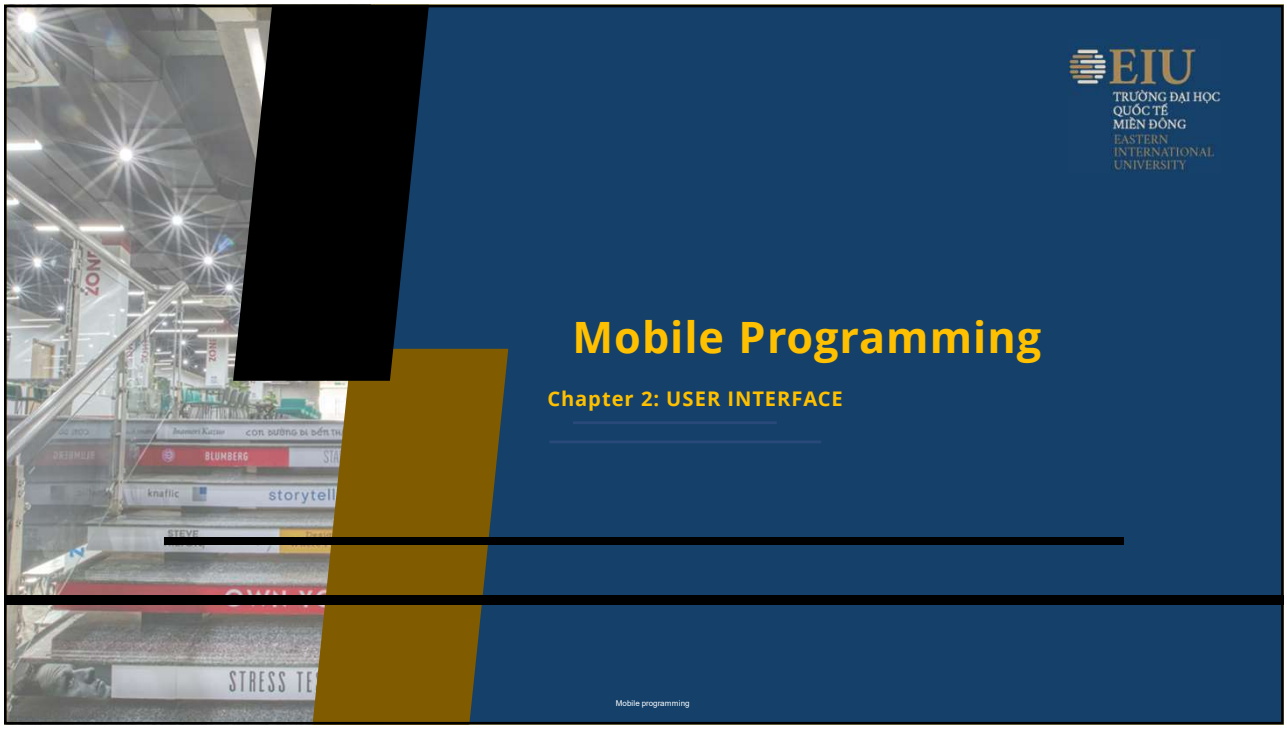


1

Why use React Native UI Components?

- These components provide **various functionalities**, including **buttons**, **text inputs**, **images**, and more, to help developers easily create visually appealing and interactive apps.
- **Developers use React Native UI Components for several reasons**:
  - Cross-platform Compatibility
  - Reusability
  - Customization
  - Improved UX
  - Improved Coding Experience

