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A PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

THE DEGREE OF

BACHELOR OF COMPUTER APPLICATIONS

BY

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DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS SHILLONG COLLEGE

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NORTH EASTERN HILL UNIVERSITY

CERTIFIED THAT THIS IS A BONAFIDE RECORD OF THE PROJECT

ENTITLED

Racing Cars

Submitted for the partial fulfillment for the award of degree of

BACHELOR OF COMPUTER APPLICATIONS

By

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I would like to thank Sir Teibor Warjri for giving me the idea regarding this project and some of my friends for helping me when I am in needs.

GOD BLESS YOU ALL

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SYNOPSIS

PROJECT NAME: Racing Cars

Objectives:

This is a Racing dice game where there will be 6(six) players to compete in the race. There will be two dices in the game,one will represent the players or in another word, this dice will decide which player will get a chance to move first and another dice for getting the distance of how much unit that car will move according to the outcome of dice.

1.This is the first ever racing game which implemented dice for moving the car.

2.This is one of the game being played in Meghalaya mainly in fete.

SYSTEM REQUIREMENT

Hardware:

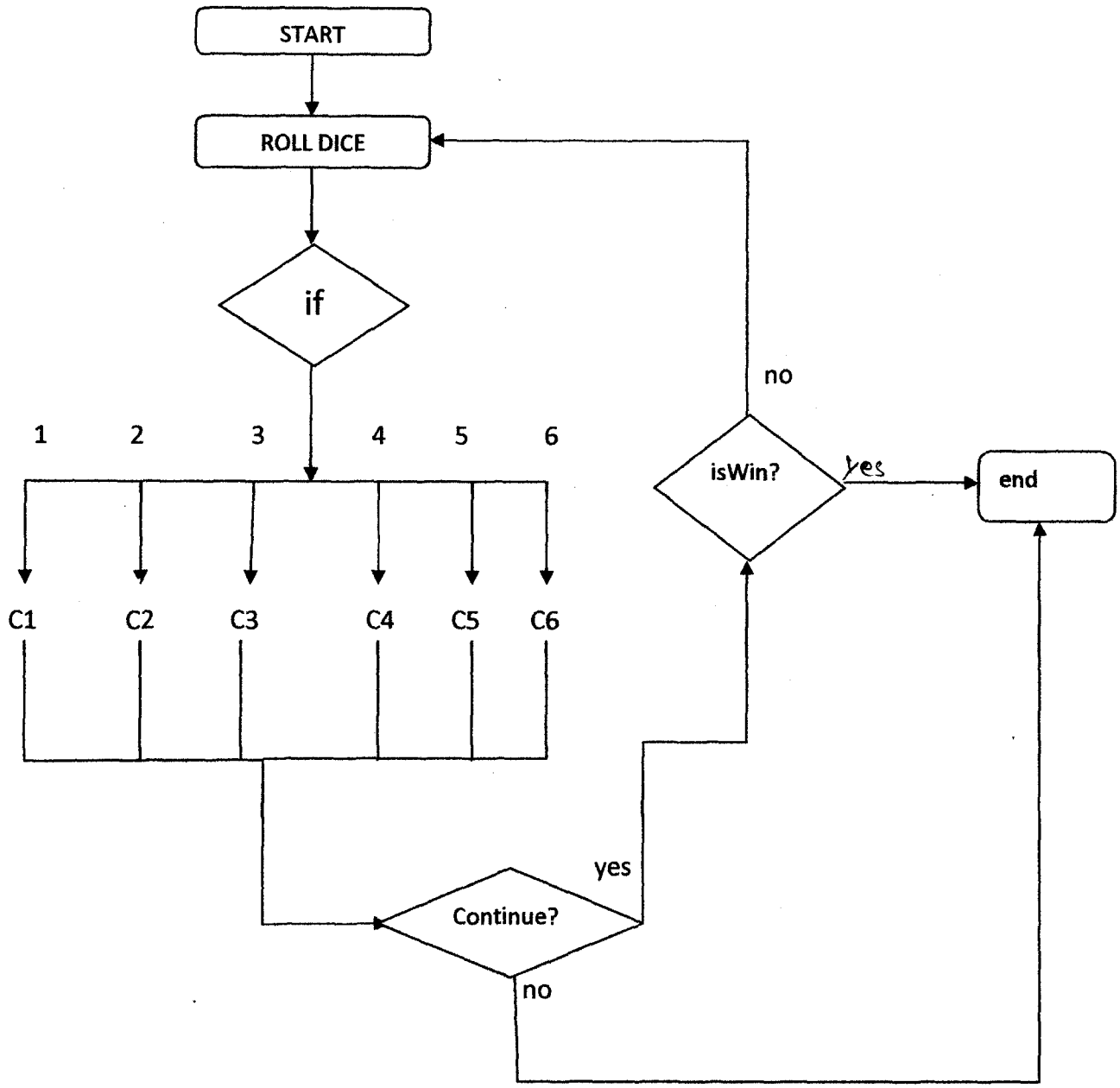
- Processor: Intel(R) Pentium 4
- Hardware:(minimum) 4GB RAM

