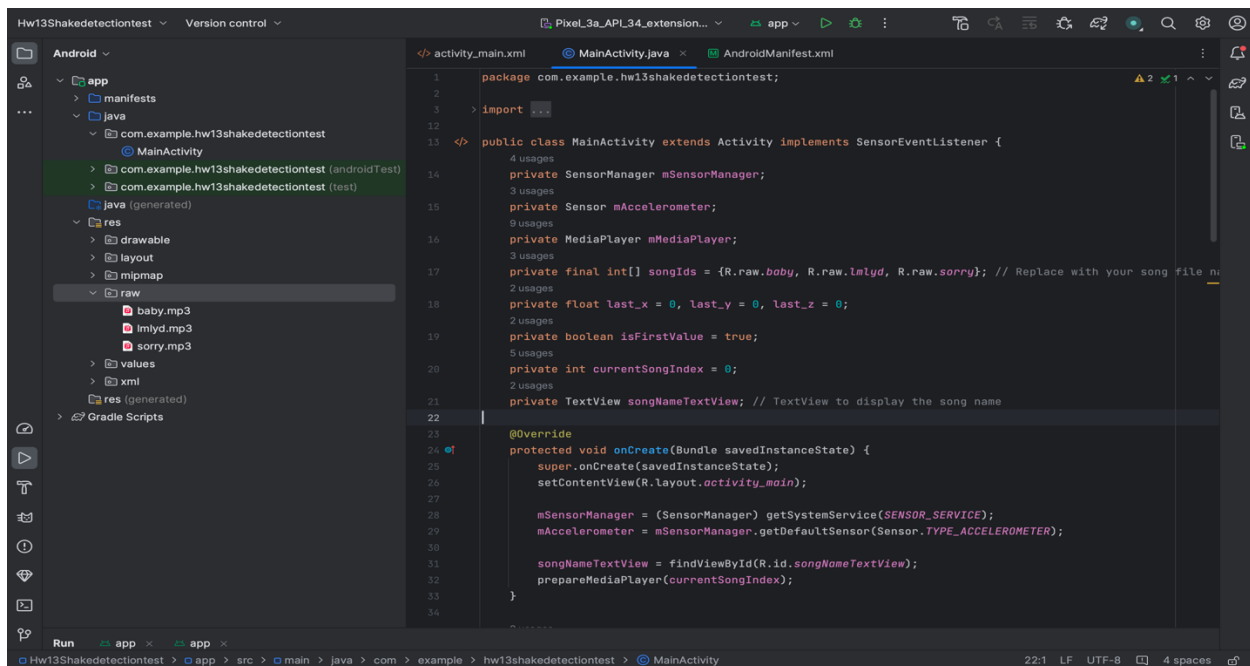


Based on the shake detection code develop the app that stores at least three songs and upon shaking the app play the next song on the list.

Mainactivity.java : A 'TextView' is added to the shaking detecting music player app's revised 'MainActivity' class to display the name of the currently playing song. The 'prepareMediaPlayer' method now updates this 'TextView' with the song's name using the 'getSongName' method, in addition to setting up song playback. This approach connects the song's resource ID to its title, improving user experience by visually identifying which song is playing, which is especially important when songs change due to device shaking.