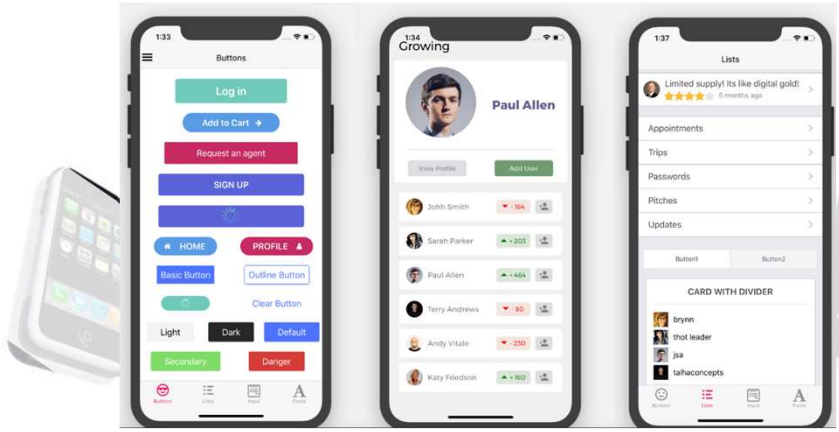
2

2

Top 5 React Native UI Components in 2023

1. React Native Elements

This project has 23.3K stars and 4.5K forks on Github, You can find the full walk-through here. They also provide a VS code extension. Overall it is a vibrant open community to which anyone can contribute.



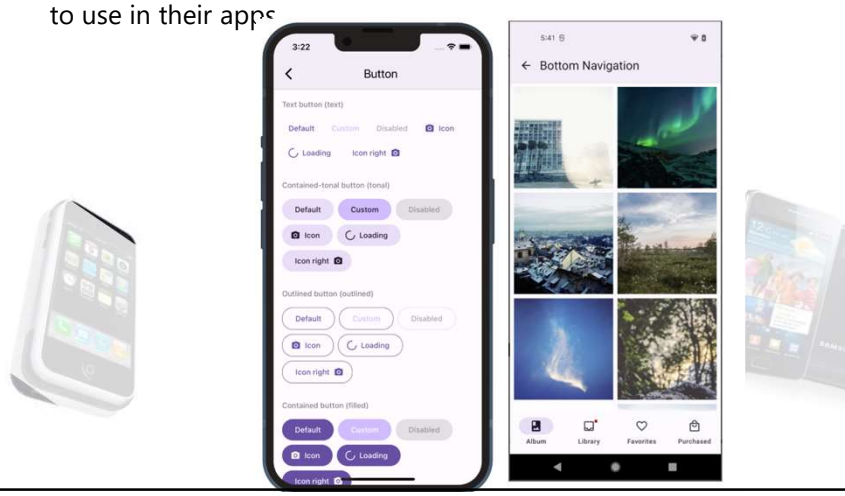
3

3

Top 5 React Native UI Components in 2023

2. React Native Paper

This project has 10.3K stars and 1.9K forks on Github, and is another popular UI component library for React Native app dets for developers to use in their apps



4

4

Top 5 React Native UI Components in 2023

3. Native Base

This project has 19k stars and 2.3k forks on Github. It is an accessible, utility-first component library that helps build consistent UI across android, iOS and web.

4. Shoutem UI

With 4.8k stars and 500+ forks on Github, these components are built to be both composable and customizable. Each component has a predefined style compatible with the rest of the Shoutem UI, making it possible to build complex components.

5. React Native Material UI

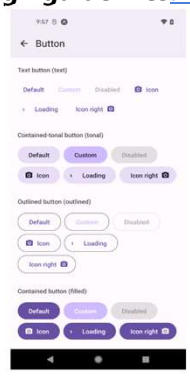
Is another set of modular and customizable Material Design UI components for React Native with 150+ stars on Github

5

5

React Native Paper

- **Cross-platform Material Design for React Native**
  - Paper is a collection of customizable and production-ready components for React Native, **following Google's Material Design guidelines**. Link



https://snack.expo.dev/@react-native-paper/react-native-paper-example_v5

6

6

Installation

- Open a Terminal in your project's folder and run:

npm Yarn

```
npm install react-native-paper
```

- For React Native v5

```
npm install react-native-safe-area-context
```

- For iOS platform

```
npx pod-install
```

- For React Native project

```
npm install react-native-vector-icons
```

7

7

Components of React Native Paper

- Theming
- Icons
- ActivityIndicator
- Appbar
- Avatar
- Banner
- BottomNavigation
- Button
- Card
- Checkbox
- Chip

8

8

Components of React Native Paper

- DataTable
- Dialog
- Divider
- Drawer
- HelperText
- IconButton
- List
- Menu
- Modal
- ProgressBar
- RadioButton
- Searchbar
- Switch

9

9

Components of React Native Paper

- Text
- TextInput
- ToggleButton
- Tooltip
- TouchableRipple

10

10

Theming

- **Applying a theme to the whole app use <PaperProvider>**
  - Use the built-in **useTheme()** hook to get access to the theme's variables.