Software:

- Operating System: Windows 8

  Programming: java language with android
- Software: Android Studio

FLOWCHART


START
ROLL DICE
if
1
2
3
4
5
6
C1
C2
C3
C4
C5
C6
isWin?
yes
end
no
Continue?
yes
no

Algorithm:

1.roll the dice

2.check the outcome

3.if dice[car]=1

Then car1=speed

Else

Car2

Car3....

If car[position]=20

Then race is won.

Coding:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.lakhonpohlong.racingcars" >

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name">
        <activity
            android:name="com.lakhonpohlong.racingcars.MainMenu"
            android:label="@string/app_name"
            android:screenOrientation="portrait">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name=".CarMove"
            android:screenOrientation="portrait"
            android:theme="@android:style/Theme.NoTitleBar.Fullscreen"></activity>

    </application>
</manifest>
```

Main menu:

```
package com.lakhonpohlong.racingcars;


import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.view.View.OnClickListener;
import android.view.Window;
import android.view.WindowManager;
import android.widget.ImageButton;



public class MainMenu extends Activity {


	@Override
	protected void onCreate(Bundle savedInstanceState) {
		requestWindowFeature(Window.FEATURE_NO_TITLE);
		super.onCreate(savedInstanceState);
		setContentView(R.layout.main_menu);

	getWindow().getDecorView().setSystemUiVisibility(View.SYSTEM_UI_FLAG_LAYOUT_STABLE |
View.SYSTEM_UI_FLAG_LAYOUT_HIDE_NAVIGATION
				| View.SYSTEM_UI_FLAG_LAYOUT_FULLSCREEN |
View.SYSTEM_UI_FLAG_HIDE_NAVIGATION |
```

```
                View.SYSTEM_UI_FLAG_FULLSCREEN |
 View.SYSTEM_UI_FLAG_IMMERSIVE_STICKY);

        ImageButton btn_startrace = (ImageButton) findViewById(R.id.btn_startrace);

        btn_startrace.getBackground().setAlpha(0);


        Global.context = getApplicationContext();


        btn_startrace.setOnClickListener(new OnClickListener() {


            @Override

            public void onClick(View v) {

                /* Start Game */

                Intent intent = new Intent(MainMenu.this, CarMove.class);

                MainMenu.this.startActivity(intent);

            }

        });



    }

}
```

GUI of main menu

```
<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"
  tools:context="${packageName}.${activityClass}" >
  <ImageView
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
    android:scaleType="fitXY"
    android:src="@drawable/menu_bg" />

  <ImageButton
    android:id="@+id/btn_startrace"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentBottom="true"
    android:layout_centerHorizontal="true"
    android:src="@drawable/start_btn_selector"
    android:layout_marginBottom="50dp"
    />

</RelativeLayout>
```

CarMove

```
package com.lakhonpohlong.racingcars;

import android.app.Activity;
import android.content.res.Resources;
import android.graphics.drawable.Drawable;
import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorManager;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.os.Handler;
import android.os.Looper;
import android.os.Message;
import android.support.v7.app.AppCompatActivity;
import android.view.Gravity;
import android.view.View;
import android.widget.ImageView;
import android.widget.LinearLayout;
import android.widget.Toast;

import java.io.IOException;
import java.util.Random;
```



```
public class CarMove extends Activity implements SensorEventListener {
```

```
    private final int[] diceImages=new int[] {R.drawable.d1, R.drawable.d2, R.drawable.d3, R.drawable.d4,
R.drawable.d5, R.drawable.d6};

    private final int rollAnimation=200;

    private final int delayTime=15;

    private Resources resources;

    private Drawable dices[]=new Drawable[6];

    private final Random randomGen=new Random();

    private int diceSum;

    int roll[]=new int[] {6,6};

    private ImageView getDie1;

    private ImageView getDie2;

    String TAG;

    private LinearLayout dieContainer;

    private SensorManager sensorManager;

    private Handler animationHandler;

    private long lastUpdate= -1;

    private Float x,y,z;

    private Float Last_X,Last_Y,Last_Z;

    private boolean paused=false;

    private static final int updateDelay=50;

    private static final int SHAKE_THRESHOLD=800;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

      paused=false;

      super.onCreate(savedInstanceState);

      setContentView(R.layout.game_view);

      getWindow().getDecorView().setSystemUiVisibility(View.SYSTEM_UI_FLAG_LAYOUT_STABLE |
View.SYSTEM_UI_FLAG_LAYOUT_HIDE_NAVIGATION
```