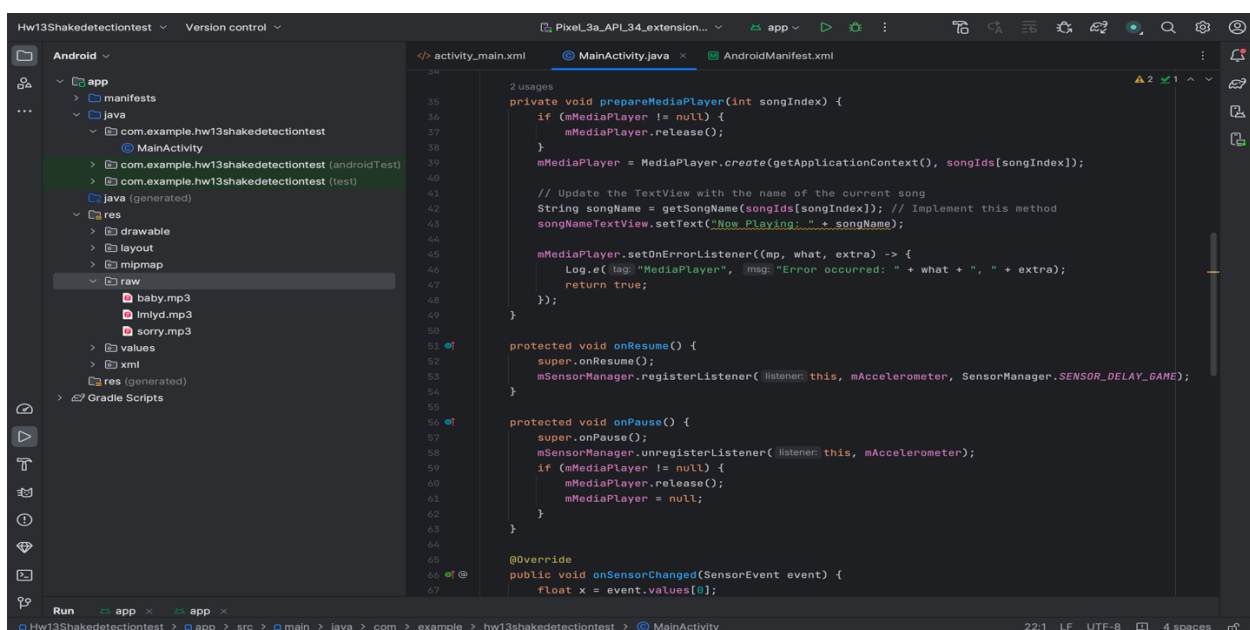
NOTE : I also added the name to which song is playing by using getsongname



```

1 package com.example.hw13shakedetectiontest;
2
3 import androidx.appcompat.app.AppCompatActivity;
4 import androidx.core.app.ActivityCompat;
5 import androidx.core.content.ContextCompat;
6 import android.Manifest;
7 import android.content.pm.PackageManager;
8 import android.os.Bundle;
9 import android.sensors.Sensor;
10 import android.sensors.SensorManager;
11 import android.view.View;
12 import android.view.View.OnClickListener;
13 import android.widget.TextView;
14
15 public class MainActivity extends AppCompatActivity implements SensorEventListener {
16     private SensorManager mSensorManager;
17     private Sensor mAccelerometer;
18     private MediaPlayer mMediaPlayer;
19     private final int[] songIds = {R.raw.baby, R.raw.lilyd, R.raw.sorry}; // Replace with your song file names
20     private float last_x = 0, last_y = 0, last_z = 0;
21     private boolean isFirstValue = true;
22     private int currentSongIndex = 0;
23     private TextView songNameTextView; // TextView to display the song name
24
25     @Override
26     protected void onCreate(Bundle savedInstanceState) {
27         super.onCreate(savedInstanceState);
28         setContentView(R.layout.activity_main);
29
30         mSensorManager = (SensorManager) getSystemService(SENSOR_SERVICE);
31         mAccelerometer = mSensorManager.getDefaultSensor(Sensor.TYPE_ACCELEROMETER);
32
33         songNameTextView = findViewById(R.id.songNameTextView);
34         prepareMediaPlayer(currentSongIndex);
35     }
36
37     private void prepareMediaPlayer(int songIndex) {
38         if (mMediaPlayer != null) {
39             mMediaPlayer.release();
40         }
41         mMediaPlayer = MediaPlayer.create(getApplicationContext(), songIds[songIndex]);
42
43         // Update the TextView with the name of the current song
44         String songName = getSongName(songIds[songIndex]); // Implement this method
45         songNameTextView.setText("Now Playing: " + songName);
46
47         mMediaPlayer.setOnErrorListener((mp, what, extra) -> {
48             Log.e("MediaPlayer", "Error occurred: " + what + ", " + extra);
49             return true;
50         });
51     }
52
53     protected void onResume() {
54         super.onResume();
55         mSensorManager.registerListener(listener: this, mAccelerometer, SensorManager.SENSOR_DELAY_GAME);
56     }
57
58     protected void onPause() {
59         super.onPause();
60         mSensorManager.unregisterListener(listener: this, mAccelerometer);
61         if (mMediaPlayer != null) {
62             mMediaPlayer.release();
63             mMediaPlayer = null;
64         }
65     }
66
67     @Override
68     public void onSensorChanged(SensorEvent event) {
69         float x = event.values[0];
70     }
71 }

