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**Sub - Android Sensor Programming**

**Homework – 11**

*Build the sensor listing app using the code provided. In the homework submission, please include the screenshot for all the sensors that are supported by your phone. Please also show at least three sensors’ capabilities and their values.*

***Ans:***

In this program, we have 3 pages

1st page:

This page displays a list of all the sensors that are present on our mobile phone.

We use the onCreate() function in order to create the instances using the adapter class.

On a click on any of these items in the list, we shall be directed onto the 2nd page which shall give the complete details of that particular sensor.

In order to display these lists we make use of the adapter class.

Code of 1st page:

A screenshot of a computer program

Description automatically generated

In the Main Activity, I have just defined the recyclerView.

XML of 1st page:

A screenshot of a computer

Description automatically generated

Adapter class:

Here, we are updating all the contacts in the form of a list.

It makes use of the custom-list-view which allows the programmer to add all the details in relation to a certain subject all-together in such a way that it is very clear to the user who is updating and reading the details.

When the user clicks on any one of the sensors on the 1st page, the user will be able to view the data about that sensor. Every element of the list is clearly be visible, which will clearly be distinguishable.

This class has helped enhance the ability of making use of lists in an extremely effective approach, making it easier for the programmer to code and also the ease for the user to view.

Code of Adapter Class:

A screenshot of a computer

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XML of Adapter Class:

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Description automatically generated

2nd Page:

On a click on any of these items in the list, we shall be directed onto the 2nd page which shall give the complete details of that particular sensor.

Various details such as:

* Sensor Name
* Sensor Range
* Minimum Delay
* Sensor Resolution
* Sensor Vendor
* Sensor Version

Are all displayed.

On a click on the “Get Sensor Value” button , we shall be directed onto the 3rd page.

Code of 2nd Page:

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XML for 2nd page:

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Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer program

Description automatically generated

3rd Page:

On a click on the “Get Sensor Value” button on the 2nd page, we shall be directed onto the this page.

Here, the sensor values are displayed.

Values such as:

* Sensor Name
* Sensor Accuracy
* Time Stamp

Are all displayed.

Code of 3rd page:

Inside the onCreate() method, I am defining all the required values. The onResume() and the onPause() methods are self-explanatory. The onSensorChanged() method is used when the sensors are changed.

A screenshot of a computer

Description automatically generated

A screenshot of a computer program

Description automatically generated

XML for 3rd page:

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Outputs:

1st page: 2nd page: When clicked on Accelerometer

A screenshot of a device

Description automatically generated

A screenshot of a phone

Description automatically generated

2nd page: When clicked on “Get Sensor Values”

A screenshot of a device

Description automatically generated