```
        | View.SYSTEM_UI_FLAG_LAYOUT_FULLSCREEN | View.SYSTEM_UI_FLAG_HIDE_NAVIGATION
|
        View.SYSTEM_UI_FLAG_FULLSCREEN | View.SYSTEM_UI_FLAG_IMMERSIVE_STICKY);
    resources=getResources();
    for(int i=0;i<6;i++) {

      dices[i]=resources.getDrawable(diceImages[i]);
    }
    dieContainer= (LinearLayout) findViewById(R.id.diceContainer);
    getDie1=(ImageView) findViewById(R.id.die1);
    getDie2=(ImageView) findViewById(R.id.die2);
    getDie1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        try {
          rollDice();
        } catch (Exception e) {}
      }
    });
    getDie1= (ImageView) findViewById(R.id.die1);
    getDie2=(ImageView)findViewById(R.id.die2);
    animationHandler=new Handler() {
      public void handleMessage(Message message) {
        getDie1.setImageDrawable(dices[roll[0]]);
        getDie2.setImageDrawable(dices[roll[1]]);
      }
    };

    getDie2.setOnClickListener(new View.OnClickListener() {
      @Override
```

```
        public void onClick(View v) {
          try {
            rollDice();
            Toast toast=new Toast(getApplicationContext());
            toast.makeText(getApplicationContext(), "No:" + roll[0], toast.LENGTH_SHORT);
            toast.show();
          } catch (Exception e) {
          }
        }
      });

      getDie1= (ImageView) findViewById(R.id.die1);
      getDie2=(ImageView)findViewById(R.id.die2);
      animationHandler=new Handler() {
        public void handleMessage(Message message) {
          getDie1.setImageDrawable(dices[roll[0]]);
          getDie2.setImageDrawable(dices[roll[1]]);
        }
      };

      sensorManager=(SensorManager)getSystemService(SENSOR_SERVICE);
      boolean accelerSupported=sensorManager.registerListener(this,
          sensorManager.getDefaultSensor(SensorManager.SENSOR_ACCELEROMETER),
SensorManager.SENSOR_DELAY_GAME);
      if(!accelerSupported) sensorManager.unregisterListener(this);
      rollDice();
    }

    private void rollDice() {
      if(paused) return;
```

```
    new Thread(new Runnable() {
      @Override
      public void run() {
        for(int i= 0; i< rollAnimation; i++) {
          doRoll();
        }
      }
    }).start();
    MediaPlayer mediaPlayer=MediaPlayer.create(this, R.raw.roll);
    try {
      mediaPlayer.prepare();
    }catch (IllegalStateException e){
      e.printStackTrace();
    } catch (IOException e) {
      e.printStackTrace();
    }
    mediaPlayer.start();
}

private void doRoll() {
  try {
    roll[0] = randomGen.nextInt(6);
    roll[1] = randomGen.nextInt(6);
    diceSum = roll[0] + roll[1] + 2;

    synchronized (getLayoutInflater()) {
      animationHandler.sendEmptyMessage(0);
      Looper.prepare();
    }
    try {
```

```
            Thread.sleep(delayTime);
        } catch (final InterruptedException e) {
            e.printStackTrace();
        }

    } catch (Exception e) {
        e.printStackTrace();
    }
    Toast toast = new Toast(getApplicationContext());

    toast.setGravity(Gravity.CENTER_VERTICAL, 0, 0);
    toast.makeText(this, "You're toast with !" + roll[0], Toast.LENGTH_SHORT).show();
}

@Override
public void onResume() {
    super.onResume();
    paused = false;
}
public void onPause() {
    super.onPause();
    paused = true;
}

@Override
public void onSensorChanged(SensorEvent event) {
  Sensor mySensor=event.sensor;
  /*if(mySensor.getType()==SensorManager.SENSOR_ACCELEROMETER){
     long curTime=System.currentTimeMillis();
     if((curTime-lastUpdate)>updateDelay) {
```

```
            long diffTime=(curTime-lastUpdate);
            lastUpdate=curTime;
            x=event.values[SensorManager.DATA_X];
            y=event.values[SensorManager.DATA_Y];
            z=event.values[SensorManager.DATA_Z];
            Float speed = Math.abs(x + y + z - Last_X - Last_Y - Last_Z) / diffTime *10000;
            if(speed > SHAKE_THRESHOLD) {
              rollDice();
            }
            Last_X=x;
            Last_Y=y;
            Last_Z=z;
          }
        }*/
    }

    @Override
    public void onAccuracyChanged(Sensor sensor, int accuracy) {
      return;
    }
}
```

Speed