```



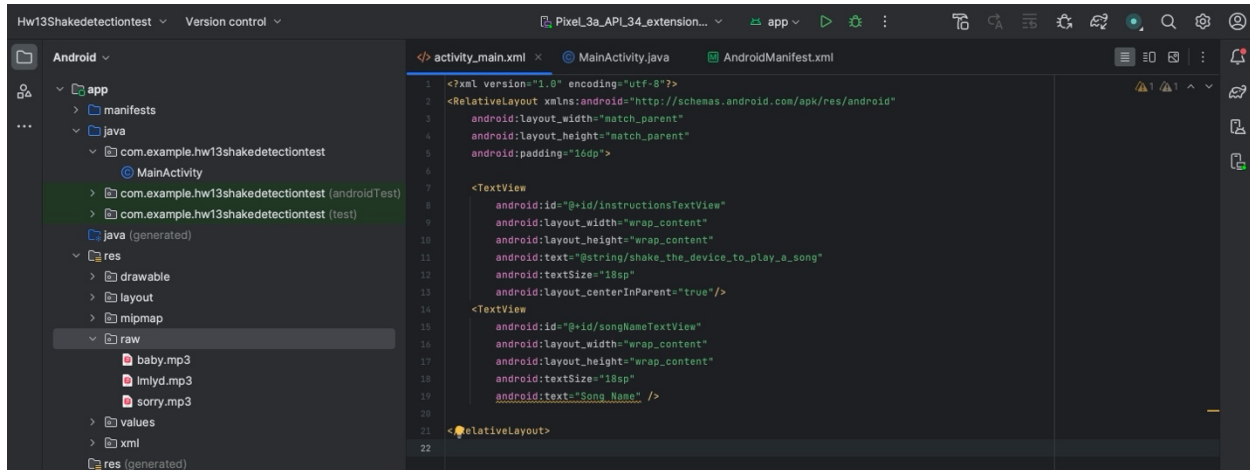
```

35 private void prepareMediaPlayer(int songIndex) {
36     if (mMediaPlayer != null) {
37         mMediaPlayer.release();
38     }
39     mMediaPlayer = MediaPlayer.create(getApplicationContext(), songIds[songIndex]);
40
41     // Update the TextView with the name of the current song
42     String songName = getSongName(songIds[songIndex]); // Implement this method
43     songNameTextView.setText("Now Playing: " + songName);
44
45     mMediaPlayer.setOnErrorListener((mp, what, extra) -> {
46         Log.e("MediaPlayer", "Error occurred: " + what + ", " + extra);
47         return true;
48     });
49 }
50
51 protected void onResume() {
52     super.onResume();
53     mSensorManager.registerListener(listener: this, mAccelerometer, SensorManager.SENSOR_DELAY_GAME);
54 }
55
56 protected void onPause() {
57     super.onPause();
58     mSensorManager.unregisterListener(listener: this, mAccelerometer);
59     if (mMediaPlayer != null) {
60         mMediaPlayer.release();
61         mMediaPlayer = null;
62     }
63 }
64
65 @Override
66 public void onSensorChanged(SensorEvent event) {
67     float x = event.values[0];
68 }
69 }