AwesomeProject > src > JS DemoTheme.js > default

```
import React from "react";
import { View } from "react-native";
import { useTheme } from "react-native-paper";
export default DemoTheme=()=>{
    const theme = useTheme();
    return(
        <View style={{ flex:1, backgroundColor: theme.colors.primary }} />
    )
}
```

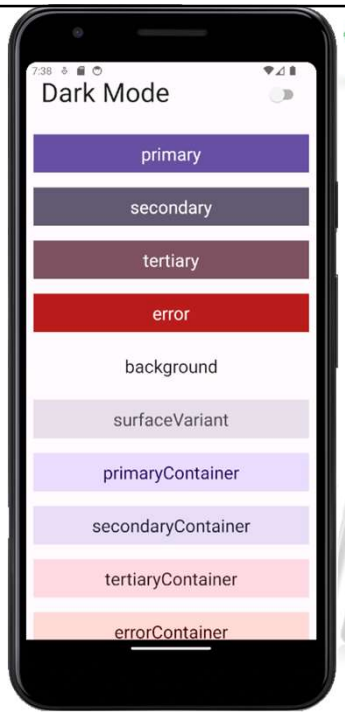
```
import DemoTheme from "./src/DemoTheme";
import { PaperProvider } from "react-native-paper";
export default App = ()=>{
  return (
    <PaperProvider>
      <DemoTheme/>
    </PaperProvider>
  )
}
```

Theming

```
import React from "react";
import {StyleSheet, View} from "react-native";
import { MD3DarkTheme, MD3LightTheme, PaperProvider, Switch, Text } from "react-native-paper";
import { useMaterial3Theme } from "@pchmn/expo-material3-theme";
export default App = ()=>{
  const [isDarkMode, setIsDarkMode] = React.useState(false);
  const onToggleSwitch = () => setIsDarkMode(!isDarkMode);
  const { theme } = useMaterial3Theme();
  const paperTheme =
    isDarkMode
      ? { ...MD3DarkTheme, colors: theme.dark }
      : { ...MD3LightTheme, colors: theme.light };
  return (
    <PaperProvider>
      <View  style={{...styles.container, backgroundColor: paperTheme.colors.background}}>
        <View style={{...styles.box, flexDirection:"row" , justifyContent:"space-between"}}>
          <Text variant="displaySmall" style={{color:paperTheme.colors.onBackground}}>
            Dark Mode
          </Text>
          <Switch value={isDarkMode} onValueChange={onToggleSwitch}/>
        </View>
        <View style={{...styles.box, backgroundColor: paperTheme.colors.primary}}>
          <Text
          variant="headlineSmall"
          style={{...styles.text, color:paperTheme.colors.onPrimary}}>primary</Text>
        </View>
      </View>
    </PaperProvider>
  )
}
```

Theming

```
const styles = StyleSheet.create({
  container:{
    flex:1,
  },
  box:{
    margin:10,
    padding:10,
  },
  text:{
    alignSelf:"center",
  }
});
```



