FACE FILTERS

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What is our GOAL for this MODULE?

We learned to apply face filters based on data collected after face detection.

What did we ACHIEVE in the class TODAY?

- We learned about face detection.
- We learned to create and add face filters on the face

Which CONCEPTS/CODING BLOCKS did we cover today?

- expo-permissions
- expo-camera
- expo-face-detector
- <Camera/>, <SafeAreaView/> components

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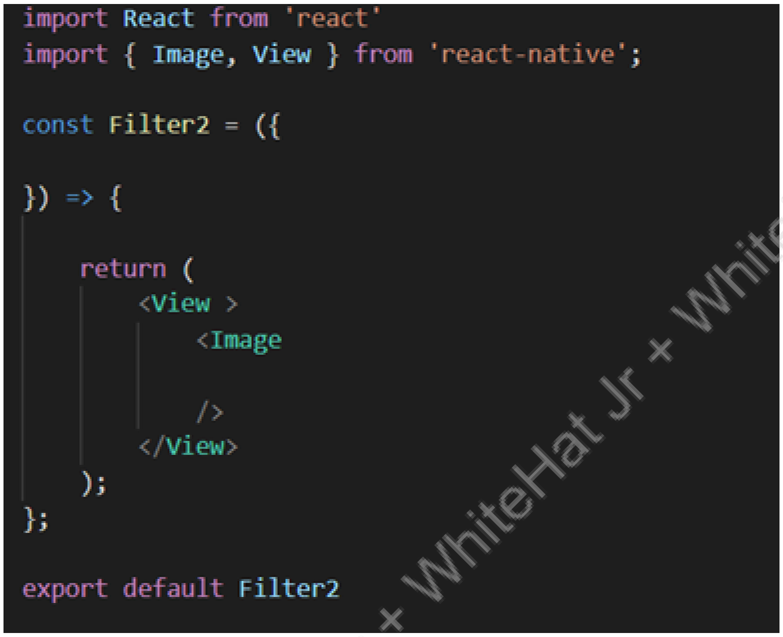
How did we DO the activities?

1. Create the file **Filter2.js** under the **screens** folder and import libraries.



```
import React from 'react'
import { Image, View } from 'react-native';

const Filter2 = ({

}) => {

    return (
        <View >
            <Image

            />
        </View>
    );
};

export default Filter2
```

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2. Add face objects and calculate angle

