

Dharampeth Polytechnic

Nagpur

Department of Computer Technology

Micro-Project Report On Android Sensors

**In Subject
Mobile Application Development
[M.A.D. - 22617]**

**Under the Guidance of
Prof. Narendra S. Bhattad**

**Submitted by
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Dharampeth Education Society's

DHARAMPETH POLYTECHNIC



CERTIFICATE



This is to certify that **Yash Dattatraya Desai [1711880033]** student of **Sixth Semester** of Department of Computer Technology [CM-6I], Dharampeth Polytechnic, Nagpur has completed his project titled : **“Android Sensors”** for the subject **“Mobile Application Development” [M.A.D. - 22617]** during the academic year **2019-20**.

Signature of Faculty
[Prof. Narendra S. Bhattad]

Signature of Head of Department
[Prof. Meeta B. Fadnavis]

ABSTRACT

Most Android-powered devices have built-in sensors that measure motion, orientation, and various environmental conditions. These sensors are capable of providing raw data with high precision and accuracy, and are useful if you want to monitor three-dimensional device movement or positioning, or you want to monitor changes in the ambient environment near a device. For example, a game might track readings from a device's gravity sensor to infer complex user gestures and motions, such as tilt, shake, rotation, or swing. Likewise, a weather application might use a device's temperature sensor and humidity sensor to calculate and report the dewpoint, or a travel application might use the geomagnetic field sensor and accelerometer to report a compass bearing.

The Android sensor framework lets you access many types of sensors. Some of these sensors are hardware-based and some are software-based. Hardware-based sensors are physical components built into a handset or tablet device. They derive their data by directly measuring specific environmental properties, such as acceleration, geomagnetic field strength, or angular change. Software-based sensors are not physical devices, although they mimic hardware-based sensors. Software-based sensors derive their data from one or more of the hardware-based sensors and are sometimes called virtual sensors or synthetic sensors. The linear acceleration sensor and the gravity sensor are examples of software-based sensors. Table 1 summarizes the sensors that are supported by the Android platform.

INTRODUCTION

This are the five commons sensors most of the smartphone has in-built and uses in day-to-day bases so I tried to get reading from this sensors by implementing in my application.

Sensor	Type	Description	Common Uses
TYPE_ACCELEROMETER	Hardware	Measures the acceleration force in m/s^2 that is applied to a device on all three physical axes (x, y, and z), including the force of gravity.	Motion detection (shake, tilt, etc.).
TYPE_GYROSCOPE	Hardware	Measures a device's rate of rotation in rad/s around each of the three physical axes (x, y, and z).	Rotation detection (spin, turn, etc.).
TYPE_LIGHT	Hardware	Measures the ambient light level (illumination) in lx.	Controlling screen brightness.
TYPE_MAGNETIC_FIELD	Hardware	Measures the ambient geomagnetic field for all three physical axes (x, y, z) in μT .	Creating a compass.
TYPE_PROXIMITY	Hardware	Measures the proximity of an object in cm relative to the view screen of a device. This sensor is typically used to determine whether a handset is being held up to a person's ear.	Phone position during a call.

LOGO DESIGN

I, myself
designed my
app logo in
Inkscape as
an vector



INKSCAPE

Inkscape is a free and open-source vector graphics editor used to create vector images, primarily in Scalable Vector Graphics (SVG) format. Other formats can be imported and exported.

Inkscape can render primitive vector shapes (e.g. rectangles, ellipses, polygons, arcs, spirals, stars and 3D boxes) and text. These objects may be filled with solid colors, patterns, radial or linear color gradients and their borders may be stroked, both with adjustable transparency. Embedding and optional tracing of raster graphics is also supported, enabling the editor to create vector graphics from photos and other raster sources. Created shapes can be further manipulated with transformations, such as moving, rotating, scaling and skewing.

Logo was then exported for android specified resolutions for icons.

- ❖ drawable-hdpi
- ❖ drawable-ldpi
- ❖ drawable-mdpi
- ❖ drawable-xhdpi
- ❖ drawable-xxhdpi
- ❖ drawable-xxxhdpi