13

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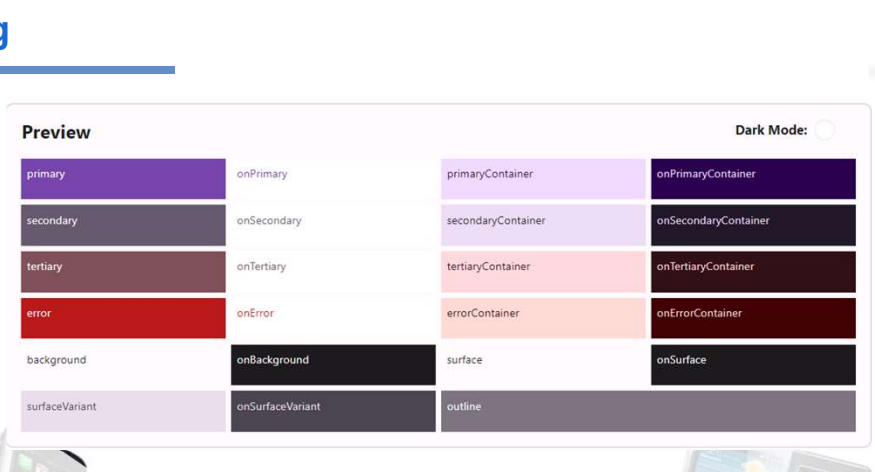
Theming



https://callstack.github.io/react-native-paper/docs/guides/theming

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Icons

- Using the **icon** prop
- **An icon name**
  - You can pass the name of an icon from MaterialCommunityIcons. This will use the react-native-vector-icons library to display the icon

```
<Button icon="camera">
  Press me
</Button>
```

Press me

- **Remote image**

```
<Button icon={{ uri: 'https://avatars0.githubusercontent.com/u/17571969?v=3&s=400' }}>
  Press me
</Button>
```

- **Local image:**

```
<Button icon={require('../assets/chameleon.jpg')}>
  Press me
</Button>
```

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Icons

- **A render function: customize icon with image**

```
<Button
icon={({color}) =>
(
  <Image
    source={require('../assets/home.png')}
    style={{ width: 50, height: 50, tintColor: color }}
  />
)}
>
Press me
</Button>
```

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16

ActivityIndicator

- Activity indicator is used to **present progress** of some activity in the app.

```
import { ActivityIndicator } from "react-native-paper";

export default DemoActivityIndicator =()=>{
    return (
        <ActivityIndicator animating={true} color="blue" size={"large"} />
    )
}
```

Props

- animating
- color
- size
- hidesWhenStopped
- style
- theme

17

17

Appbar

- A component to **display action items in a bar**. It can be placed at the **top** or **bottom**.

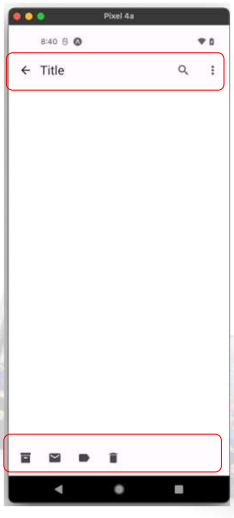
```
import * as React from 'react';
import { Appbar } from 'react-native-paper';

const DemoAppar = () => {
  const _goBack = () => alert('Went back');

  const _handleSearch = () => alert('Searching');

  const _handleMore = () => alert('Shown more');

  return (
    <Appbar.Header>
      <Appbar.BackAction onPress={_goBack} />
      <Appbar.Content title="Title" />
      <Appbar.Action icon="magnify" onPress={_handleSearch} />
      <Appbar.Action icon="dots-vertical" onPress={_handleMore} />
    </Appbar.Header>
  );
};
```



18

18

Appbar

- A component to **display action items in a bar**. It can be placed at the **top** or **bottom**.

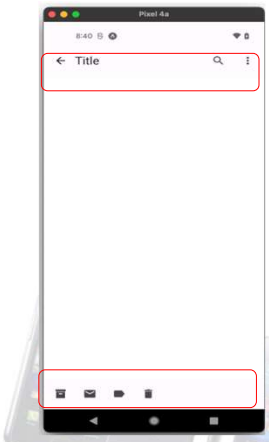
```
import * as React from 'react';
import { Appbar } from 'react-native-paper';

const DemoAppar = () => {
  const _goBack = () => alert('Went back');

  const _handleSearch = () => alert('Searching');

  const _handleMore = () => alert('Shown more');

  return (
    <Appbar.Header>
      <Appbar.BackAction onPress={_goBack} />
      <Appbar.Content title="Title" />
      <Appbar.Action icon="magnify" onPress={_handleSearch} />
      <Appbar.Action icon="dots-vertical" onPress={_handleMore} />
    </Appbar.Header>
  );
};
```




```
const App = ()=>{
  return (
    <SafeAreaProvider style = {styles.container}>
      <DemoAppar/>
    </SafeAreaProvider>
  )
}
```

