

DANIEL GRAHAM PHD

REACT NATIVE DEVELOPMENT

LET'S SWITCH OVER TO OUR NEW ENVIRONMENT

[HTTPS://SNACK.EXPO.IO/](https://snack.expo.io/)

I will post snacks on course website

<https://expo.io/learn>

Setting up local dev Environment

Navigate to a new directory

```
npm install expo-cli --global
```

```
expo init my-new-project  
cd my-new-project  
expo start
```

CHOOSE BLANK AND MANAGED

CodeFileEditSelectionViewGoDebugTerminalWindowHelp

App.js — InClassCode

EXPLORER

1 UNSAVED

JS App.js inc... 6, M

• Untitled-1

JS index.js incl... M

✕ JS App.js ~/Doc... U

INCL... + - ↺

inclass-app

node_modules

public

★ favicon.ico

<> index.html

{ } manifest.json

src

App.css

JS App.js 6, M

App.js.zip U

JS App.test.js

index.css

JS index.js M

logo.svg

OUTLINE

flex.js

JS App.js ~/.../ackeePod ✕

1 import React from 'react';

2 import { StyleSheet, Text, View }

3

4 export default class App extends F

5 render() {

6 return (

7 <View style={styles.containe

8 <Text>Open up App.js to st

9 </View>

10);

11 }

12 }

13

14 const styles = StyleSheet.create(+

15 container: {

16 flex: 1,

17 backgroundColor: '#fff',

18 alignItems: 'center',

19 justifyContent: 'center',

20 },

21 });

22

localhost

Metro Bundler

PROCESS (3) - 3:35:34 PM

iPhone

DEVICE (1) - 3:35:35 PM

LOGGED IN AS

METRO BUNDLER

INFO 15:22 Starting Metro Bundler on port 19001.

INFO 15:22 Tunnel ready.

INFO 15:35 Building JavaScript bundle: finished in 28864ms.

Run on Android device/emulator

Run on iOS simulator

Send link with email/SMS...

Publish or republish project... ↗

PRODUCTION MODE ☐

CONNECTION Tunnel LAN Local

exp://172.25.143.77:19000

aster*

Ln 4, Col 1 (207 selected)

Spaces: 2 UTF-8 LF JavaScript

d-172-25-98-158:F

OPEN SNACK FROM COURSE SITE

<https://snack.expo.io/@professorxii/dm1ld3>

<https://snack.expo.io/@professorxii/viewsdemo>

```
export default class App extends React.Component {  
  render() {  
    return (  
      <View style={styles.container}>  
        <Text>Open up App.js to start working on your app!</Text>  
      </View>  
    );  
  }  
}
```

View, Text Image

NOTICE SOME NEW JSX

Complete list of Components can be found here

VIEWS ARE GOOD FOR TWO THINGS

Layout and Drawing shapes

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

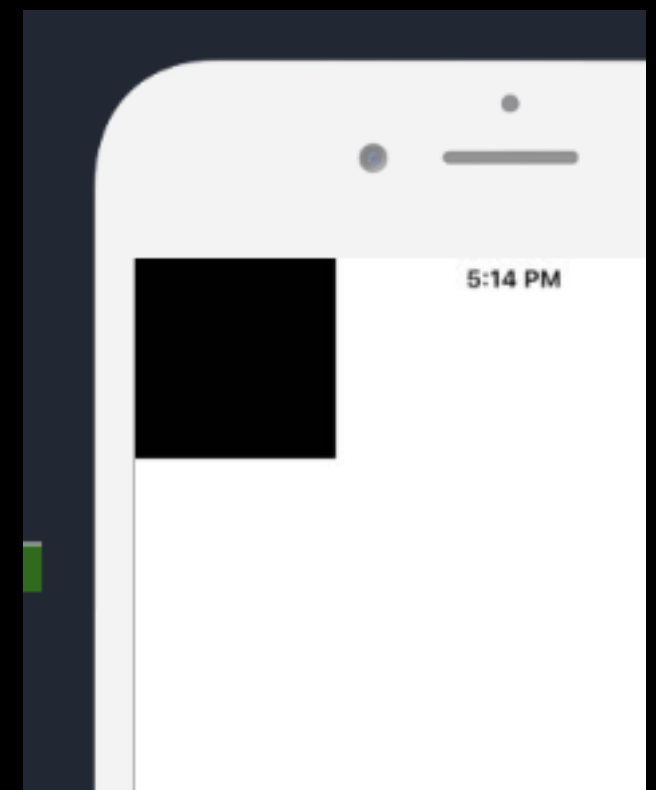
```
export default class App extends React.Component {  
  render() {  
    return (  
      <View>  
      </View>  
    );  
  }  
}
```

WILL NOT SHOW ANYTHING
BECAUSE THEY START OF DEMENSIONLESS

```
export default class App extends React.Component {  
  render() {  
    return (  
      <View style={{width: 100, height: 100, backgroundColor:"black"}} >  
        </View>  
      );  
    }  
  }  
}
```

View start of in the top left corner

BUT PHONES HAVE DIFFERENT SCREEN
SIZES WE MIGHT WANT HARD
CODE DETENTION



```
export default class App extends React.Component {  
  render() {  
    return (  
      <View style={{width:100, height:100, backgroundColor:"green"}} />  
      <View style={{width:100, height:100, backgroundColor:"black"}} />  
    );  
  }  
}
```

This will result in an error

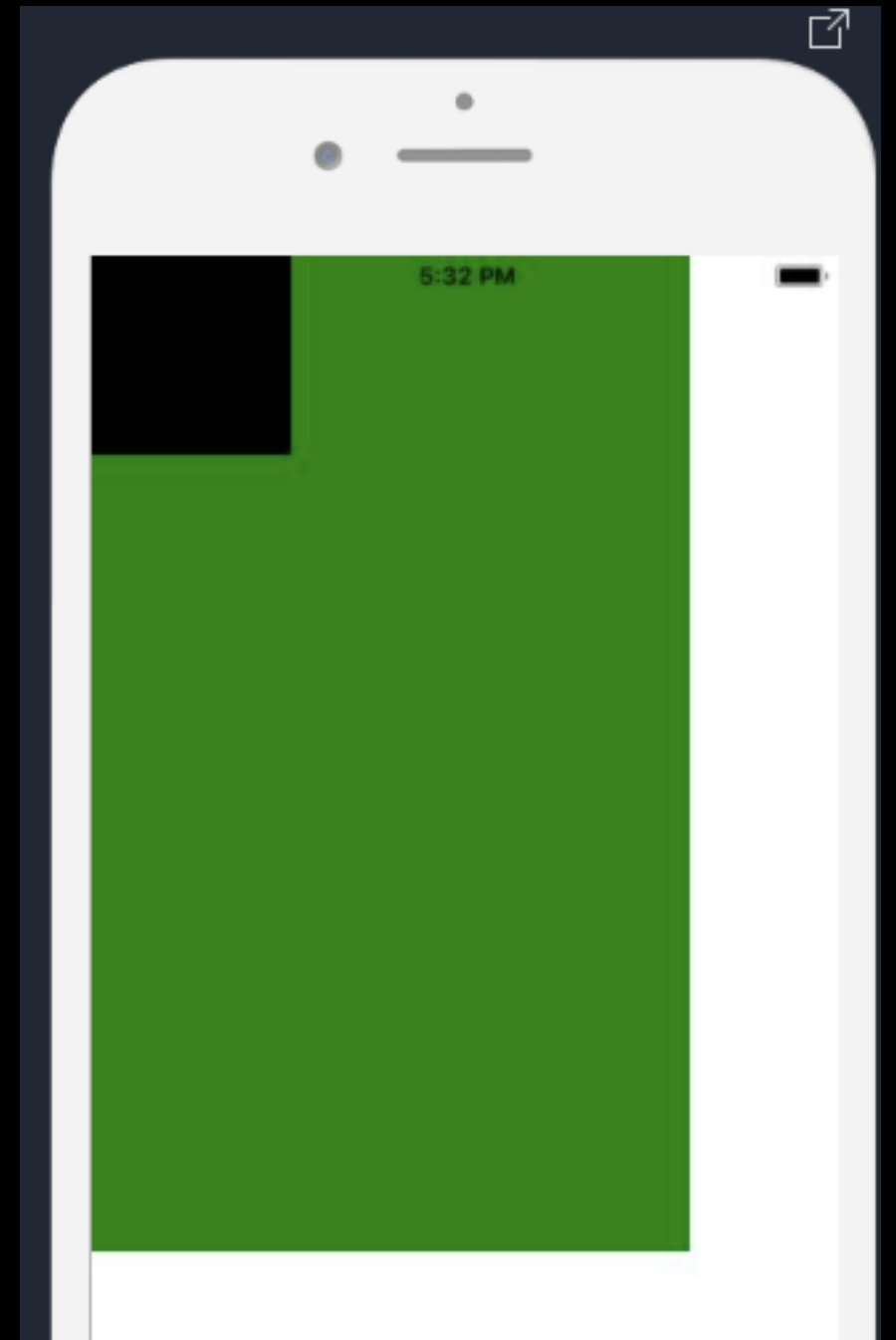


Render takes a single JSX element
We are returning two

THE VIEW STARTS IN THE TOP LEFT

```
export default class App extends React.Component {  
  render() {  
    return (  
      <View style={{width:300, height:500, backgroundColor:"green"}} >  
        <View style={{width:100, height:100, backgroundColor:"black"}} />  
      </View>  
    );  
  }  
}
```

