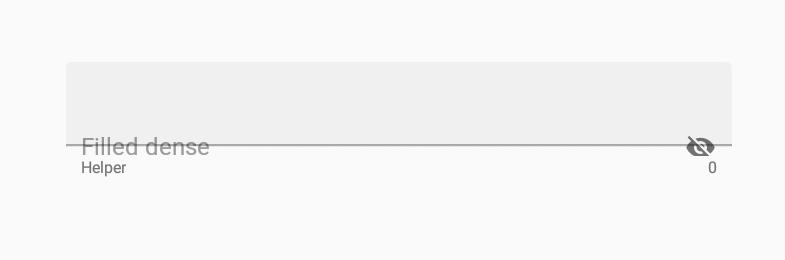
\*\*\*The other material text fields attributes cannot be used in this style.



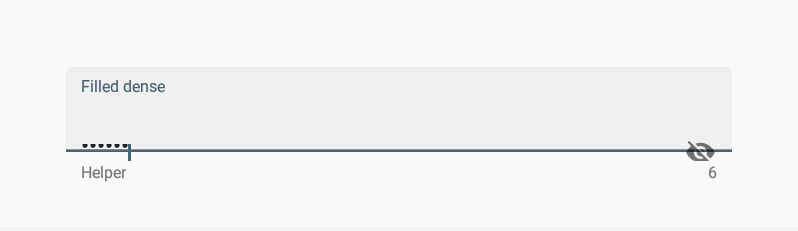
Default filled box dense



boxCollapsedPaddingTop: 48dp, boxCollapsedPaddingBottom: 0dp

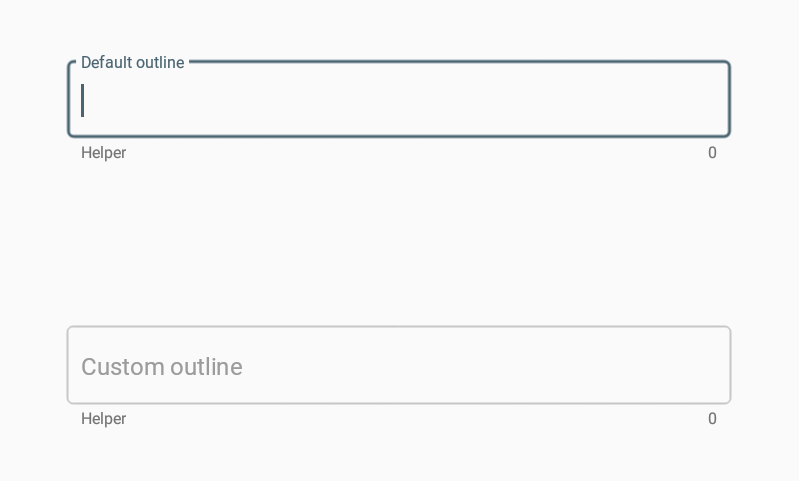


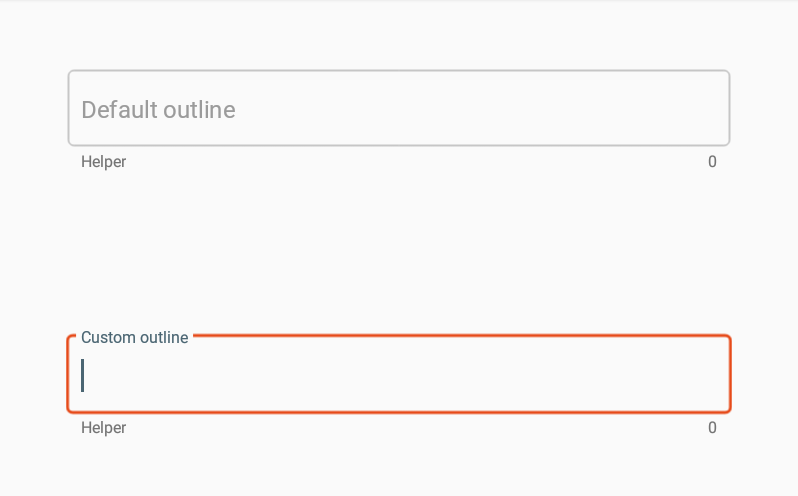
boxExpandedPaddingTop: 48dp, boxExpandedPaddingBottom: 0dp



**Widget.MaterialComponents.TextInputLayout.OutlineBox**

Its parent is Base.Widget.MaterialComponents.TextInputLayout. It does not customize any attributes, but all material text field attributes can be customized (I could not observe any changing when I customized boxStrokeWidth).





Custom outline: boxStrokeColor: orange

**Widget.MaterialComponents.TextInputLayout.OutlineBox.Dense**

It customizes:

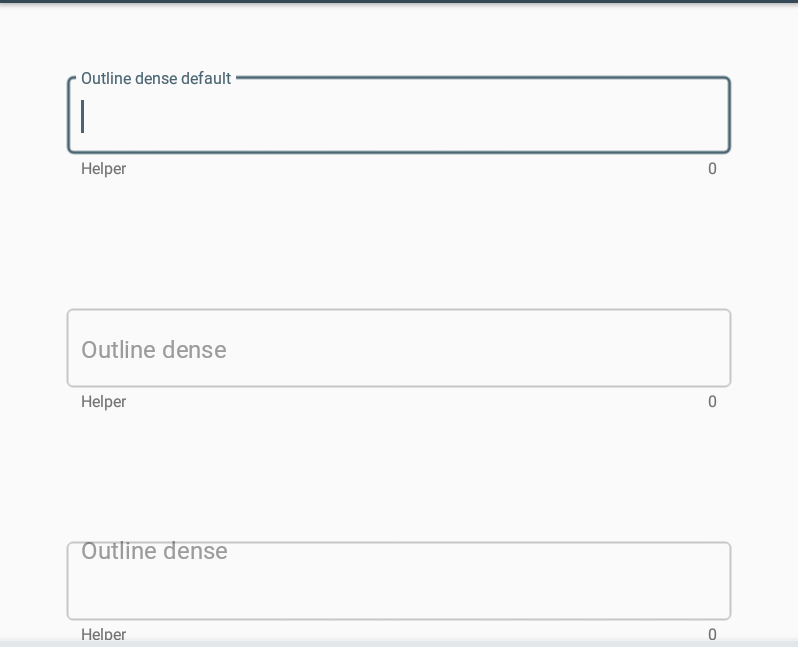
boxCollapsedTop: 16dp,

boxCollapsedBottom: 16dp,

boxExpandedPaddingTop: 16dp and

boxExpandedPaddingBottom: 16dp.

\*\*\*The other material text fields attributes cannot be used in this style.



The topmost field is the default outline dense.

Second box is one of the custom outline dense which customizes boxCollapsedPaddingBottom: 0dp and boxCollapsedPaddingTop: 75dp. But there is no changing because of the type of the background mode.

The third one is also a custom outline dense box which customizes boxExpandedPaddingBottom: 48dp and boxExpandedPaddingTop: 0dp.



**References**

Homepage. (n.d.). Retrieved June 27, 2018, from <https://material.io/>

Android Developers. (n.d.). Retrieved June 27, 2018, from https://developer.android.com/