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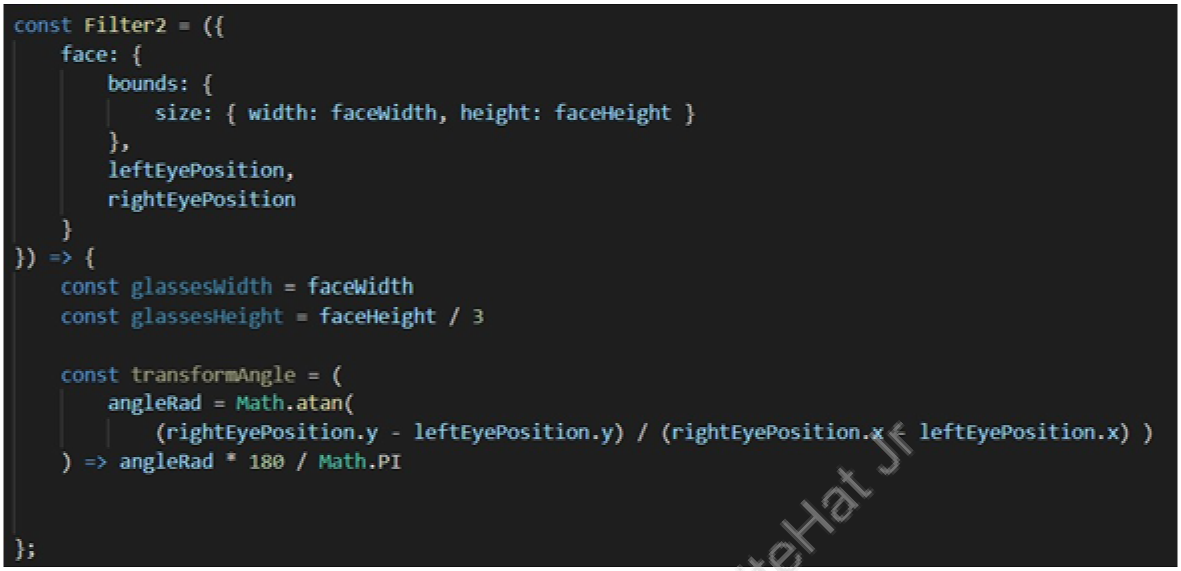
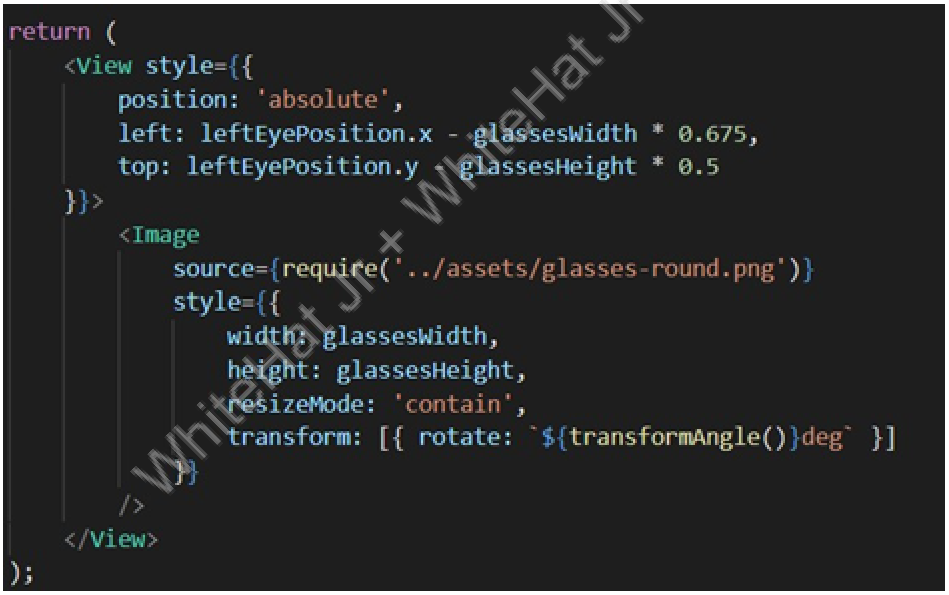


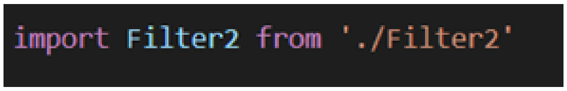
```
const Filter2 = ({
    face: {
        bounds: {
            size: { width: faceWidth, height: faceHeight }
        },
        leftEyePosition,
        rightEyePosition
    }
}) => {
    const glassesWidth = faceWidth
    const glassesHeight = faceHeight / 3

    const transformAngle = (
        angleRad = Math.atan(
            (rightEyePosition.y - leftEyePosition.y) / (rightEyePosition.x - leftEyePosition.x) )
    ) => angleRad * 180 / Math.PI


};
```

3. Write a return method to render images



```
return (
    <View style={{
        position: 'absolute',
        left: leftEyePosition.x - glassesWidth * 0.675,
        top: leftEyePosition.y - glassesHeight * 0.5
    }}>
        <Image
            source={require('../assets/glasses-round.png')}
            style={{
                width: glassesWidth,
                height: glassesHeight,
                resizeMode: 'contain',
                transform: [{ rotate: `${transformAngle()}deg` }]
            }}
        />
    </View>
);
```

4. Import the Filter2 component and update the state in the <View> Component containing <Camera/>(below the <Camera/>).



```
import Filter2 from './Filter2'
```