WE CAN USE MULTIPLE VIEW IF WE NEST
BECAUSE WE WOULD BE RETURNING A
SINGLE JSX ELEMENT



```
import * as React from 'react';  
import { View, StyleSheet } from 'react-native';
```

IMPORT STYLE SHEET

```
export default class App extends React.Component {  
  render() {  
    return (  
      <View style={styles.bigBox} >  
        <View style={styles.littleBox} />  
      </View>  
    );  
  }  
}
```

RETURNS AN OPTIMIZED SET OF STYLES

```
const styles = StyleSheet.create({  
  bigBox: {width:300, height:500, backgroundColor:"green"},  
  littleBox: {width:100, height:100, backgroundColor:"black"}  
});
```

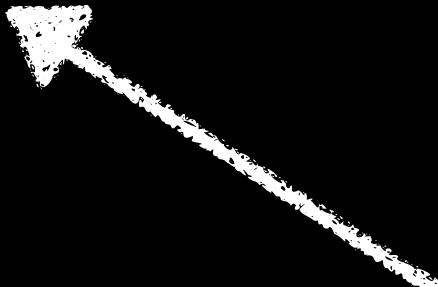
PASS NEW STYLES METHOD TO STYLE SHEET

INFORMATION ON STYLES

LAYOUT FOLLOW CSS
STANDARDS

```
const styles = StyleSheet.create({  
  container: {  
    flex: 1,  
    backgroundColor: '#fff',  
    alignItems: 'center',  
    justifyContent: 'center',  
  },  
});
```

background-color => backgroundColor



Properties are similar to css properties except
with camel case naming

COMBINING STYLES

It will go through and assign
all the properties the last one takes precedence

```
export default class App extends React.Component {  
  render() {  
    let color = "blue"  
    return (  
      <View style={[styles.bigBox, {backgroundColor:color}]} >  
        <View style={styles.littleBox} />  
      </View>  
    );  
  }  
}
```

DYNAMICAL ADD STYLES

```
const styles = StyleSheet.create({  
  bigBox: {width:300, height:500, backgroundColor:"green"},  
  littleBox: {width:100, height:100, backgroundColor:"black"}  
})
```

FLEX LAYOUT

THREE DECISION TO MAKE WITH YOUR FLEX LAYOUT

`flexDirection`

`alignItems`

`justifyContent`

<https://snack.expo.io/@professorxii/flexboxdemo>

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

export default class App extends React.Component {
  render() {
    // Primary Axis Options: column, row
    let flexDir = "row"

    //Distribution Primary Axis Options: flex-start, center, flex-end, space-around, space-between and space-evenly
    let justCont = "flex-end"

    //Vertical Distribution secondary Axis: flex-start, center, flex-end, and stretch.
    let alignIt= "stretch"

    return (
      <View style={{
        flex: 1,
        flexDirection: flexDir,
        justifyContent: justCont,
        alignItems: alignIt,
      }}>
        <View style={{width: 100, height: 100, backgroundColor: 'red'}} />
        <View style={{width: 100, height: 100, backgroundColor: 'green'}} />
        <View style={{width: 100, height: 100, backgroundColor: 'blue'}} />
      </View>
    );
  }
}
```

Flex is short hand for

```
<View style={{  
  flex: 1,  
  flexDirection: flexDir,  
  justifyContent: justCont,  
  alignItems: alignIt,  
}}>
```

