

**Vivekanand Education Society's Institute of Technology**  
**Department of Computer Engineering**



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**MATHMAGIC**  
**VEDIC MATHS TUTORIAL**  
**(ANDROID PROJECT)**

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**SUBJECT**  
**MOBILE COMMUNICATION AND COMPUTING**

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# **1.INTRODUCTION**

## **1.1 PURPOSE**

The main purpose of this report is to provide a detailed description of MathMagic(Vedic Maths Tutorial) which is my project for mobile communication and computing for the academic year 2014-15.

## **1.2PERSPECTIVE**

The reason behind building a Vedic Maths Tutorial app was to make the students more aware of the advantages and the power of mental calculation than using calculator or the old-school method.

## **1.3FUNCTIONS**

The basic functionality of this application is no different from any other tutorial application that is available in the market. The main function being, teaching the students about the new methods and improving their knowledge.

# **2. PROJECT OVERVIEW**

## **2.1IMPORTANCE OF VEDIC MATHS**

In the Vedic system 'difficult' problems or huge sums can often be solved immediately by the Vedic method. These striking and beautiful methods are just a part of a complete system of mathematics which is far more systematic than the modern 'system'. Vedic

Mathematics manifests the coherent and unified structure of mathematics and the methods are complementary, direct and easy.

The simplicity of Vedic Mathematics means that calculations can be carried out mentally (though the methods can also be written down). There are many advantages in using a flexible, mental system. Pupils can invent their own methods, they are not limited to the one 'correct' method. This leads to more creative, interested and intelligent pupils.

## **2.2 ANDROID DEVELOPMENT**

The whole Android development part of the project has been done using Android Studio. It is a very easy to use tool as all the functions are available to the application developer. Android Studio is a more stable software as compared to Eclipse. Android Studio has its own IDE(Integrated Development Environment). Android Studio is designed specifically for Android development and its main goal is to speed up the Android development process and make it easier and simpler.

## **3. PRODUCT CODE**

### **3.1 JAVA FILES**

```
MAINACTIVITY.JAVA
package com.example.inspiron.quizzzz;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```

        Button but1= (Button)findViewById(R.id.flash);
        but1.setOnClickListener(new Button.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new
Intent(v.getContext(),FlashCards.class);
                startActivityForResult(intent, 0);
            }
        });
        Button but2 = (Button) findViewById(R.id.quiz);

        but2.setOnClickListener(new Button.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new Intent(v.getContext(),Quiz.class);
                startActivityForResult(intent, 0);
            }
        });
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.menu_main, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        // Handle action bar item clicks here. The action bar will
        // automatically handle clicks on the Home/Up button, so long
        // as you specify a parent activity in AndroidManifest.xml.
        int id = item.getItemId();
        //noinspection SimplifiableIfStatement
        if (id == R.id.action_settings) {
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
}

```

### 3.2XML FILES

Activity\_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```
xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent"
android:layout_height="match_parent"
        android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin" tools:context=".MainActivity"
android:background="@mipmap/vedic">
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textAppearance="?android:attr/textAppearanceLarge"
    android:text="Vedic Maths"
    android:id="@+id/title1"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="52dp"
    android:textSize="40dp"
    android:textStyle="bold" />
```

```
<Button
```

```
    android:layout_width="250dp"
    android:layout_height="80dp"
    android:text="@string/Flash"
    android:id="@+id/flash"
    android:background="#ffffde5b"
    android:textSize="35dp"
    android:textColorHighlight="#fffff4f2"
    android:layout_above="@+id/quiz"
    android:layout_alignLeft="@+id/quiz"
    android:layout_alignStart="@+id/quiz"
    android:layout_marginBottom="30dp"
    android:focusable="true"
    android:focusableInTouchMode="false"
    android:textColor="#ffffff"
    android:onClick="sendMessage"/>
```

