Lab Report 2

Team members and email
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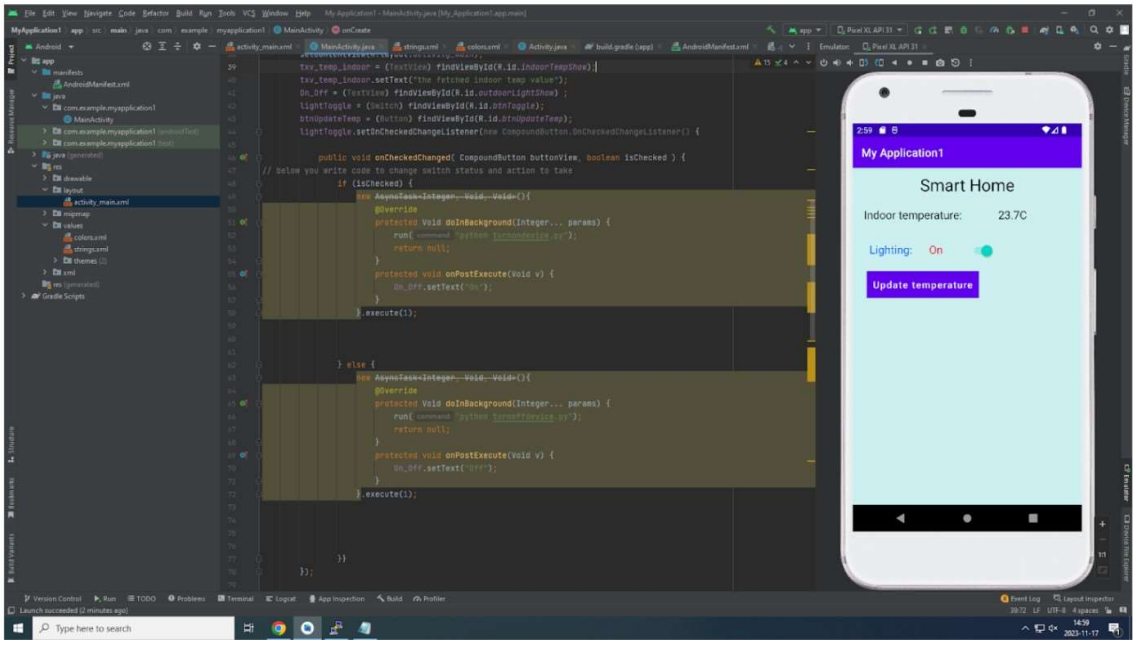
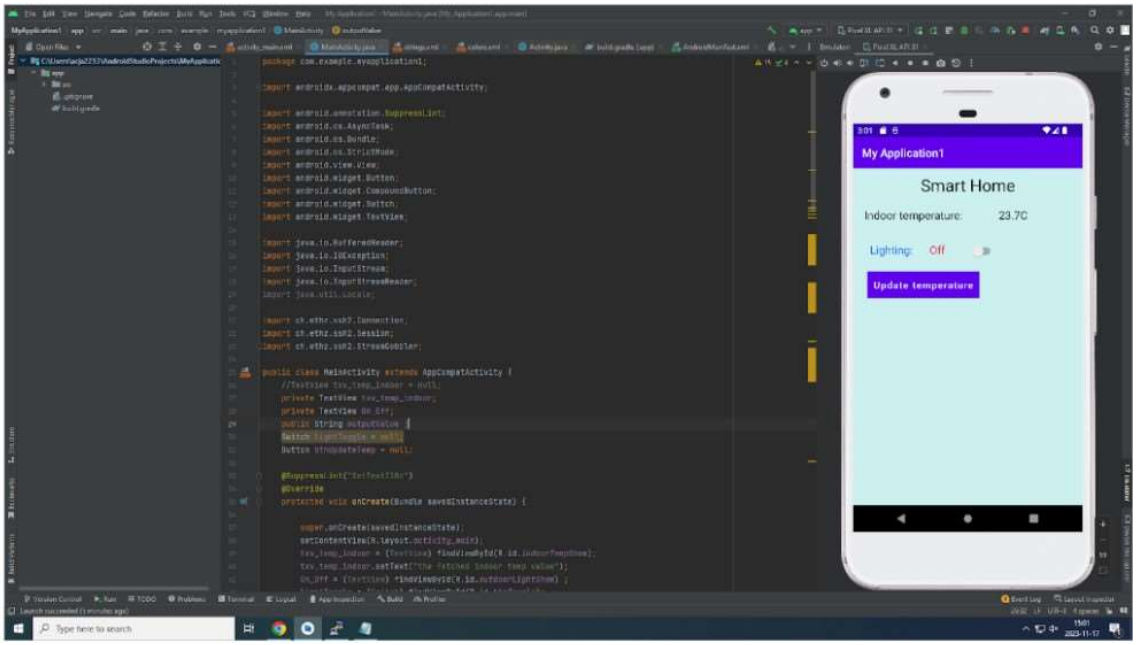
1. Write briefly about the steps you had undertaken to access things' status via the android app (2)

First we connect to the Raspberry PI through putty using SSH.We create scripts to list devices,list the sensors and turn on and off the actuators.We test that these scripts work. We create an android app to show data from temperature sensor,switch to turn on and off the light actuator and a button to fetch the temperature data.We add the SSH library to the android app and change the username,password and hostname in android app to connected to Raspberry Pi with SSHi so the app can communicate with the Raspberry Pi.To get the results from the things using SSH we use Asnyc Task and run function to send command line to the Raspberry Pi and receive the status of sensor..

2. What status (things) did you get on your app? (attach a screenshot) (1)
We get the Indoor temperature from temperature sensor and the information if the lighting is on or off.





3. Write down a minimum of 3 (three) ideas for expanding the app in this lab. Feel free to include additional sensors not used in the lab or expand through other functionality in the app using the already provided data (2)

1)Integrate more types of sensors into the app like humidity and humidifier and heater, to provide more environmental data and user can open or close the humidifier or heater when the humidity or temperature goes high or low . This can allow users to monitor and change aspects of their environment, which can be useful for health-sensitive users..

2) Add features for visualization in the app. This can include graphical representations of sensor data over time, like temperature throughout the day, or humidity levels over a week. These visualizations can help users better understand their environment.

3) Install a body sensor and camera at your doorway and link them to the app. When the house is empty and the sensor detects someone, the body sensor will send an alert to the user through the app. Users can then access the camera via the app to check on their home's security.

4)Add account and password to the app helps user to protect their privacy and offer them a change to tailor their own app,which means they can add and manage other kind of sensor as they wish.