```
<View style={{  
  flexGrow: 1,  
  flexShrink: 1,  
  flexBasis: 'auto',  
  flexDirection: flexDir,  
  justifyContent: justCont,  
  alignItems: alignIt,  
}}>
```

The component can grow

The component can shrink

Component is automatically size

LET'S WORK ON SPLASH
SCREEN

Let make this splash screen

Selected Podcast

AckeePod

Home

Featured



My Podcasts



Comedy Bang-Bang



How Did This Get Ma...



With Special Guest...



The Flop House

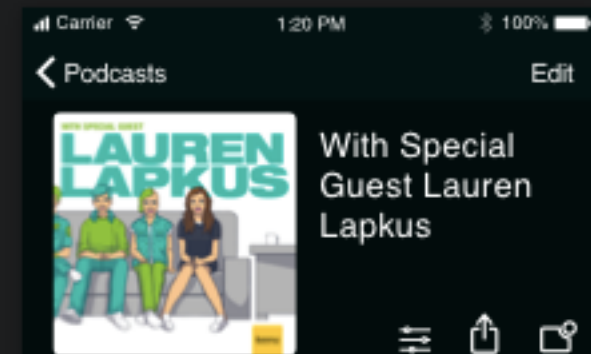


U Talkin' U2 2 Me?



Welcome to Night...

Active Episode

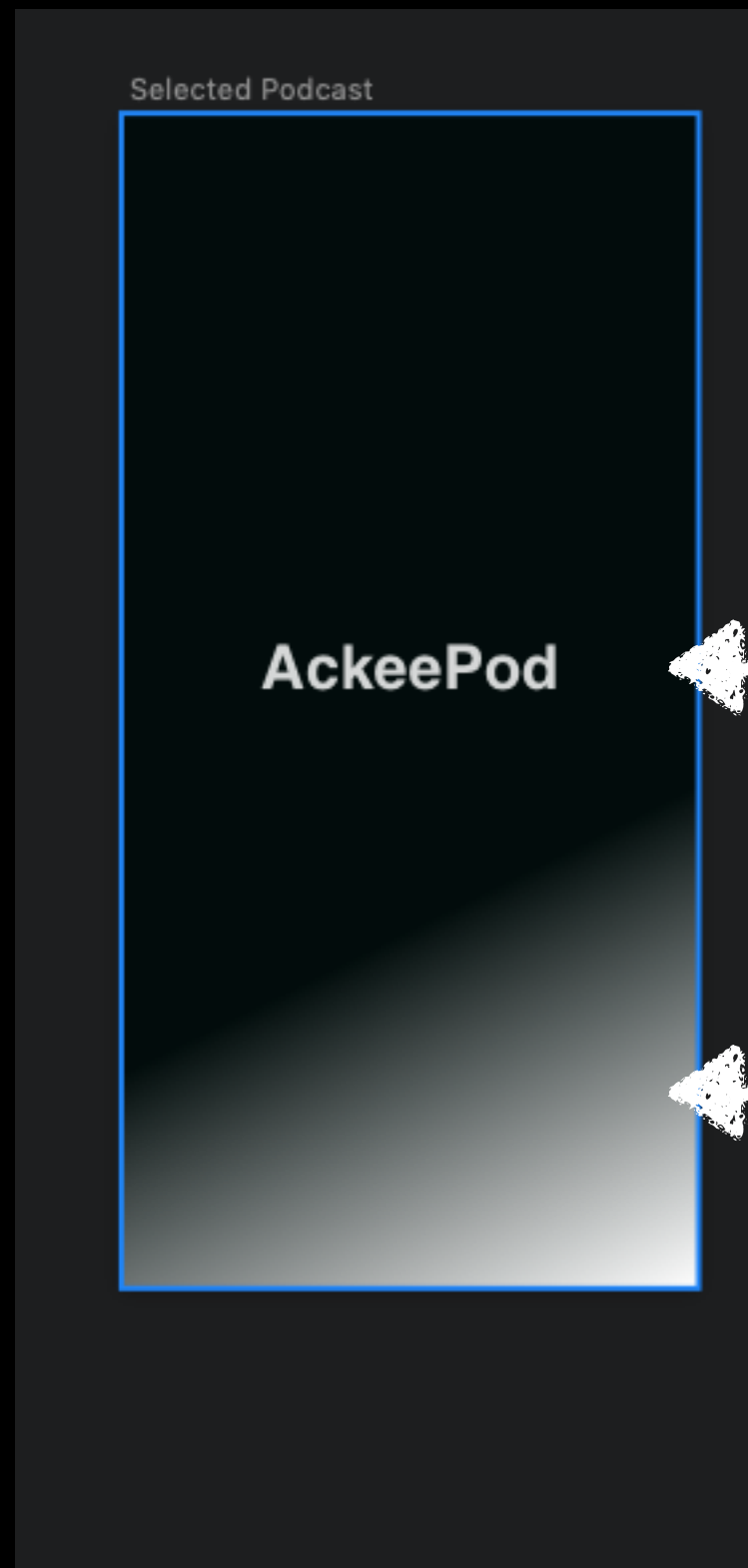


Drew Droege: Five, Six, Seven, Great!
June 2, 2017 • 54:39
Welcome back to Five, Six, Seven, Great! with Joyce Ninton Calcutta
more...

Joey Greer: Science and Us
May 26, 2017 • 49:47
Welcome back to Science And Us, the podcast all about how science fits in the world.
more...

Mary Holland: The Lunch Hour
May 19, 2017 • 50:21
Grab a seat in the Chevy once again for another



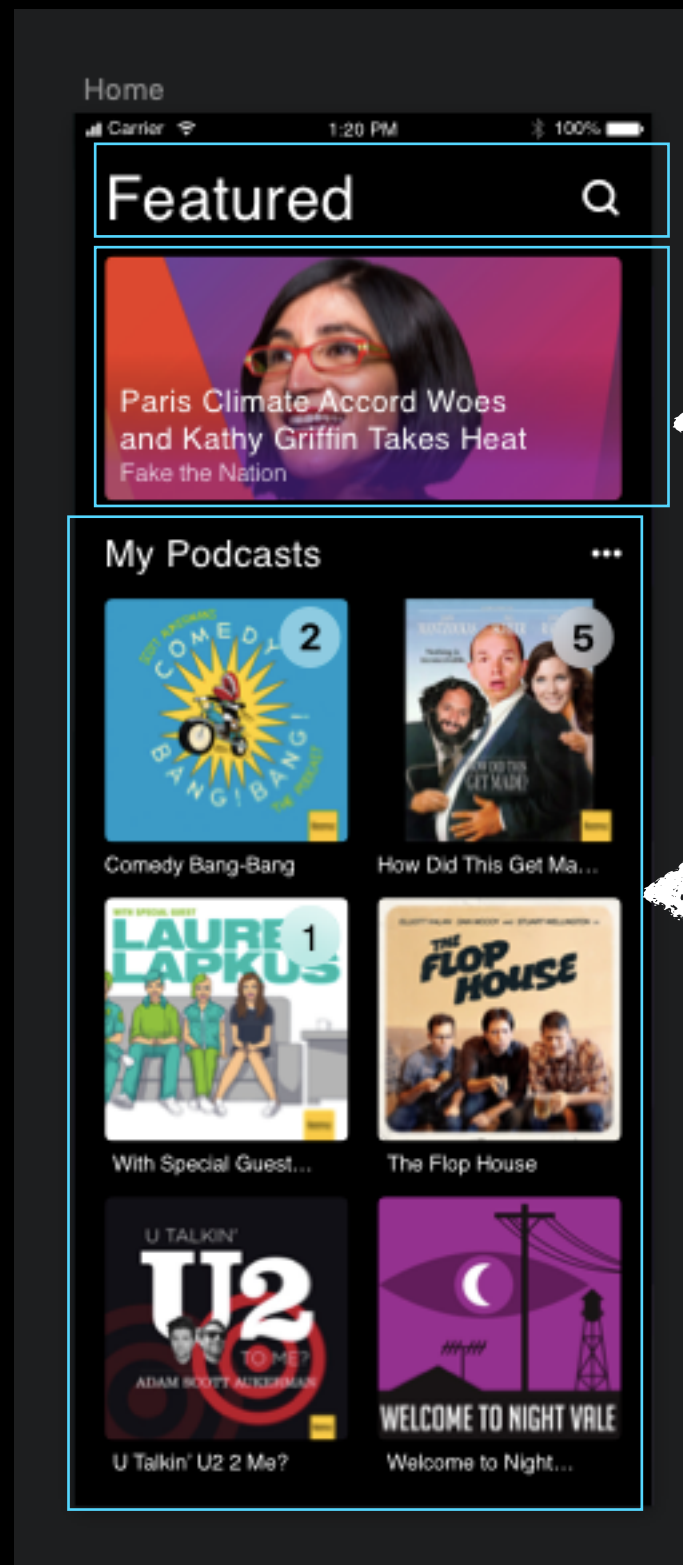


Column Layout
Center Justify and
Align

Linear Gradient

LET'S WORK ON HOME
SCREEN

Break Design in to components



Search Section

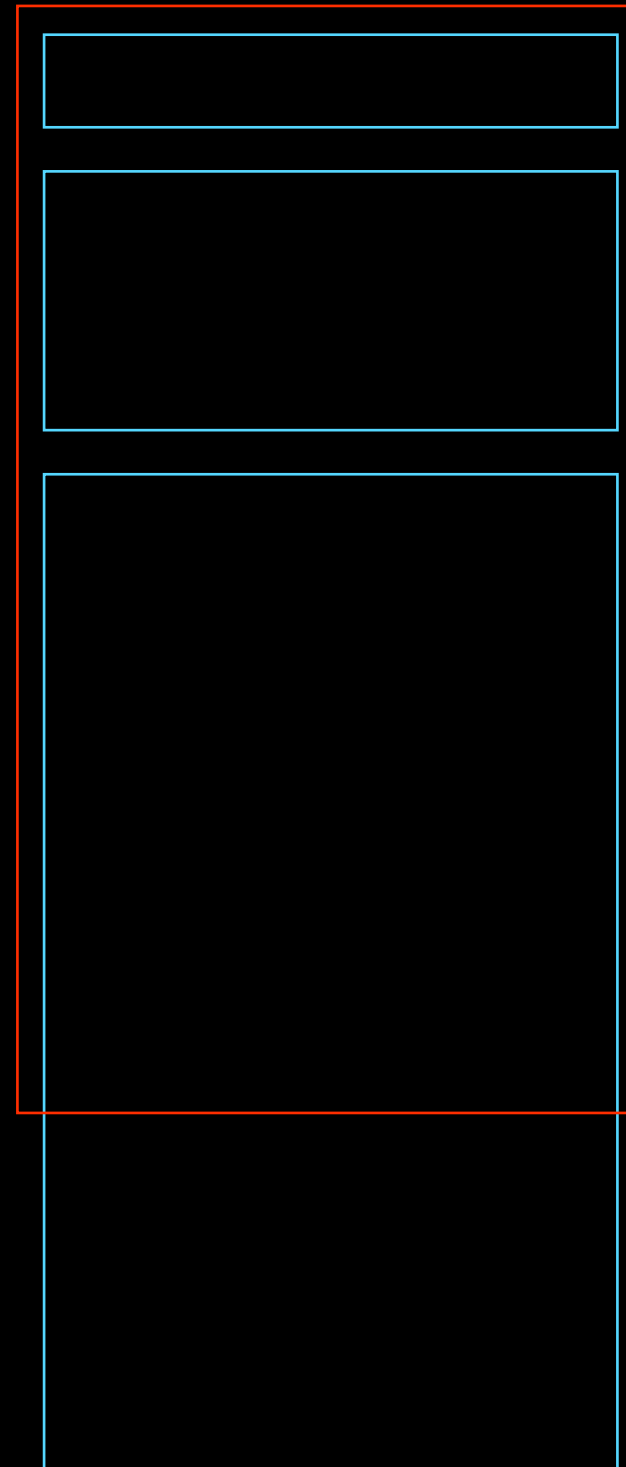
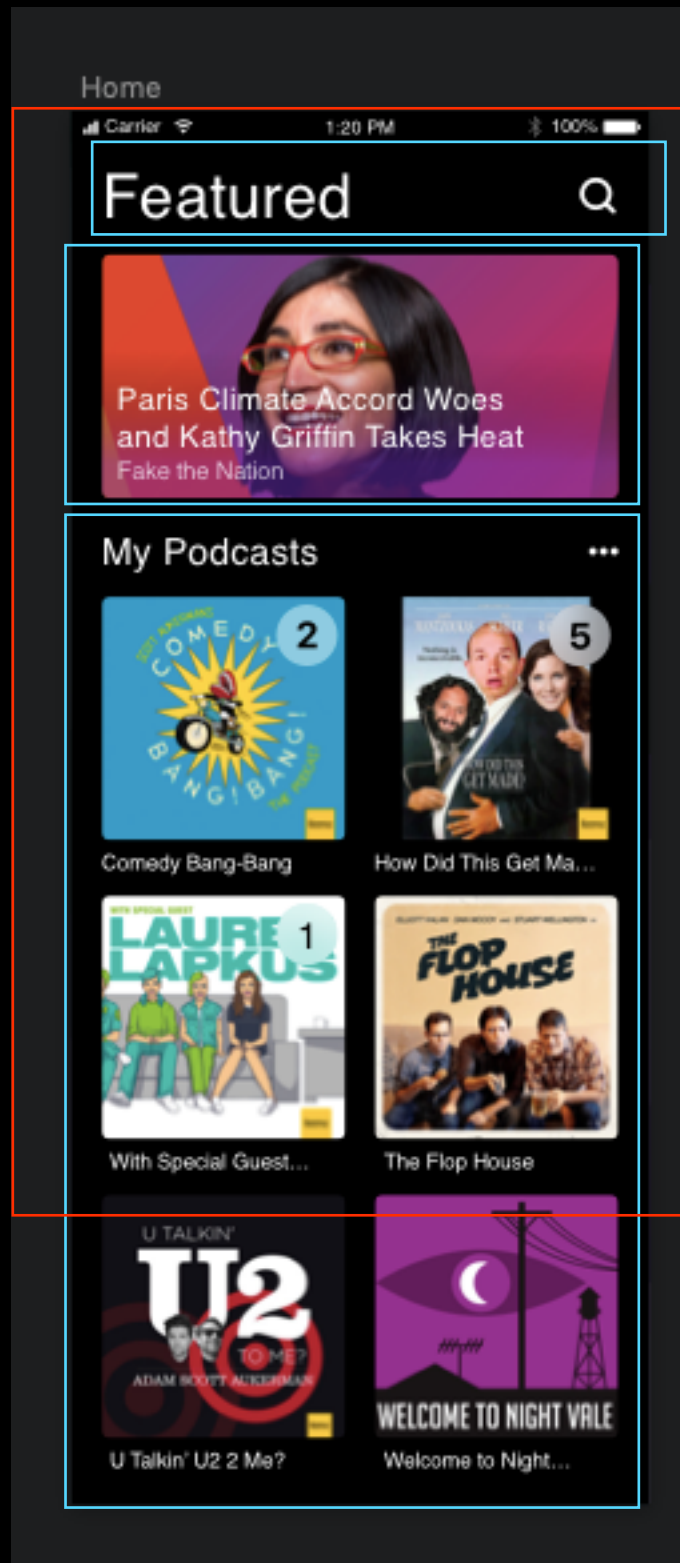


Feature Section



Scroll View with
Pod Casts

View 1: Container
#000D0C



Will hold all of the subviews