```
<Button
```

```
    android:layout_width="250dp"
    android:layout_height="80dp"
```

```

    android:text="@string/flashyQuiz"
    android:id="@+id/quiz"
    android:textSize="35dp"
    android:textColor="#ffffff"
    android:background="#ffffde5b"
    android:layout_alignParentBottom="true"
    android:layout_alignRight="@+id/title1"
    android:layout_alignEnd="@+id/title1" />

```

</RelativeLayout>

Strings.xml

<resources>

<string name="app\_name">MathMagic</string>

<string name="hello\_world">Hello world!</string>

<string name="action\_settings">Settings</string>

<string name="Flash">Tutorial</string>

<string name="flashyQuiz">Quiz</string>

<string name="b1q1">8401</string>

<string name="q1b2">8281</string>

<string name="q1b3">8391</string>

<string name="q1b4">8241</string>

<string name="q2">Q2) Find the product of 694 and 606 using the sutra

"Antyordasakepi".</string>

<string name="q2b1">420634</string>

<string name="q2b2">421464</string>

<string name="q2b3">420564</string>

<string name="q2b4">420334</string>

<string name="q3">Q3) Find the product of 198 and 102.</string>

<string name="q3b2">20196</string>

<string name="q3b1">20336</string>

<string name="q3b3">21296</string>

<string name="q3b4">20596</string>

<string name="q4">Q4) Find the square of 325 using Ekadhikena Purvena sutra</string>

<string name="q4b1">105625</string>

<string name="q4b2">105325</string>

<string name="q4b3">105885</string>

<string name="q4b4">105925</string>

<string name="q5">Q5) Find the square of 1105.</string>  
 <string name="r5b3">1221025</string>  
 <string name="r5b1">1222025</string>  
 <string name="r5b2">1223025</string>  
 <string name="r5b4">1226025</string>  
 <string name="q6">Q6) Find the product of 392 and 308.</string>  
 <string name="q6b1">120736</string>  
 <string name="r6b2">120776</string>  
 <string name="q6b3">120836</string>  
 <string name="q6b4">120436</string>  
 <string name="q5b1">1223025</string>  
 <string name="q5b2">1222025</string>  
 <string name="q5b3">1221025</string>  
 <string name="q5b4">1224025</string>  
 <string name="q7">Q7) Find the square of 93.</string>  
 <string name="q7b4">8649</string>  
 <string name="q7b2">8949</string>  
 <string name="q7b1">8049</string>  
 <string name="q7b3">7949</string>  
 <string name="r8b2">8455</string>  
 <string name="q8">Q8) Find the product of 89 and 95.</string>  
 <string name="q8b1">7645</string>  
 <string name="q8b3">7455</string>  
 <string name="q8b4">8255</string>  
 <string name="q9">Q9) Find  $999 \times 123$ .</string>  
 <string name="q9b4">122877</string>  
 <string name="q9b3">123887</string>  
 <string name="q9b2">213867</string>  
 <string name="q9b1">901857</string>  
 <string name="q10">Q10) Find  $46 \times 46$ .</string>  
 <string name="q10b1">2116</string>  
 <string name="q10b2">2026</string>  
 <string name="q10b3">2326</string>  
 <string name="q10b4">2816</string>

<string name="wr1">1) Concept of square(Ekadhikena Purvena)

Sutra Ekadhikena Purvena means "By one more than the previous one".

The formula for this is Tenth digit \* (Tenth digit + 1)/(Last digit)<sup>2</sup>.

For eg.)Consider the square of 25.

By using the above formula we get,



$$2(2+1)/5^2$$

$$6/25$$

Answer is 625.</string>

<string name="wr2">2) Concept of Multiplication(Antyordasakepi)

The sutra "Antyordasakepi" means "The sum of last digits is ten".The sutra indicates that the numbers of which the last digits are added up to give 10,100,1000 and so on.

for eg.)Consider  $401 \times 409$

Sum of last digits = 10

product of last digits =9

According to the method

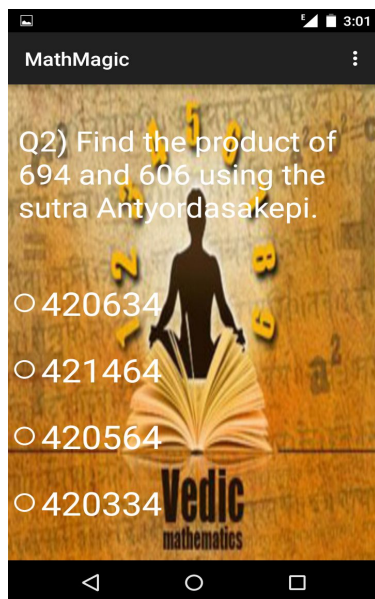
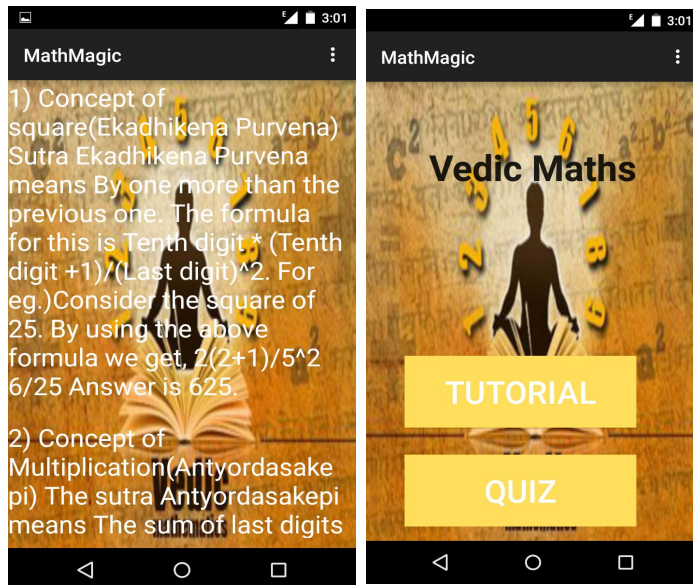
$$40 \times 41 / 1 \times 9$$

$$1640 / 09$$

$$164009</string>$$

</resources>

### 3.3 SNAPSHOTS



## 4.APPLICATIONS

Vedic Maths has many many applications in the real world. Vedic Maths has been used in various fields such as Digital Signal Processing (DSP), Chip Designing, Discrete Fourier Transform (DFT), High Speed Low Power VLSI Arithmetic and Algorithms, RSA Encryption System etc. These applications have been created by using various Vedic Maths Sutras. Therefore the MathMagic(A Vedic Maths Tutorial Application) would prove to be very useful to the youth so that they can implement these sutras in the development of a useful application.

## **5.FUTURE ENHANCEMENT**

There is no future enhancement as such that can be done with this tutorial application. However there can be inclusion of new sutras that has been recently discovered or the quiz module can be changed by putting forth a new set of questions so that the the students can solve them to improve their sum solving speed. Also changes can be made to the GUI.

## **6.CONCLUSION**

The MCC Project has really helped me in knowing and understanding new things. It has given me an impetus of learning a completely new software i.e. Android Studio with the help of which I was able to develop this informative application “MathMagic”.

## **7.BIBILOGRAPHY**

As any development project I mostly use the official Android documentation.

<http://developer.android.com/index.html>