

Topic	Home Screen and Navigation	
Class Description	The student learns to create buttons using toucha The student also learns to navigate from the Home other screens.	
Class	C77	
Class time	50 mins	
Goal	 Planning different elements in the app's home setting their placements to achieve a nice-looki Add elements to the screen such as buttons an 	ng UI.
Resources Required	 Teacher Resources Visual Studio Code Editor laptop with internet connectivity earphones with mic notebook and pen Student Resources Visual Studio Code Editor laptop with internet connectivity earphones with mic notebook and pen 	
Class structure	Warm-Up Teacher-Led Activity Student-Led Activity Wrap-Up	10 mins 15 mins 20 mins 5 mins
WARM-UP SESSION - 10 mins		
	ncher starts slideshow from slides 1 to 11 peaker notes and follow the instructions on each sl	ide.

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1



Activity details	
Hey <student name="">. How are you? It's great to see you! Are you excited to learn something new today?</student>	ESR: I am doing great!
Run the presentation from slide 1 to slide 4.	
The following are the warm-up session deliverables: • Connecting students to the previous class.	
QnA Session	4 3.89
Question	S COLLEGE
Choose the correct block of code that can be used to add background images to Homescreen. Choose the correct block of code that can be used to add background images to Homescreen. Choose the correct block of code that can be used to add background images to Homescreen. Choose the correct block of code that can be used to add background image	C
Choose the correct block of code to use the onpress property of <touchable opacity=""> for adding navigation to spacecraft screen.</touchable>	D





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Run the presentation from slide 5 to slide 11 to set the problem statement.	Narrate the slides by using hand gestures and voice modulation methods to bring in more interest in students
Following are the session deliverables:	
Add a Title to the Home Screen.Create buttons for different screens	
Teacher ends slideshow	4 3 35
TEACHER-LED ACTIVITY- 1 (15 mi	ns)
Teacher Initiates Screen S	nare
Add the Title to the Home Screen on our app. Create buttons for different screens on our app.	dilli
Add the Title to the Home Screen on our app.	Student Action
 Add the Title to the Home Screen on our app. Create buttons for different screens on our app. 	Student Action ESR: We see that there is the main screen. This main screen contains buttons to go to different screens or some other functionality such as settings or changing profile picture.

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Let's get started then.



So can you tell me what all elements do we want to have on our screen?	ESR: - We want to have a title on the screen. - And 3 buttons showing the titles of the 3 different screens. - Add background images for the screens.
Alright so let's first start with the Title for the app on the home screen.	Kids
Where do we usually have the title for any app?	ESR: At the top of the screen.
What all React Native components do we require to give the title to the app? We have already imported the Text component and the View component from React Native. We'll also need to add some styles to the Title for that we'll add a stylesheet where we'll be adding the styles for all the components. Let's use these to create the title. Import the Stylesheet from the React Native. Create a title using the Text and the View component and adds styles in Stylesheet.	ESR: We'll require the Text and View components.



Where do we see the Title?

Yes!! The title appears there by default, do you know why this happens?

This happens because the **View** starts to read the height from the top most corner which also includes the status bar of the device.

To avoid this, React Native contains a component called the **SafeAreaView** using which we can exclude the status bar on each device.

We'll also need to know the height of the status bar on each of the android devices, so we'll first import the status bar along with **SafeAreaView** from React Native.

But the problem is that we have two OS (operating systems) Android and the Apple OS for phones, and the status bar only works for the android devices, so we'll need

ESR:

We see the title hidden behind the status bar.

ESR:

Varied!

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to check which operating system the user is using and then decide the height of the status bar.

Import the **SafeAreaView** from React Native and use it inside the View component.

We'll assign the height using the **marginTop** property in the stylesheet.

Now to check if the OS is **android** and then assign the height using the **StatusBar** component.

```
import React, { Component } from "react";
    View,
    Text,
    StyleSheet,
    SafeAreaView,
    Platform,
    StatusBar,
export default class HomeScreen extends Component
    render() {
        return (
            <View style={styles.container}>
                 <SafeAreaView style={styles.droidSafeArea}
                        <Text style={styles.titleText}>ISS Tracker App</Text>
const styles = StyleSheet.create({
    container: {
        flex: 1
    droidSafeArea: {
        marginTop: Platform.OS === "android" ? StatusBar.currentHeight : 0
```

Now we can see that the Title has shifted below the status bar of the mobile device.

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But is still that the place where we want the title?