```
import * as React from 'react'
import {View, StyleSheet} from 'react-native'
```

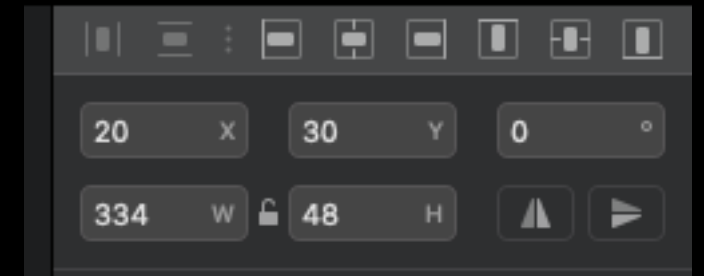
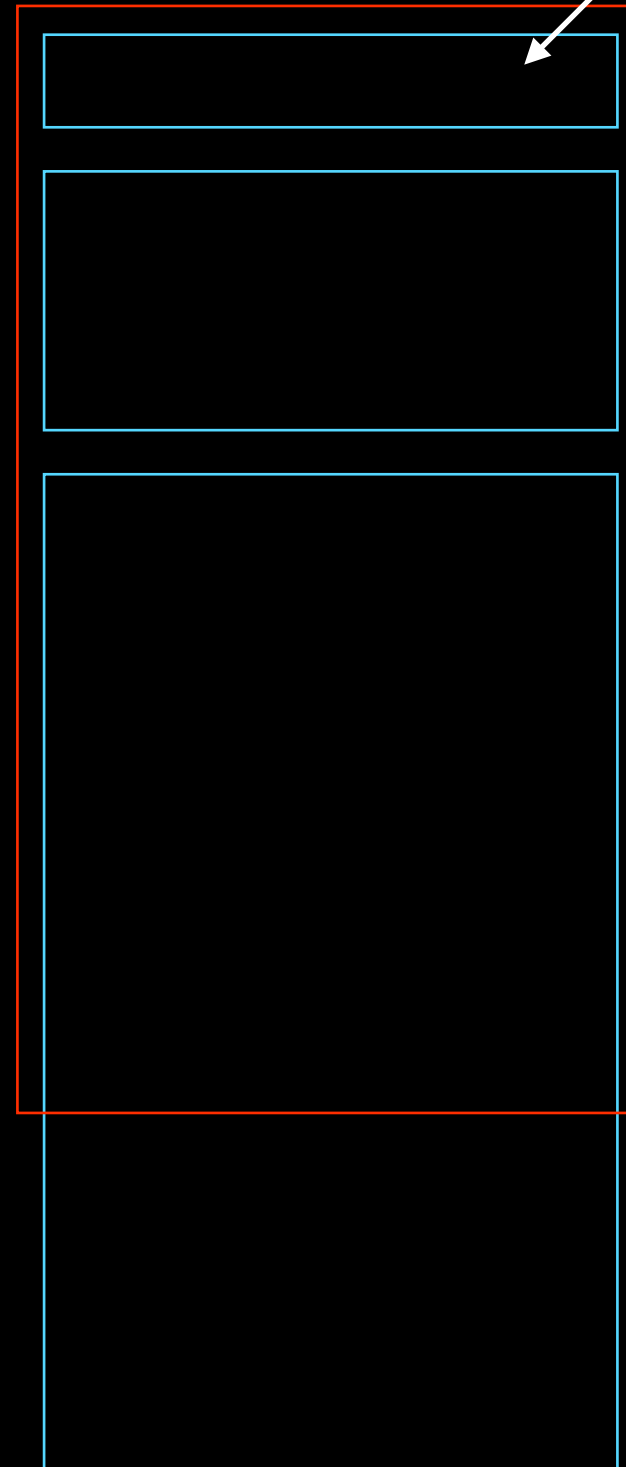
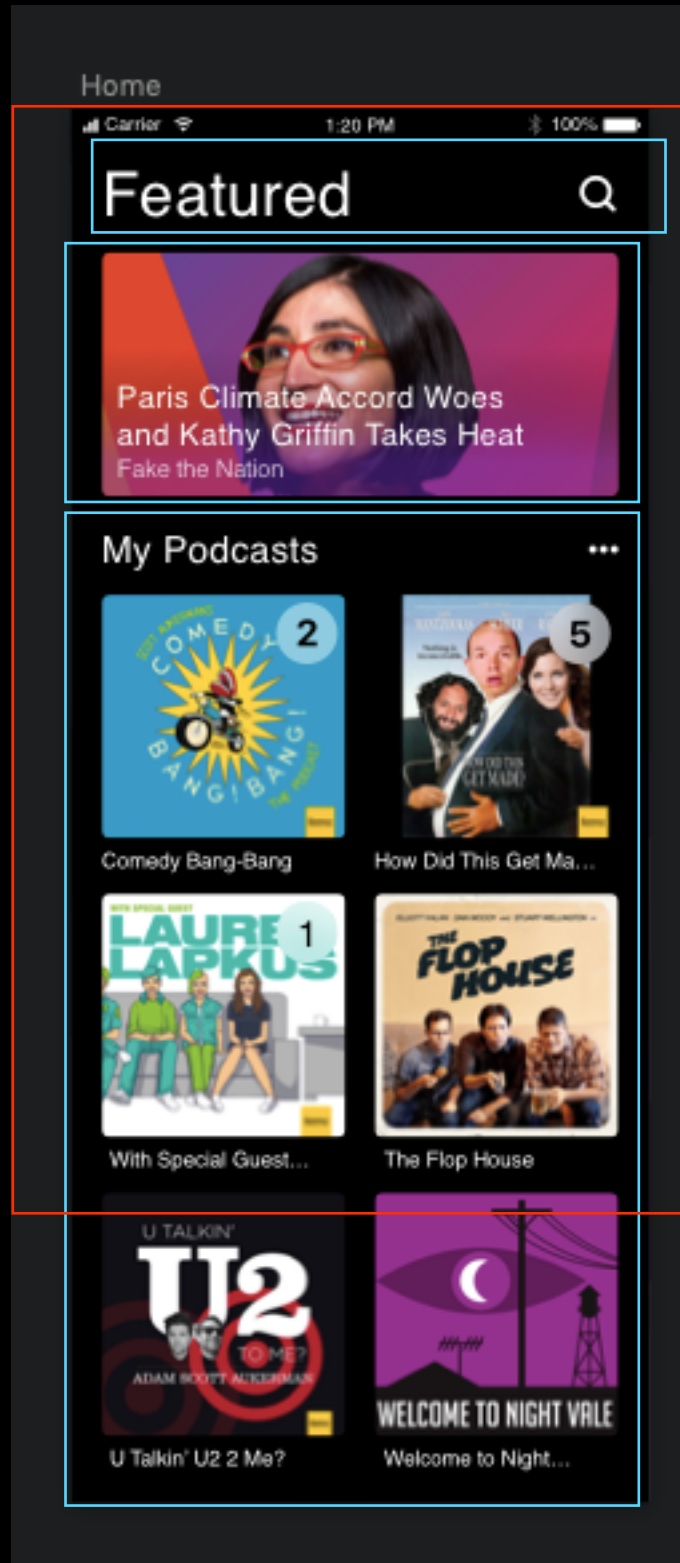
```
export default class Header extends React.Component{
  render(){
    return(
      <View style={styles.container}>
      </View>
    )
  }
}
```