```

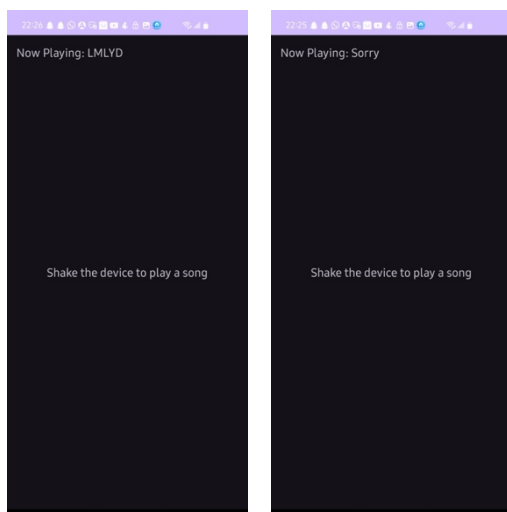
```
1  Hw13Shakedetectiontest  Version control  Pixel_3a_API_34_extension...  app  Run  Debug  Build  Test  Monitor  Logcat  Settings  Help  ?  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92  93  94  95  96  97  98  99  100  101  102  103  104  105  106  107  108  109  110  111  112  113  114  115  116  117  118  119  120  121  122  123  124  125  126  127  128  129  130  131  132  133  134  135  136  137  138  139  140  141  142  143  144  145  146  147  148  149  150  151  152  153  154  155  156  157  158  159  160  161  162  163  164  165  166  167  168  169  170  171  172  173  174  175  176  177  178  179  180  181  182  183  184  185  186  187  188  189  190  191  192  193  194  195  196  197  198  199  200  201  202  203  204  205  206  207  208  209  210  211  212  213  214  215  216  217  218  219  220  221  222  223  224  225  226  227  228  229  230  231  232  233  234  235  236  237  238  239  240  241  242  243  244  245  246  247  248  249  250  251  252  253  254  255  256  257  258  259  260  261  262  263  264  265  266  267  268  269  270  271  272  273  274  275  276  277  278  279  280  281  282  283  284  285  286  287  288  289  290  291  292  293  294  295  296  297  298  299  300  301  302  303  304  305  306  307  308  309  310  311  312  313  314  315  316  317  318  319  320  321  322  323  324  325  326  327  328  329  330  331  332  333  334  335  336  337  338  339  340  341  342  343  344  345  346  347  348  349  350  351  352  353  354  355  356  357  358  359  360  361  362  363  364  365  366  367  368  369  370  371  372  373  374  375  376  377  378  379  380  381  382  383  384  385  386  387  388  389  390  391  392  393  394  395  396  397  398  399  400  401  402  403  404  405  406  407  408  409  410  411  412  413  414  415  416  417  418  419  420  421  422  423  424  425  426  427  428  429  430  431  432  433  434  435  436  437  438  439  440  441  442  443  444  445  446  447  448  449  450  451  452  453  454  455  456  457  458  459  460  461  462  463  464  465  466  467  468  469  470  471  472  473  474  475  476  477  478  479  480  481  482  483  484  485  486  487  488  489  490  491  492  493  494  495  496  497  498  499  500  501  502  503  504  505  506  507  508  509  510  511  512  513  514  515  516  517  518  519  520  521  522  523  524  525  526  527  528  529  530  531  532  533  534  535  536  537  538  539  540  541  542  543  544  545  546  547  548  549  550  551  552  553  554  555  556  557  558  559  560  561  562  563  564  565  566  567  568  569  570  571  572  573  574  575  576  577  578  579  580  581  582  583  584  585  586  587  588  589  590  591  592  593  594  595  596  597  598  599  600  601  602  603  604  605  606  607  608  609  610  611  612  613  614  615  616  617  618  619  620  621  622  623  624  625  626  627  628  629  630  631  632  633  634  635  636  637  638  639  640  641  642  643  644  645  646  647  648  649  650  651  652  653  654  655  656  657  658  659  660  661  662  663  664  665  666  667  668  669  670  671  672  673  674  675  676  677  678  679  680  681  682  683  684  685  686  687  688  689  690  691  692  693  694  695  696  697  698  699  700  701  702  703  704  705  706  707  708  709  710  711  712  713  714  715  716  717  718  719  720  721  722  723  724  725  726  727  728  729  730  731  732  733  734  735  736  737  738  739  740  741  742  743  744  745  746  747  748  749  750  751  752  753  754  755  756  757  758  759  760  761  762  763  764  765  766  767  768  769  770  771  772  773  774  775  776  777  778  779  780  