Chú ý: nên đặt trong **SafeAreaProvider** thuộc react-native-safe-area-context

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Avatar

- **Avatar.Icon**

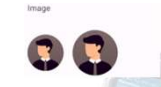
```
import * as React from 'react';
import { Avatar } from 'react-native-paper';

const MyComponent = () => (
  <Avatar.Icon size={24} icon="folder" />
);
```

- **Avatar.Image**

```
import * as React from 'react';
import { Avatar } from 'react-native-paper';

const MyComponent = () => (
  <Avatar.Image size={24} source={require('../assets/avatar.png')} />
);
export default MyComponent
```



- **Avatar.Text**

```
import * as React from 'react';
import { Avatar } from 'react-native-paper';

const MyComponent = () => (
  <Avatar.Text size={24} label="XD" />
);
```

20

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Banner

```jsx
import { Image } from 'react-native';
import { Banner } from 'react-native-paper';

const DemoBanner = () => {
  const [visible, setVisible] = React.useState(true);
  return (
    <Banner
      visible={visible}
      actions={[
        {
          label: 'Fix it',
          onPress: () => setVisible(false),
        },
        {
          label: 'Learn more',
          onPress: () => setVisible(false),
        },
      ]}
      icon={({size}) => (
        <Image
          source={{uri: 'https://avatars3.githubusercontent.com/u/17571969?s=400&v=4'}}
          style={{width: size,height: size,
          }}
        />
      )}>
      There was a problem processing a transaction on your credit card.
    </Banner>
  );
};

export default DemoBanner;
```

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21

BottomNavigation

```jsx
import { StyleSheet, View } from 'react-native';
import { BottomNavigation, Text } from 'react-native-paper';
const MusicRoute = () => <View style={styles.container}><Text style={styles.text}>Music</Text></View>;
const AlbumsRoute = () => <View style={styles.container}><Text style={styles.text}>Albums</Text></View>;
const RecentsRoute = () => <View style={styles.container}><Text style={styles.text}>Recents</Text></View>;
const NotificationsRoute = () => <View style={styles.container}><Text style={styles.text}>Notifications</Text></View>;
const DemoBottomNavigation = () => {
  const [index, setIndex] = React.useState(0);
  const [routes] = React.useState([
    { key: 'music', title: 'Favorites', focusedIcon: 'heart', unfocusedIcon: 'heart-outline' },
    { key: 'albums', title: 'Albums', focusedIcon: 'album' },
    { key: 'recents', title: 'Recents', focusedIcon: 'history' },
    { key: 'notifications', title: 'Notifications', focusedIcon: 'bell', unfocusedIcon: 'bell-outline' },
  ]);
  const renderScene = BottomNavigation.SceneMap({
    music: MusicRoute,
    albums: AlbumsRoute,
    recents: RecentsRoute,
    notifications: NotificationsRoute,
  });
  return (

    <BottomNavigation
      navigationState={{ index, routes }}
      onIndexChange={(i)=>setIndex(i)}
      renderScene={renderScene}
    />
  );
};
export default DemoBottomNavigation;
const styles = StyleSheet.create(
  {
    container:{
      flex:1,
      justifyContent: 'center',
      alignItems: 'center',
    }
    ,
    text :{
      fontSize:50,
      fontWeight: 'bold',
    }
  }
)
```

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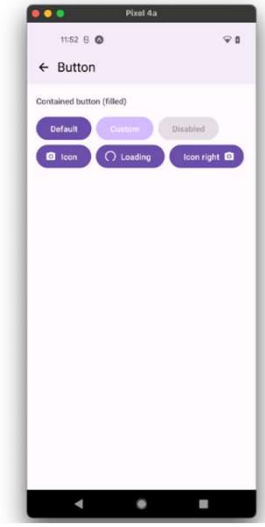
22