```
}
```

```
const styles = StyleSheet.create(
  {
    container:{
      height: 48,
      backgroundColor: "blue"
    }
  }
)
```

Header

Flex view



CREATE NEW
COMPONENT

YOU CAN COPY
CSS FROM THE
DESIGNS

COPY SVG CODE
FOR ICONS

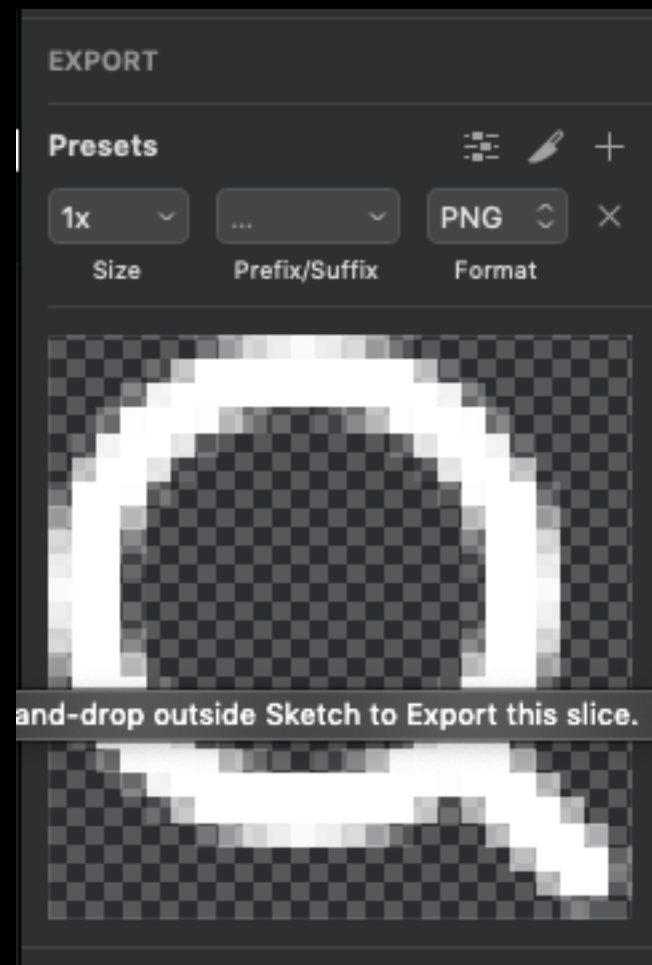
```
import React from 'react';
import {View, StyleSheet} from 'react-native'
import { Constants } from 'expo';

export default class HomeScreen extends React.Component {
  render() {
    return (
      <View style={styles.container}>
      </View>
    )
  }
}
```

```
const styles = StyleSheet.create(
  {
    container: {
      flex: 1,
      flexDirection: 'column',
      backgroundColor: "#000D0C",
      paddingTop: Constants.statusBarHeight,
    }
  }
)
```

DEVICE SPECIFIC CONSTANTS LIKE TOP PADDING

EXPORTING ASSETS



MOST OF THE ASSETS IN
SKETCH FILE CAN BE EXPORTED

```

import * as React from 'react'
import {View, Text, StyleSheet, Image} from 'react-native'

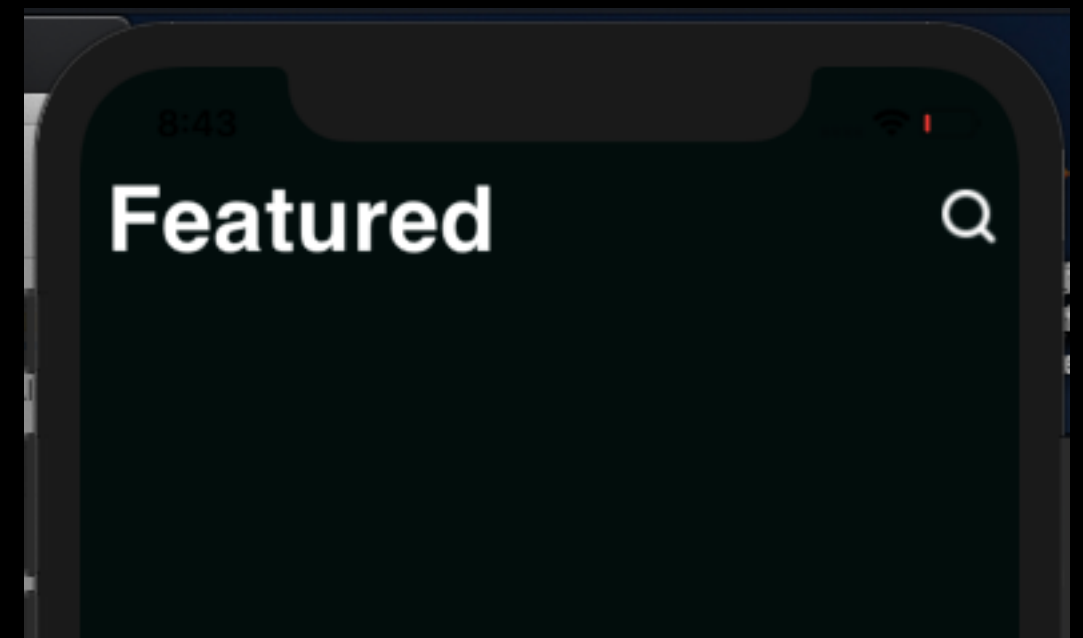
export default class Header extends React.Component{
  render(){
    return(
      <View style={styles.container}>
        <Text style={styles.title}> Featured</Text>
        <Image style={styles.searchIcon} source={require('../assets/searchIcon.png')} />
      </View>
    )
  }
}