Yes and to do so we'll just add the title inside another **View** and give styling such as **flex** to **0.25 justifyContent** to center, and **alignItems** to center.

As this is our title we'll call it titleBar.

Add the **Text** for the title inside the **View** component.

Create a **titleBar** in the stylesheet and add the styles to it as shown in the below code snippets:

ESR:

No, we want it at the center.





And its corresponding styles would be:

```
const styles = StyleSheet.create({
    container: {
        flex: 1
    },
    droidSafeArea: {
        marginTop: Platform.OS === "android" ? StatusBar.currentHeight : 0
    },
    titleBar: {
        flex: 0.15,
            justifyContent: "center",
            alignItems: "center"
    },
})
```

What is the next thing that we want on our screen?

Yes! Can you tell me how can we create them?

We import the TouchableOpacity from the React Native

ESR:

We want to have 3 buttons for the 3 different screens.

ESR:

We can use the

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and using the **Text** component we add the name on the button as **"ISS Location"**.

Touchableopacity to create the buttons.

Similarly, we'll create another button for the **Meteors** screen.

<The teacher codes to create another button for Meteors>

```
import React, { Component } from "react";
import {
    View,
    Text,
    StyleSheet,
    SafeAreaView,
    TouchableOpacity,
    Platform,
    StatusBar,
} from "react-native";
```

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And to create similar button for **Meteors**, we do:

We now have the buttons, but they don't look much like buttons, do they?

What can we do to make them look more like buttons?

As these buttons are going to be taking us to the different screens, let's name them **routeCards** for styling purposes.

In the stylesheet, we'll add the variable called **routeCards**. In the route card styles we'll:-

ESR:

No, they don't.

ESR:

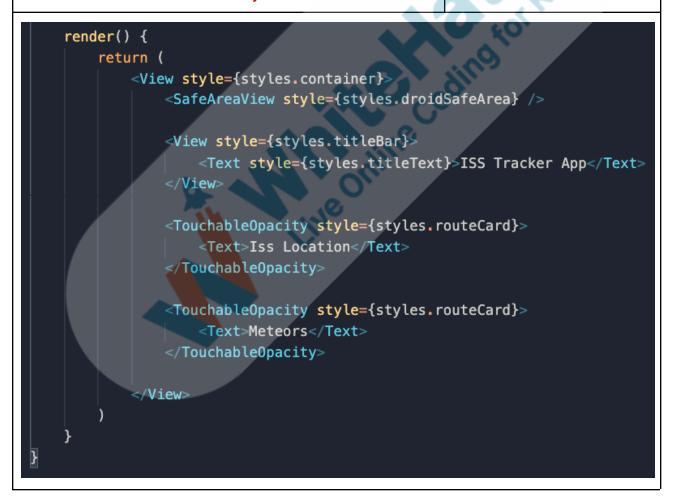
We can add some styling to make it look like the buttons.

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- First, add some flex to the button using the flex property. It could be anything generally, but since we have 3 screens to route along with our title, we will take a flex of 0.25.
- Using the justifyContent and alignItem property we'll get the content aligned to the center of our screen.
- Add margin to the buttons using marginLeft, marginRight, and marginTop properties.
- Create circular borders using borderRadius and background color.

<The teacher codes to add the styles to the buttons>





```
routeCard: {
    flex: 0.25,
    marginLeft: 50,
    marginRight: 50,
    marginTop: 50,
    borderRadius: 30,
    backgroundColor: 'white'
},
```

You may notice that we have added the **backgroundColor** as "**white**"!

Well, we've done that because we will be adding a background image to this screen later, and white would really look good on that! For now, we can add an extra styling in "routeCard" for the boxes to be visible to us -

< The teacher can also add borderWidth: 2 in routeCards to show students the borders around buttons, which will be removed later>

The buttons look good, but the text inside the buttons is not proper yet, right?

Let's add some styles to it as well.

We called the styles on the button as the **routeCards**, similarly, we'll call the styles for text inside the button as **routeText**.

To style the text we can add some **fontWeight**, **fontSize**, and **color** to the text.

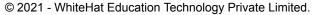


We now add styling to the text in the buttons.

Let's add some styling to the Title of the app as well. Let's call the styling on the title as **titleText**.

