Mobile Applications

lab 5

Tab Navigation, Android Permission, Sensors

THEORY

1. Tab Navigation

a) Documentation Page - https://reactnavigation.org/docs/tab-based-navigation/

b) To use navigation you have to: to your project

- install required dependencies by "npm install @react-navigation/native"
- add NavigationContainer component to the main file (App.js)

  <NavigationContainer>

  //rest of code

  </NavigationContainer>

c) To use Tab Navigation you have to:

- install required dependencies:
    1) npm install @react-navigation/bottom-tabs
    2) expo install react-native-gesture-handler
    3) npm install @react-native-masked-view/masked-view
- declare const Tab = createBottomTabNavigator();
- add Tab.Navigator component inside Navigation Container

  <Tab.Navigator>

  </Tab.Navigator>
- add screens to the navigator

  <Tab.Navigator>

    <Tab.Screen name="Home" component={Home} />

    <Tab.Screen name="Notifications" component={Notifications} />

  </Tab.Navigator>

2. Android Permissions

3. Sensors

There are many sensors available to use by programmers. There are also many ways to use them. The simplest way is to use Expo Sensors. The documentation with examples is available here: https://docs.expo.dev/versions/latest/sdk/sensors/

PRACTICAL

1. Download and run application named: *SensorsApp* (from lecture examples shared by a professor)
    o   run application on a real device and check how it works (especially camera part)
2. Create a new component named *GyroscopeComponent* based on the AccelerometerComponent. New screen should display gyroscope results similarly like an accelerometer (almost copy and paste)
3. To the existing screen - "Accelerometer" add the Stack navigation containing a new Screen from the point 2 of this instruction. Next, add a button to Accelerometer Screen allowing you to navigate to the GyroscopeComponent. The example how to mix Tab and Stack navigations is here: https://reactnavigation.org/docs/hiding-tabbar-in-screens

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