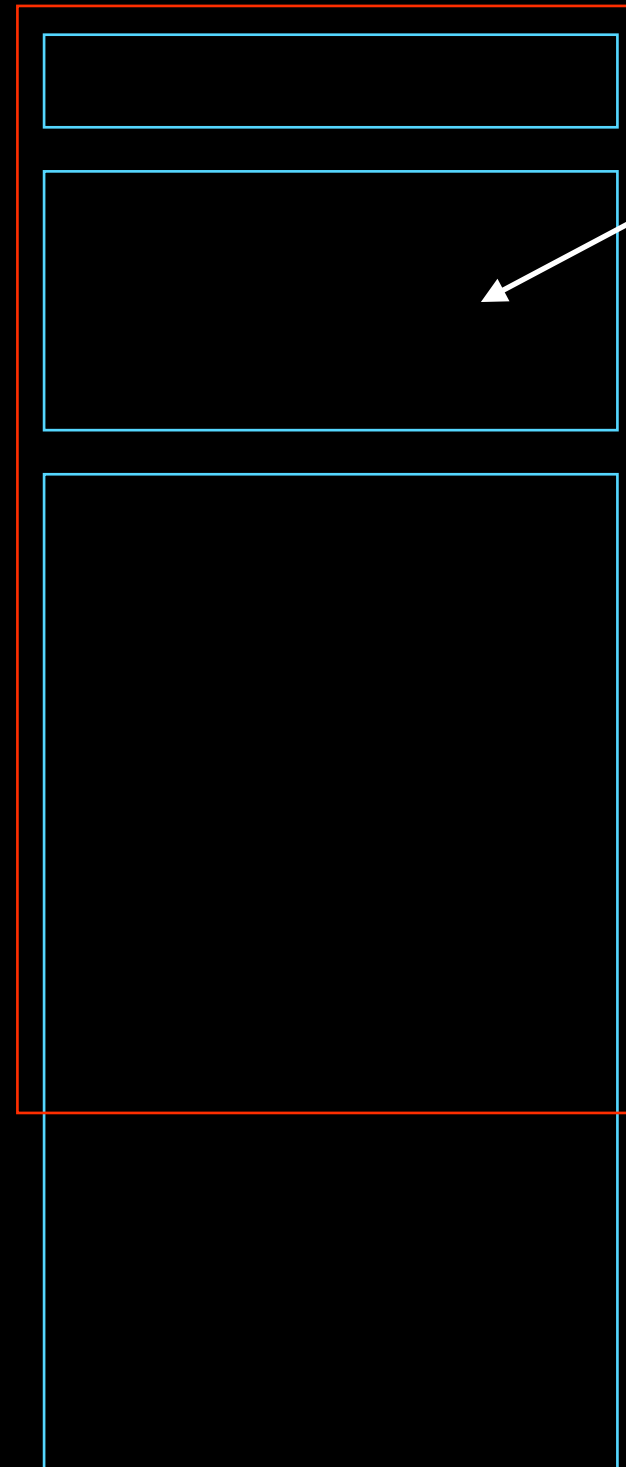
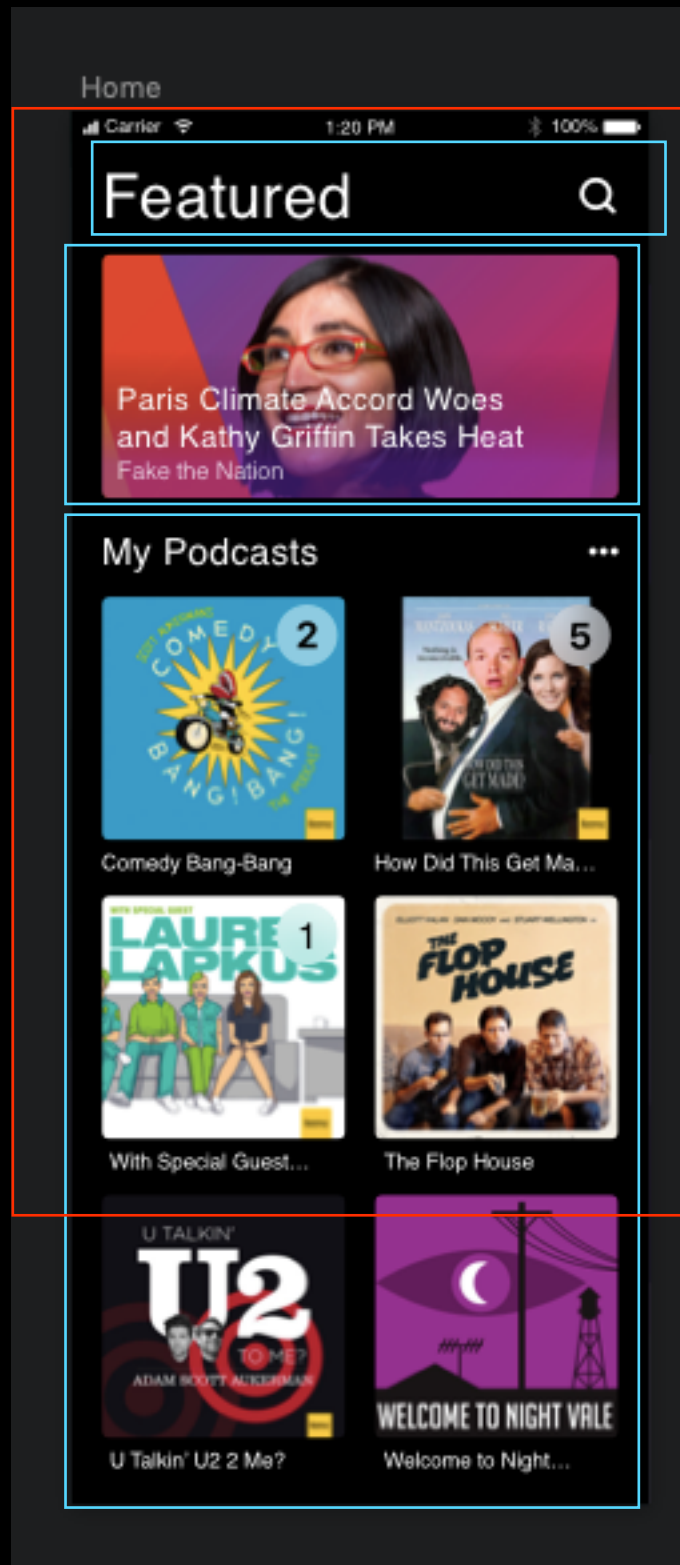
const styles = StyleSheet.create(
  {
    container:{
      height: 48,
      flexDirection: 'row',
      justifyContent: 'space-between',

    },

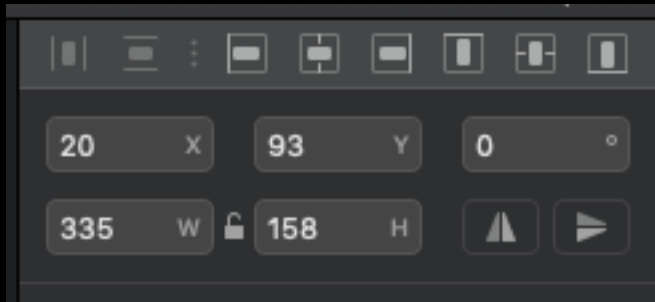
    title:{
      letterSpacing: 0.4,
      textAlign: 'left',
      fontSize: 40,
      color: "#ffffff",
      fontFamily: 'Helvetica-Bold'
    },
    searchIcon:{
      margin:10
    }
  }
)