781  782  783  784  785  786  787  788  789  790  791  792  793  794  795  796  797  798  799  800  801  802  803  804  805  806  807  808  809  810  811  812  813  814  815  816  817  818  819  820  821  822  823  824  825  826  827  828  829  830  831  832  833  834  835  836  837  838  839  840  841  842  843  844  845  846  847  848  849  850  851  852  853  854  855  856  857  858  859  860  861  862  863  864  865  866  867  868  869  870  871  872  873  874  875  876  877  878  879  880  881  882  883  884  885  886  887  888  889  890  891  892  893  894  895  896  897  898  899  900  901  902  903  904  905  906  907  908  909  910  911  912  913  914  915  916  917  918  919  920  921  922  923  924  925  926  927  928  929  930  931  932  933  934  935  936  937  938  939  940  941  942  943  944  945  946  947  948  949  950  951  952  953  954  955  956  957  958  959  960  961  962  963  964  965  966  967  968  969  970  971  972  973  974  975  976  977  978  979  980  981  982  983  984  985  986  987  988  989  990  991  992  993  994  995  996  997  998  999  1000  1001  1002  1003  1004  1005  1006  1007  1008  1009  1010  1011  1012  1013  1014  1015  1016  1017  1018  1019  1020  1021  1022  1023  1024  1025  1026  1027  1028  1029  1030  1031  1032  1033  1034  1035  1036  1037  1038  1039  1040  1041  1042  1043  1044  1045  1046  1047  1048  1049  1050  1051  1052  1053  1054  1055  1056  1057  1058  1059  1060  1061  1062  1063  1064  1065  1066  1067  1068  1069  1070  1071  1072  1073  1074  1075  1076  1077  1078  1079  1080  1081  1082  1083  1084  1085  1086  1087  1088  1089  1090  1091  1092  1093  1094  1095  1096  1097  1098  1099  1100  1101  1102  1103  1104  1105  1106  1107  1108  1109  1110  1111  1112  1113  1114  1115  1116  1117  1118  1119  1120  1121  1122  1123  1124  1125  1126  1127  1128  1129  1130  1131  1132  1133  1134  1135  1136  1137  1138  1139  1140  1141  1142  1143  1144  1145  1146  1147  1148  1149  1150  1151  1152  1153  1154  1155  1156  1157  1158  1159  1160  1161  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 1329  1330  1331  1332  1333  1334  1335  1336  1337  1338  1339  1340  1341  1342  1343  1344  1345  1346  1347  1348  1349  1350  1351  1352  1353  1354  1355  1356  1357  1358  1359  1360  1361  1362  1363  1364  1365  1366  1367  1368  1369  1370  1371  1372  1373  1374  1375  1376  1377  1378  1379  1380  1381  1382  1383  1384  1385  1386  1387  1388  1389  1390  1391  1392  1393  1394  1395  1396  1397  1398  1399  1400  1401  1402  1403  1404  1405  1406  1407  1408  1409  1410  1411  1412  1413  1414  1415  1416  1417  1418  1419  1420  1421  1422  1423  1424  1425  1426  1427  1428  1429  1430  1431  1432  1433  1434  1435  1436  1437  1438  1439  1440  1441  1442  1443  1444  1445  1446  1447  1448  1449  1450  1451  1452  1453  1454  1455  1456  1457  1458  1459  1460  1461  1462  1463  1464  1465  1466  1467  1468  1469  1470  1471  1472  1473  1474  1475  1476  1477  1478  1479  1480  1481  1482  1483  1484  1485  1486  1487  1488  1489  1490  1491  1492  1493  1494  1495  1496  1497  1498  1499  1500  1501  1502  1503  1504  1505  1506  1507  1508  1509  1510  1511  1512  1513  1514  1515  1516  1517  1518  1519  1520  1521  1522  1523  1524  1525  1526  1527  1528  1529  1530  1531  1532  1533  1534  1535  1536  1537  1538  1539  1540  1541  1542  1543  1544  1545  1546  1547  1548  1549  1550  1551  1552  1553  1554  1555  1556  1557  1558  1559  1560  1561  1562  1563  1564  1565  1566  1567  1568  1569  1570  1571  1572  1573  1574  1575  1576  1577  1578  1579  1580  1581  1582  1583  1584  1585  1586  1587  1588  