Button


```
import * as React from 'react';
import { Button } from 'react-native-paper';

const MyComponent = () => (
  <Button icon="camera" mode="contained" onPress={() => console.log('Pressed')}>
    Press me
  </Button>
);

export default MyComponent;
```



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Button

- **Resize Button**

```
<Button
    style={{padding:10, margin: 5}}
    labelStyle={{fontSize:40}}
    icon="camera"
    mode="contained"
    onPress={() => console.log('Pressed')}
>
    <Text style={{fontSize:20}}>Press me</Text>
</Button>
```

24

Button

- **Resize Button**

```
<Button
    style={{padding:10, margin: 5}}
    labelStyle={{fontSize:40}}
    icon="camera"
    mode="contained"
    onPress={() => console.log('Pressed')}
>
    <Text style={{fontSize:20}}>Press me</Text>
</Button>
```

25

25

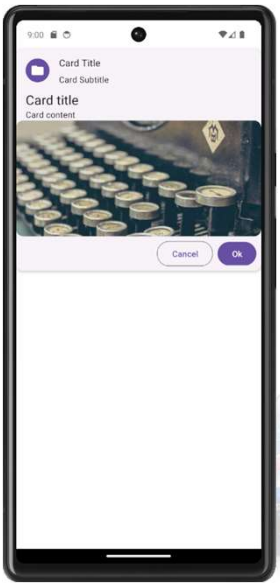
Card

- **Card.Title**
- **Card.Content**
- **Card.Cover**
- **Card.Actions**

```
import * as React from 'react';
import { Avatar, Button, Card, Text } from 'react-native-paper';

const LeftContent = props => <Avatar.Icon {...props} icon="folder" />

const DemoCard = () => (
  <Card>
    <Card.Title title="Card Title" subtitle="Card Subtitle" left={LeftContent} />
    <Card.Content>
      <Text variant="titleLarge">Card title</Text>
      <Text variant="bodyMedium">Card content</Text>
    </Card.Content>
    <Card.Cover source={{ uri: 'https://picsum.photos/700' }} />
    <Card.Actions>
      <Button>Cancel</Button>
      <Button>Ok</Button>
    </Card.Actions>
  </Card>
);
export default DemoCard;
```



26

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DataTable

```
import { DataTable } from 'react-native-paper';

export default DemoDataTable = () => {
  const [page, setPage] = React.useState(0);
  const [numberOfItemsPerPageList] = React.useState([2, 3, 4]);
  const [itemsPerPage, onItemsPerPageChange] = React.useState(
    numberOfItemsPerPageList[0]
  );
  const [items] = React.useState([
    {
      key: 1,
      name: 'Cupcake',
      calories: 356,
      fat: 16,
    },
    {
      key: 2,
      name: 'Eclair',
      calories: 262,
      fat: 16,
    },
    {
      key: 3,
      name: 'Frozen yogurt',
      calories: 159,
      fat: 6,
    },
    {
      key: 4,
      name: 'Gingerbread',
      calories: 305,
      fat: 3.7,
    },
  ]);
  const from = page * itemsPerPage;
  const to = Math.min((page + 1) * itemsPerPage, items.length);
```

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DataTable

```
React.useEffect(() => {
  setPage(0);
}, [itemsPerPage]);

return (
  <DataTable>
    <DataTable.Header>
      <DataTable.Title>Dessert</DataTable.Title>
      <DataTable.Title numeric>Calories</DataTable.Title>
      <DataTable.Title numeric>Fat</DataTable.Title>
    </DataTable.Header>

    {items.slice(from, to).map((item) => (
      <DataTable.Row key={item.key}>
        <DataTable.Cell>{item.name}</DataTable.Cell>
        <DataTable.Cell numeric>{item.calories}</DataTable.Cell>
        <DataTable.Cell numeric>{item.fat}</DataTable.Cell>
      </DataTable.Row>
    ))}

    <DataTable.Pagination
      page={page}
      numberOfPages={Math.ceil(items.length / itemsPerPage)}
      onPageChange={(page) => setPage(page)}
      label={`${from + 1}-${to} of ${items.length}`}
      numberOfItemsPerPageList={numberOfItemsPerPageList}
      numberOfItemsPerPage={itemsPerPage}
      onItemsPerPageChange={onItemsPerPageChange}
      showFastPaginationControls
      selectPageDropdownLabel={'Rows per page'}
    />
  </DataTable>
);
};
```