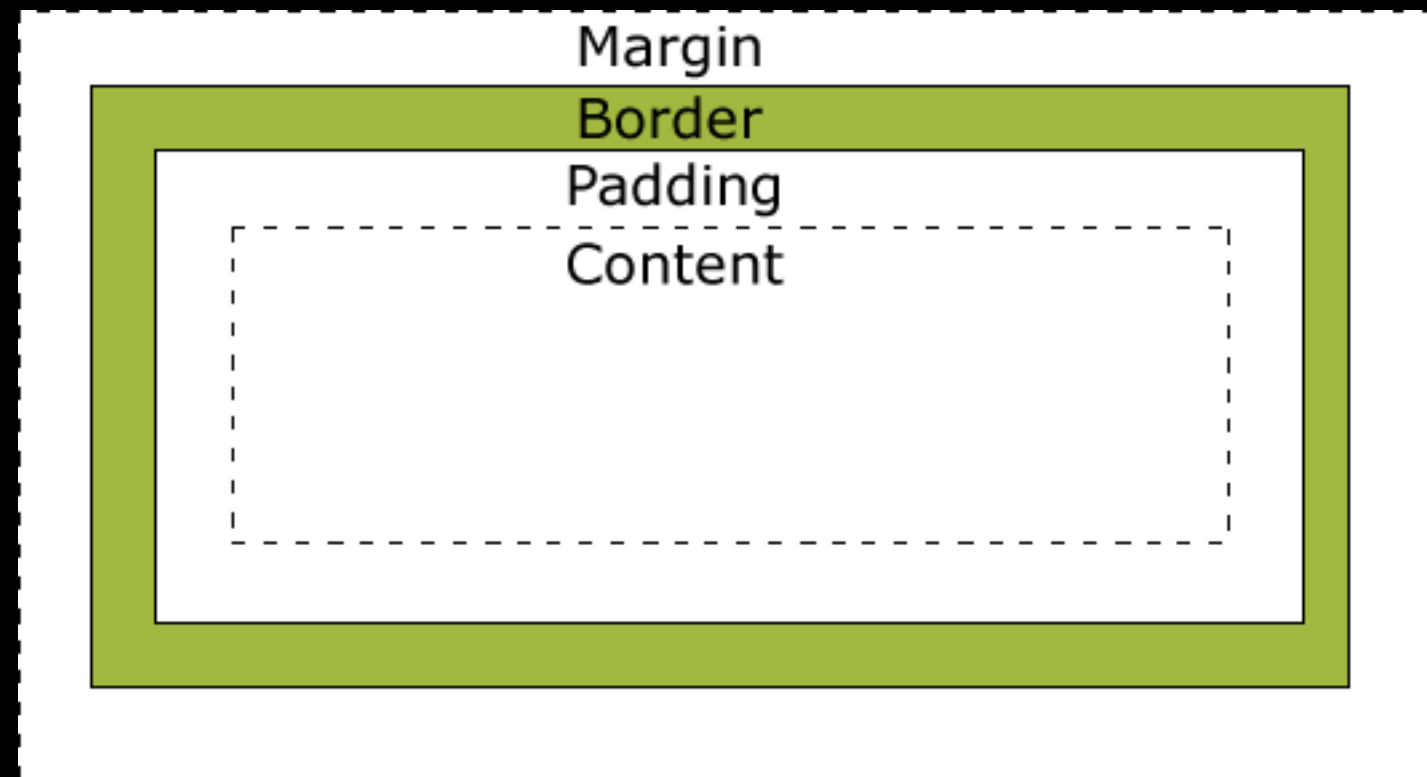
```





FEATURED
POD CAST





```

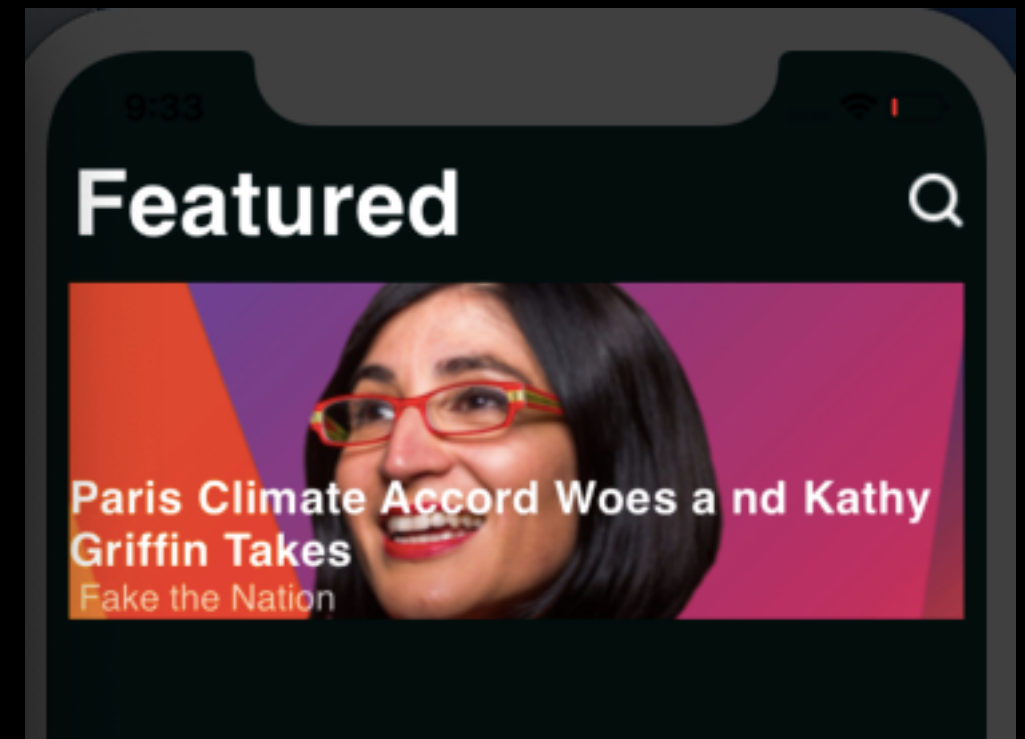
import * as React from 'react'
import {View, Text, StyleSheet, ImageBackground} from 'react-native'

export default class Featured extends React.Component{

  render(){
    return(
      <View style={styles.container}>
        <ImageBackground style={styles.featuredImage}
          source={require("../assets/featured.png")}>
          <Text style={styles.title}>Paris Climate Accord Woes a
            nd Kathy Griffin Takes </Text>
          <Text style={styles.author}> Fake the Nation </Text>
        </ImageBackground>
      </View>
    )
  }
}

const styles = StyleSheet.create(
  {
    container:{
      height:158,
    },
    featuredImage:{
      height: 148,
      margin:10,
      flexDirection: 'column',
      justifyContent: 'flex-end',
    },
    title:{
      fontFamily: "Helvetica-Bold",
      fontSize: 20,
      color: "#FFFFFF",
      letterSpacing: 0.38,
      textAlign: "left",
    },
    author:{
      fontFamily: "Helvetica",
      fontSize: 16,
      color: "rgba(255,255,255,0.75)",
      textAlign: "left"
    }
  }
)

```



LET'S CONNECT TO AN
END POINT

```

import * as React from 'react'
import {View, Text, StyleSheet, ImageBackground} from 'react-native'

export default class Featured extends React.Component{

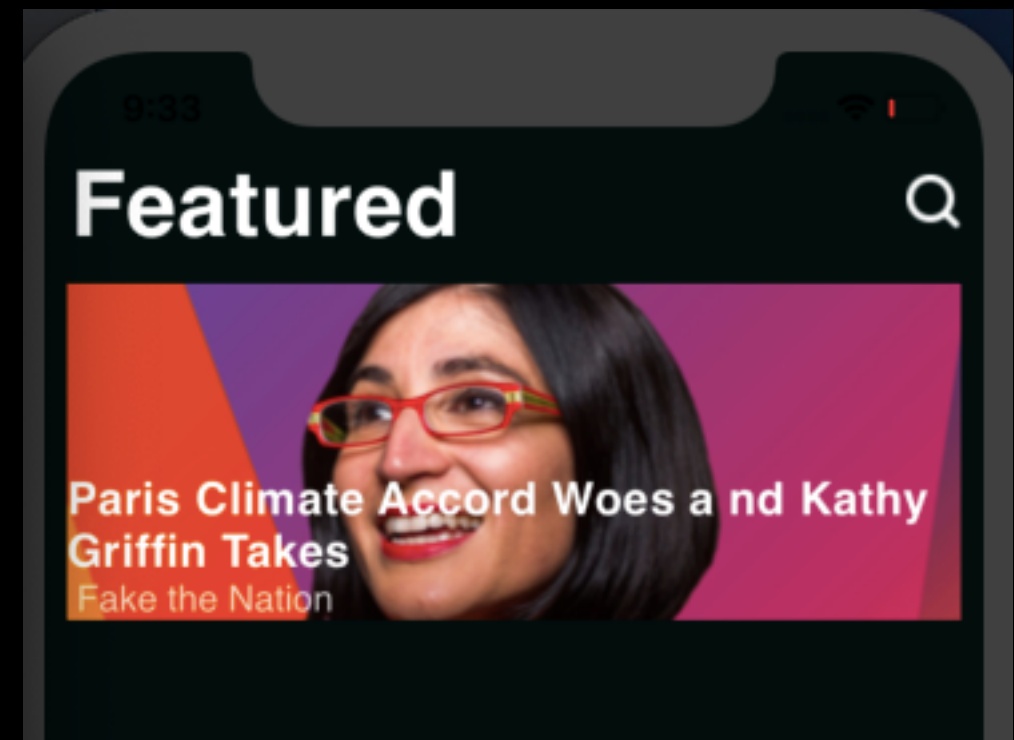
  constructor(props){
    super(props)
    this.state={
      featured: null
    }
  }

  componentDidMount(){
    this.getData()
  }

  async getData(){
    let response = await fetch("https://www.cs.virginia.edu/~dgg6b/Mobile/Featured/featured.json")
    let parsedResponse = await response.json()
    console.log(parsedResponse)
    this.setState({
      featured : parsedResponse
    })
  }

  render(){
    if(this.state.featured === null){
      return(<View/>)
    }
    return(
      <View style={styles.container}>
        <ImageBackground style={styles.featuredImage}
          source={{uri: this.state.featured.image}}>
          <Text style={styles.title}> {this.state.featured.title}
          </Text>
          <Text style={styles.author}> {this.state.featured.author}
          </Text>
        </ImageBackground>
      </View>
    )
  }
}

```



LET'S BUILD THE LIST
VIEW

My Podcasts



Comedy Bang-Bang



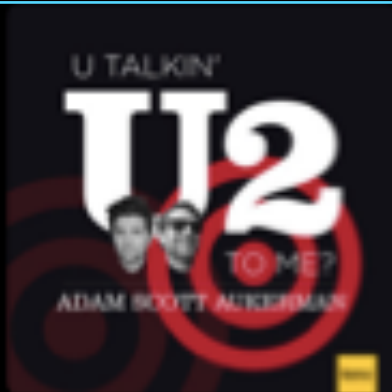
How Did This Get Ma...



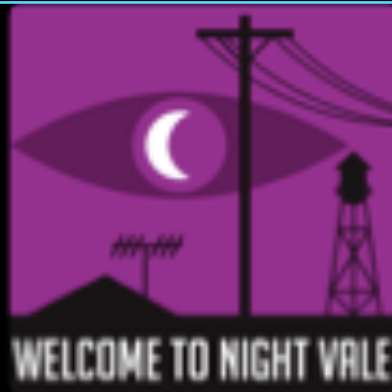
With Special Guest...



The Flop House



U Talkin' U2 2 Me?



Welcome to Night...

Title Section
Text and image

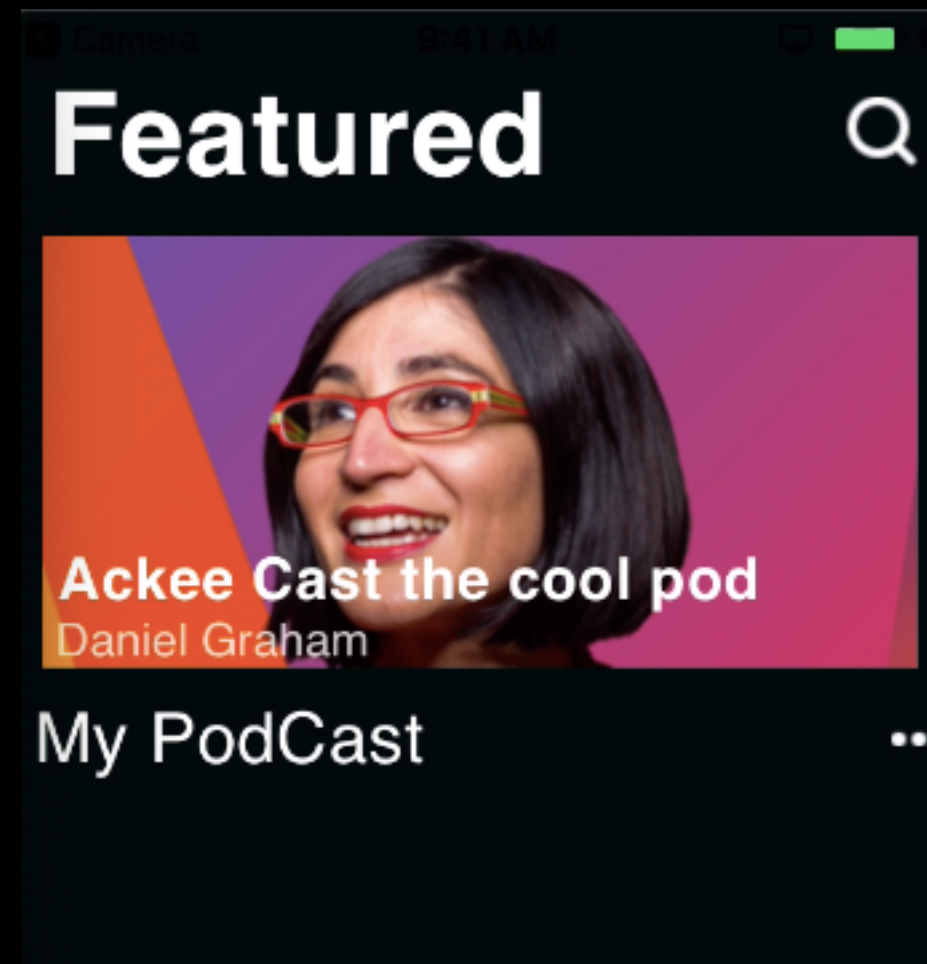
Scroll View/ListView