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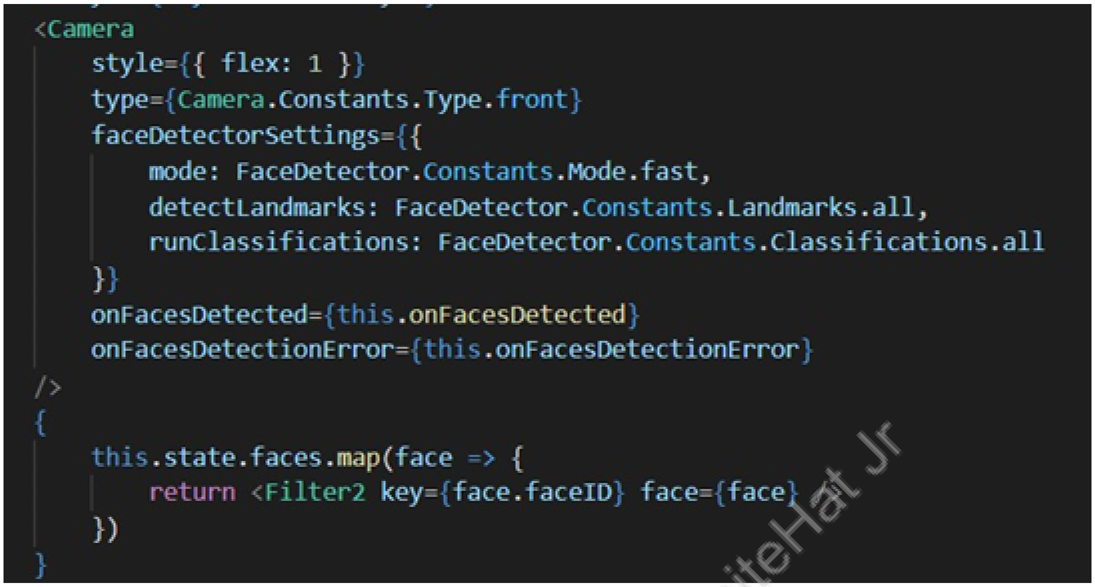
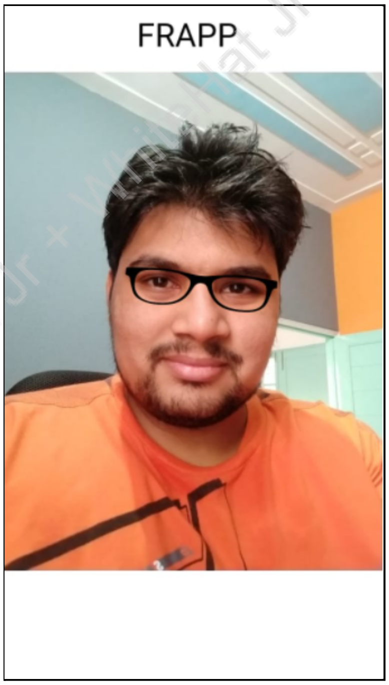


```
<Camera
    style={{ flex: 1 }}
    type={Camera.Constants.Type.front}
    faceDetectorSettings={{
        mode: FaceDetector.Constants.Mode.fast,
        detectLandmarks: FaceDetector.Constants.Landmarks.all,
        runClassifications: FaceDetector.Constants.Classifications.all
    }}
    onFacesDetected={this.onFacesDetected}
    onFacesDetectionError={this.onFacesDetectionError}
/>
{
    this.state.faces.map(face => {
        return <Filter2 key={face.faceID} face={face} />
    })
}
```

5. Test the output:



We have successfully learned to add a filter using the FaceDetector API in expo.

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What's NEXT?

In the next class, we will learn to add multiple filter options to try out different frames in the app based on data collected after face detection.

EXTEND YOUR KNOWLEDGE:

- You can refer to the link below to explore more about expo FaceDetector
  FaceDetector

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