To style the title we'll add some **fontWeight**, **fontSize**, and **color** to the text as well.

```
titleText: {
    fontSize: 40,
    fontWeight: "bold",
    color: "white"
},
routeText: {
    fontSize: 35,
    fontWeight: "bold",
    color: "black",
    marginTop: 75,
    paddingLeft: 30
},
```







Output:	
ISS Tracker App	
Iss Location	4 35
Meteors	ding for Kio.
ingolitie	
We have buttons ready but what's missing?	we can't navigate to the different screens when we press the buttons. We can also add some images to the background or the buttons to make it look visually appealing.
Would you like to add navigation and images to make the screen look much more awesome?	ESR: Yes.
Awesome! Let's get you started then.	

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Teacher Stops Screen Share

STUDENT-LED ACTIVITY - 20 mins

- Ask the student to press the ESC key to come back to the panel.
- Guide the student to start Screen Share.
- The teacher gets into Fullscreen.

ACTIVITY

- Add images to the different elements of the screen.
- Add navigation on the button press.

Teacher starts slideshow



for slide 12 & 13

Refer to speaker notes and follow the instructions on each slide.

Teacher Action	Student Action
<the code<br="" guides="" student="" teacher="" the="" their="" to="" update="">same as covered during the Teacher Activity></the>	<the code="" student="" to<br="" writes="">Add title and buttons to the screen with styling></the>
First, we can start by adding images to the background and the buttons. <the 1="" activity="" adds="" and="" as="" assets="" download="" folder="" from="" guides="" images="" project="" student="" teacher="" the="" them="" to=""></the>	<the 1="" activity="" adds="" and="" as="" assets="" downloads="" folder="" from="" images="" link="" project="" student="" the="" them="" to=""></the>





React Native has a component called ImageBackground which will help us to add images to our background.

Import the ImageBackground component first.

<The student imports the
ImageBackground from
the React Native>



```
import {
    View,
    Text,
    StyleSheet,
    SafeAreaView,
    TouchableOpacity,
    Platform,
    StatusBar,
    ImageBackground
} from "react-native";
```

The **ImageBackground** component has a **source** property where we'll provide the location of the assets.

Set the location of the background image in the source property of the **ImageBackground** component.

<The student sets the location of the background image in the source property of the lmageBackground component>

```
render() {
    return (
        <View style={styles.container}>
             <SafeAreaView style={styles.droidSafeArea} />
             ImageBackground source={require('../assets/bg.png')} style={styles.backgroundImage}>
                 <View style={styles.titleBar};</pre>
                     <Text style={styles.titleText}>ISS Tracker App</Text>
                </View>
                <TouchableOpacity style={styles.routeCard}>
                    <Text style={styles.routeText}>Iss Location</Text>
                </TouchableOpacity>
                <TouchableOpacity style={styles.routeCard}>
                    <Text style={styles.routeText}>Meteors</Text>
                </TouchableOpacity>
            </ImageBackground>
        </View>
```



```
const styles = StyleSheet.create({
   container: {
       flex: 1
   droidSafeArea: {
       marginTop: Platform.OS === "android" ? StatusBar.currentHeight : 0
  backgroundImage: {
        resizeMode: 'cover',
    routeCard: {
       flex: 0.2,
       justifyContent: "center",
       alignItems: "center",
       marginLeft: 10,
       marginRight: 10,
       marginTop: 5,
       borderRadius: 10,
       backgroundColor: 'rgba(52, 52, 52, 0.5)'
```

Similarly, we'll use the **Image** component to add the images to the buttons and some text to make it look good.

We'll also add the relevant styling for what we're trying to achieve.

Now, import the **Image** component from React Native and add images to the buttons.

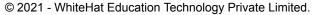
<The student imports the Image component from React Native and adds images to the buttons>

```
import {
    View,
    Text,
    StyleSheet,
    SafeAreaView,
    TouchableOpacity,
    Platform,
    StatusBar,
    ImageBackground,
    Image
} from "react-native";
```

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And then add the images to the buttons as shown in the following code snippet:





```
knowMore: {
    paddingLeft: 30,
    color: "red",
    fontSize: 15
bgDigit: {
    position: "absolute",
    color: "rgba(183, 183, 183, 0.5)",
    fontSize: 150,
    right: 20,
    bottom: -15,
    zIndex: -1
},
iconImage: {
    position: "absolute"
    height: 200,
    width: 200,
    resizeMode: "contai
    right: 20,
    top: -80
```

Now we just have to navigate to the screens when the buttons are pressed.

The **TouchableOpacity** has an **onPress** property using which we can navigate to the screens.

In the **onPress** property, we have to pass **this.props.navigation.navigate("name of screen to navigate").**



Pass the **this.props.navigation.navigate("IssLocation")** in the **onPress** property of the **TouchableOpacity**.