1589  1590  1591  1592  1593  1594  1595  1596  1597  1598  1599  1600  1601  1602  1603  1604  1605  1606  1607  1608  1609  1610  1611  1612  1613  1614  1615  1616  1617  1618  1619  1620  1621  1622  1623  1624  1625  1626  1627  1628  1629  1630  1631  1632  1633  1634  1635  1636  1637  1638  1639  1640  1641  1642  1643  1644  1645  1646  1647  1648  1649  1650  1651  1652  1653  1654  1655  1656  1657  1658  1659  1660  1661  1662  1663  1664  1665  1666  1667  1668  1669  1670  1671  1672  1673  1674  1675  1676  1677  1678  1679  1680  1681  1682  1683  1684  1685  1686  1687  1688  1689  1690  1691  1692  1693  1694  1695  1696  1697  1698  1699  1700  1701  1702  1703  1704  1705  1706  1707  1708  1709  1710  1711  1712  1713  1714  1715  1716  1717  1718  1719  1720  1721  1722  1723  1724  1725  1726  1727  1728  1729  1730  1731  1732  1733  1734  1735  1736  1737  1738  1739  1740  1741  1742  1743  1744  1745  1746  1747  1748  1749  1750  1751  1752  1753  1754  1755  1756  1757  1758  1759  1760  1761  1762  1763  1764  1765  1766  1767  1768  1769  1770  1771  1772  1773  1774  1775  1776  1777  1778  1779  1780  1781  1782  1783  1784  1785  1786  1787  1788  1789  1790  1791  1792  1793  1794  1795  1796  1797  1798  1799  1800  1801  1802  1803  1804  1805  1806  1807  1808  1809  1810  1811  1812  1813  1814  1815  1816  1817  1818  1819  1820  1821  1822  1823  1824  1825  1826  1827  1828  1829  1830  1831  1832  1833  1834  1835  1836  1837  1838  1839  1840  1841  1842  1843  1844  1845  1846  1847  1848  1849  1850  1851  1852  1853  1854  1855  1856  1857  1858  1859  1860  1861  1862  1863  1864  1865  1866  1867  1868  1869  1870  1871  1872  1873  1874  1875  1876  1877  1878  1879  1880  1881  1882  1883  1884  1885  1886  1887  1888  1889  1890  1891  1892  1893  1894  1895  1896  1897  1898  1899  1900  1901  1902  1903  1904  1905  1906  1907  1908  1909  1910  1911  1912  1913  1914  1915  1916  1917  1918  1919  1920  1921  1922  1923  1924  1925  1926  1927  1928  1929  1930  1931  1932  1933  1934  1935  1936  1937  1938  1939  1940  1941  1942  1943  1944  1945  1946  1947  1948  1949  1950  1951  1952  1953  1954  1955  1956  1957  1958  1959  1960  1961  1962  1963  1964  1965  1966  1967  1968  1969  1970  1971  1972  1973  1974  1975  1976  1977  1978  1979  1980  1981  1982  1983  1984  1985  1986  1987  1988  1989  1990  1991  1992  1993  1994  1995  1996  1997  1998  1999  2000  2001  2002  2003  2004  2005  2006  2007  2008  2009  2010  2011  2012  2013  2014  2015  2016  2017  2018  2019  2020  2021  2022  2023  2024  2025  2026  2027  2028  2029  2030  2031  2032  2033  2034  2035  2036  2037  2038  2039  2040  2041  2042  2043  2044  2045  2046  2047  2048  2049  2050  2051  2052  2053  2054  2055  2056  2057  2058  2059  2060  2061  2062  2063  2064  2065  2066  2067  2068  2069  2070  2071  2072  2073  2074  2075  2076  2077  2078  2079  2080  2081  2082  2083  2084  2085  2086  2087  2088  2089  2090  2091  2092  2093  2094  2095  2096  2097  2098  2099  2100  2101  2102  2103  2104  2105  2106  2107  2108  2109  2110  2111  2112  2113  2114  2115  2116  2117  2118  2119  2120  2121  2122  2123  2124  2125  2126  2127  2128  2129  2130  2131  2132  2133  2134  2135  2136  2137  2138  2139  2140  2141  2142  2143  2144  2145  2146  2147  2148  2149  2150  2151  2152  2153  2154  2155  2156  2157  2158  2159  2160  2161  2162  2163  2164  2165  2166  2167  2168  2169  2170  2171  2172  2173  2174  2175  2176  2177  2178  2179  2180  2181  2182  2183  2184  2185  2186  2187  2188  2189  2190  2191  2192  2193  2194  2195  2196  2197  2198  2199  2200  
```