```

import * as React from 'react'
import {StyleSheet, Text, View, Image} from 'react-native'
export default class PodScrollView extends React.Component{
  render(){
    return(
      <View style={styles.container}>
        <View style={styles.titleSection}>
          <Text style={styles.title}> My PodCast</Text>
          <Image style={styles.dotdot} source={require('../assets/dotdot.png')}></Image>
        </View>
      </View>
    )
  }
}

const styles = StyleSheet.create(
  {
    container:{
      paddingTop: 10
    },
    titleSection:{
      height: 29,
      flexDirection: 'row',
      justifyContent: 'space-between',
      alignItems: 'center'
    },
    title: {
      fontFamily: "Helvetica",
      fontSize: 24,
      color: "#FFFFFF",
      letterSpacing: 0.35,
      textAlign: "left",
    },
  },
)

```



Look at scroll view snack

<https://snack.expo.io/@professorxii/scrollview>

```
import * as React from 'react'
import {StyleSheet, Text, View, Image, FlatList} from 'react-native'
export default class PodScrollView extends React.Component{
  constructor(){
    super()
    this.state ={
      podCastList: null
    }
  }

  async getPodCastData(){
    let response = await fetch("https://www.cs.virginia.edu/~dgg6b/Mobile/PodCast/podCastList.json")
    let extractedJson = await response.json()
    this.setState({
      podCastList: extractedJson.podCastList
    })
  }

  componentWillMount(){
    this.getPodCastData()
  }

  keyExtractor(item){
    return item.id.toString()
  }
}
```

```

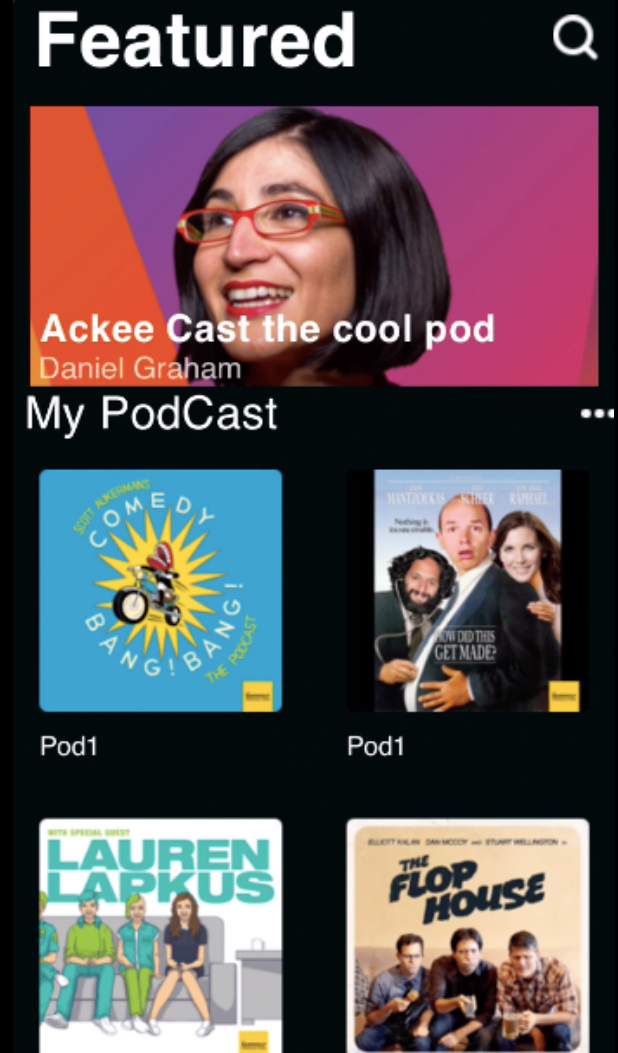
renderRow({item}){
  console.log(item.row[0].image)
  return(
    <View style={styles.rowContainer}>
      <View style={styles.podCastContainer}>
        <Image style={styles.podImages} source={{uri: item.row[0].image}}/>
        <Text style={styles.podCastTile}>{item.row[0].title}</Text>
      </View>
      <View style={styles.podCastContainer}>
        <Image style={styles.podImages} source={{uri: item.row[1].image}}/>
        <Text style={styles.podCastTile}>{item.row[0].title}</Text>
      </View>
    </View>
  )
}

```

```

render(){
  if(this.state.podCastList !== null){
    return(
      <View style={styles.container}>
        <View style={styles.titleSection}>
          <Text style={styles.title}> My PodCast</Text>
          <Image style={styles.dotdot} source={require('../assets/dotdot.png')}></Image>
        </View>
        <FlatList
          style={styles.ScrollablePodCasts}
          data={this.state.podCastList}
          renderItem={this.renderRow}
          keyExtractor={this.keyExtractor}
        />
      </View>
    )
  }else{
    return(<View style={{flex:1}}/>)
  }
}

```



```

const styles = StyleSheet.create(
  {
    container:{
      flex:1,
      flexDirection:'column',
      justifyContent: 'space-between',
      padding:20
    },
    titleSection:{
      height: 29,
      flexDirection:'row',
      justifyContent: 'space-between',
      alignItems:'center'
    },
    title: {
      fontFamily: "Helvetica",
      fontSize: 24,
      color: "#FFFFFF",
      letterSpacing: 0.35,
      textAlign: "left",
    },
    dotdot:{
      paddingLeft: 10
    },
    ScollablePodCasts:{
      flex:0
    },
  },

```

```

    rowContainer:{
      flexDirection:'row',
      justifyContent: 'space-between',
      padding: 15
    },
    podCastContainer:{
      flexDirection:'column',
      justifyContent: 'space-evenly',
    },
    podCastTile:{
      fontFamily: "Helvetica",
      fontSize: 14,
      color: "#FFFFFF",
      letterSpacing: -0.15,
      textAlign: "left",
      paddingTop: 10
    },
    podImages:{
      height: 128,
      width: 128,
    }
  }
)

```

```
{
  "expo": {
    "name": "AckeePod",
    "slug": "ackeePod",
    "privacy": "public",
    "sdkVersion": "32.0.0",
    "platforms": [
      "ios",
      "android"
    ],
    "version": "1.0.0",
    "orientation": "portrait",
    "icon": "./assets/icon.png",
    "splash": {
      "image": "./assets/splash.png",
      "resizeMode": "contain",
      "backgroundColor": "#ffffff"
    },
    "updates": {
      "fallbackToCacheTimeout": 0
    },
    "assetBundlePatterns": [
      "**/*"
    ],
    "ios": {
      "supportsTablet": true
    }
  }
}
```



Expo SDK version

[https://docs.expo.io/versions/latest/workflow/](https://docs.expo.io/versions/latest/workflow/configuration/)
[configuration/](https://docs.expo.io/versions/latest/workflow/configuration/)