<The student passes
this.props.navigation.navi
gate("IssLocation") in the
onPress property of the
Touchableopacity>

We'll do the same for the other buttons.

Repeat the same for the **Meteors** screen.

<The student passes
this.props.navigation.navi
gate("Meteors") in the
onPress property of the
Touchableopacity for
Meteor button>

Now let's run and check the output.

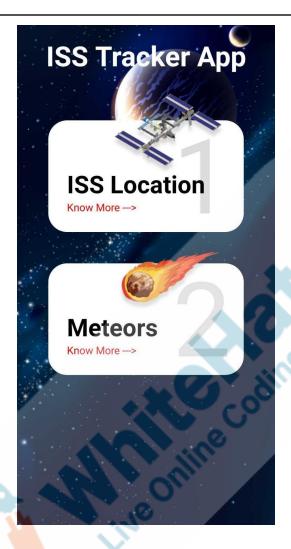
<The student runs the code
and checks the output>

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With this, our Home Screen is completed with all the navigation added!

Teacher Guides Student to Stop Screen Share

WRAP-UP SESSION - 5 mins

Teacher starts slideshow



for slide 14 to 24.

Refer to speaker notes and follow the instructions on each slide.

Teacher Action

Student Action

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Following are the wrap-up session deliverables: Explain the facts and trivias. Next class challenge. Project for the day. Additional Activity 	Guide the student to develop the project and share it with us.
QnA Session	* 1/ds
Question	Answers
What does the following piece of code do?	<u>B</u>
By default, the title hides behind the status bar, to avoid this what could be used? A. andriodSafeArea B. SafeAreaView C. StatusBar	<u>B</u>

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D. platform	
To create circular buttons which CSS property is used A. borderRadius B. borderWidth C. borderThickness D. borderCircle	d? <u>A</u>
End the quiz pane	el
 FEEDBACK Appreciate the student for their efforts in th Ask the student to make notes for the reflective they wrote in today's class. 	
•	The state of the s
Teacher Action	Student Action
•	Student Action Make sure you have given at least 2 Hats Off during the class for:
Teacher Action You get Hats Off for your excellent work!	Make sure you have given at least 2 Hats Off during

* This Project will take only 30 mins to complete. Motivate students to try and finish it immediately after

Project Overview Stellar Stage-2

the class.

location screen.

Goal of the Project:

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In Class 77, we have designed the home screen by adding the buttons for different screens and adding the background image to the screen. You will have to add a background image, and style different components of the Home Screen of the Stellar App created in the last class.

*This is a continuation project of Project-76, make sure to complete that one before attempting this one.

Story:

Jeff liked the layout of the App created by you in the last project. However, he feels it can be made more attractive by adding styles and relevant images to it.

Can you help him?

I am very excited to see your project solution and I know you will do really well.

Bye Bye!





Teacher Clicks



ADDITIONAL ACTIVITY

Additional Activities

Encourage the student to write reflection notes in their reflection journal using Markdown.

Use these as guiding questions:

- What happened today?
 - Describe what happened.
 - o The code I wrote.

The student uses the Markdown editor to write their reflections in a reflection journal.

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- How did I feel after the class?
- What have I learned about programming and developing games?
- What aspects of the class helped me? What did I find difficult?

Links:

Activity	Activity Name	Links
Teacher Activity 1	Previous class code	https://github.com/pro-whitehatjr/C7 6_ISSTracker_TeacherReferenceCo de
Teacher Activity 2	Reference code	https://github.com/pro-whitehatjr/C7 7_ISSTracker_TeacherReferenceCo de
Teacher Activity 3	Teacher Aid	https://drive.google.com/file/d/1WA1 BQff4dmgv5BInU3f_imk4vlpvAyMa/ view?usp=sharing
Student Activity 1	Assets	https://curriculum.whitehatjr.com/PR O+Asset/ISS-assets.zip
Teacher Reference visual aid link	Visual aid link	https://curriculum.whitehatjr.com/Vis ual+Project+Asset/PRO_VD/BJFC- PRO-V3-C77-withcues.html
Teacher Reference In-class quiz	In-class quiz	https://s3-whjr-curriculum-uploads.w hjr.online/0c1bd2d2-58c5-4a67-b53 6-0879957a9d2a.pdf
Project Solution	Stellar Stage-2	https://github.com/pro-whitehatjr/Stellar-Stage-2