```
package com.lakhonpohlong.racingcars;

/
public class Speed {

        public static final int DIRECTION_RIGHT      = 1;
        public static final int DIRECTION_LEFT       = -1;
        public static final int DIRECTION_UP = -1;
```

```
public static final int DIRECTION_DOWN      = 1;

private float xv = 1;    // velocity value on the X axis
private float yv = 1;    // velocity value on the Y axis

private int xDirection = DIRECTION_RIGHT;
private int yDirection = DIRECTION_DOWN;

public Speed() {
        this.xv = 5;
        this.yv = 5;
}

public Speed(float xv, float yv) {
        this.xv = xv;
        this.yv = yv;
}

public float getXv() {
        return xv;
}
public void setXv(float xv) {
        this.xv = xv;
}
public float getYv() {
        return yv;
}
public void setYv(float yv) {
        this.yv = yv;
}
```

```
    public int getxDirection() {
        return xDirection;
    }
    public void setxDirection(int xDirection) {
        this.xDirection = xDirection;
    }
    public int getyDirection() {
        return yDirection;
    }
    public void setyDirection(int yDirection) {
        this.yDirection = yDirection;
    }

    // changes the direction on the X axis
    public void toggleXDirection() {
        xDirection = xDirection * -1;
    }

    // changes the direction on the Y axis
    public void toggleYDirection() {
        yDirection = yDirection * -1;
    }

}
```

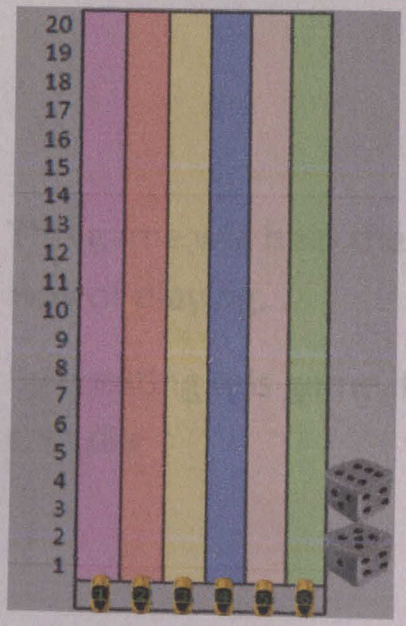
Gui of Carmove

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android=http://schemas.android.com/apk/res/android
```

```
android:id="@+id/diceContainer"
android:orientation="vertical"
android:gravity="center"
android:layout_width="fill_parent"
android:layout_height="fill_parent"
android:background="@drawable/track"
android:padding="0dip">

<RelativeLayout
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  >
  <ImageView
    android:id="@+id/die1"
    android:src="@drawable/d22"
    android:layout_width="60dip"
    android:layout_height="60dip"
    android:layout_alignParentBottom="true"
    android:layout_alignParentRight="true"
    android:layout_marginRight="0dp"
    android:layout_marginBottom="90dp"/>

<ImageView
  android:id="@+id/die2"
  android:src="@drawable/d6"
  android:layout_width="60dip"
  android:layout_height="60dip"
  android:layout_alignParentRight="true"
  android:layout_alignParentBottom="true"
  android:layout_marginRight="0dp"
```

```
    android:layout_marginBottom="30dp"/>

  <ImageView
    android:id="@+id/car1"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car1"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="50dp"
    android:paddingTop="20dp" />

  <ImageView
    android:id="@+id/car2"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car2"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="84dp"
    android:paddingTop="20dp"/>

  <ImageView
    android:id="@+id/car3"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car3"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="120dp"
    android:paddingTop="20dp"/>

  <ImageView
```

```
    android:id="@+id/car4"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car4"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="155dp"
    android:paddingTop="20dp"/>
  <ImageView
    android:id="@+id/car5"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car5"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="188sp"
    android:paddingTop="20dp"/>

  <ImageView
    android:id="@+id/car6"
    android:layout_width="50dp"
    android:layout_height="70dp"
    android:src="@drawable/car6"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="222dp"
    android:paddingTop="20dp"/>
</RelativeLayout>
</LinearLayout>
```



String

```
<resources>
    <string name="app_name">Racing Cars</string>
    <string name="button1">Start New Game</string>

    <string name="action_settings">Settings</string>
    <string name="main_menu">Main_Menu</string>

</resources>
```

Drawable

Car1,car2,car3,car4,car5,car6,d1,d2,d3,d4,d5,d6,menu-bg,start_btn

CONCLUSION

This game will help the people by using this app instead of those traditional way of playing.

By creating this game,it will eliminate all those cost incure in buying toy cars,die

BIBLIOGRAPHY

1.www.google.com

2.www.stackoverflow.com