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28

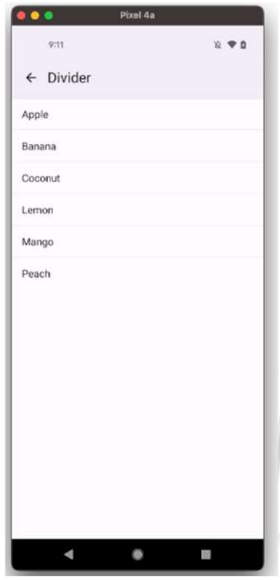
Divider

A divider is a thin, lightweight separator that groups content in lists and page layouts.

```
import * as React from 'react';
import { View } from 'react-native';
import { Divider, Text } from 'react-native-paper';

const MyComponent = () => (
  <View>
    <Text>Lemon</Text>
    <Divider />
    <Text>Mango</Text>
    <Divider />
  </View>
);

export default MyComponent;
```



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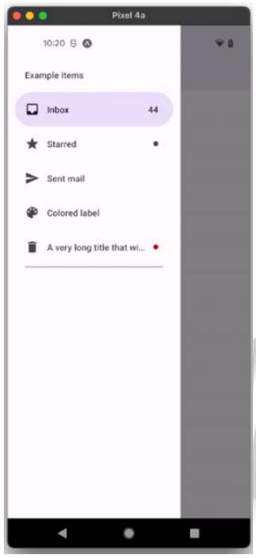
Drawer

A divider is a thin, lightweight separator that groups content in lists and page layouts.

```
import * as React from 'react';
import { Drawer } from 'react-native-paper';

const MyComponent = () => {
  const [active, setActive] = React.useState('');

  return (
    <Drawer.Section title="Some title">
      <Drawer.Item
        label="First Item"
        active={active === 'first'}
        onPress={() => setActive('first')}
      />
      <Drawer.Item
        label="Second Item"
        active={active === 'second'}
        onPress={() => setActive('second')}
      />
    </Drawer.Section>
  );
};

export default MyComponent;
```



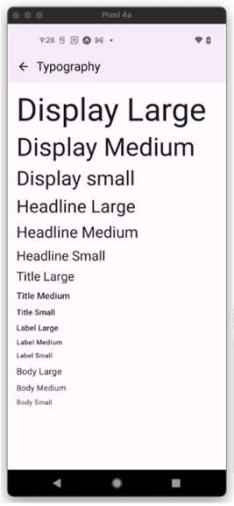
30

30

Text

Typography component showing styles complied with passed **variant** prop and supported by the type system.

```
import * as React from 'react';
import { Text } from 'react-native-paper';

const MyComponent = () => (
  <>
    <Text variant="displayLarge">Display Large</Text>
    <Text variant="displayMedium">Display Medium</Text>
    <Text variant="displaySmall">Display small</Text>

    <Text variant="headlineLarge">Headline Large</Text>
    <Text variant="headlineMedium">Headline Medium</Text>
    <Text variant="headlineSmall">Headline Small</Text>

    <Text variant="titleLarge">Title Large</Text>
    <Text variant="titleMedium">Title Medium</Text>
    <Text variant="titleSmall">Title Small</Text>

    <Text variant="bodyLarge">Body Large</Text>
    <Text variant="bodyMedium">Body Medium</Text>
    <Text variant="bodySmall">Body Small</Text>

    <Text variant="labelLarge">Label Large</Text>
    <Text variant="labelMedium">Label Medium</Text>
    <Text variant="labelSmall">Label Small</Text>
  </>
);

export default MyComponent;
```



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