Activity\_main.xml : This Android app's XML layout has a 'RelativeLayout' with two 'TextView' widgets. The first 'TextView' 'instructionsTextView' is in the center of the parent layout and displays instructions to shake the device to play a song. The second 'TextView' 'songNameTextView', by default positioned in the upper left corner, is meant to display the name of the currently playing song, with its initial text set to "Song Name." The layout is intended to be simple, with a focus on delivering user instructions and displaying the title of the current music.



Android manifest.xml : The '<uses-feature>' element in the Android manifest file says that the app requires the device's accelerometer sensor, which is required for the shaking detection capability. The app assures that it will only be available on smartphones that have an accelerometer by setting 'android:requiredFeature="true"'. The '<uses-permission>' tag demands that the app be granted permission to access the Internet, which may be required for functions like as streaming music or accessing online resources.

Below are the screenshots of the app after each shake the next song is playing I did this on my android phone but we can also do this in emulator using the visual sensors and select the option move and drag the slider so the device will recognised as the shake.



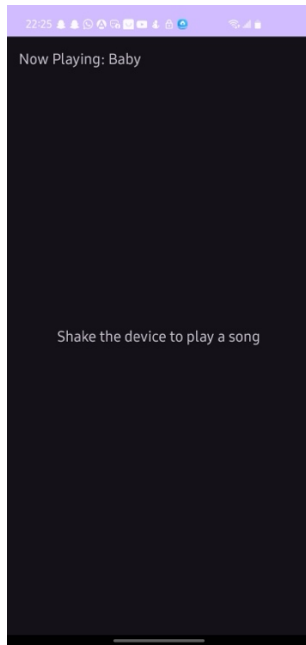
SS of 1<sup>st</sup> song.

SS of 2<sup>nd</sup> song

2844629

KARRAR NAWAZ KHAN

ASP HW13



SS of 3<sup>rd</sup> song