**CS4222: Assignment 2 (Group 6)**

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**Brief explanation of code**

For this assignment, our group made use of TYPE\_ROTATION\_VECTOR to obtain the z-axis values during sampling in order to determine the angle at which the phone is pointing towards.

In coding the additional segments in order to achieve the goal of this assignment, we followed in the general structure of the existing code given.

In particular, we did the following:

1. Added rotationSensor variable which is assigned Sensor.TYPE\_ROTATION\_VECTOR
2. Registered a Listener for the rotationSensor
3. Added a method called "processRotationValues" which:
   1. Calls upon the following two SensorManager API functions "getRotationMatrixFromVector" and "getOrientation" in order process the data obtained from the sampling events
   2. Converts the z-axis values obtained from the usage of the above two functions from radians to degrees
   3. Assigns the corresponding values to shootingDirection and shootingRegion

NOTE: The components that are added in the code is labelled with "Added:"

**References used for this assignment:**

1. [https://developer.android.com/reference/android/hardware/SensorManager.html#values](https://developer.android.com/reference/android/hardware/SensorManager.html%23values) (the Sensor.TYPE\_ORIENTATION and Sensor.TYPE\_ROTATION\_VALUE subsections, in particular)
2. <http://stackoverflow.com/questions/26919768/how-do-i-get-the-angle-of-the-phone-relative-to-the-earths-magnetic-field>