**Catch The Ball**

**Android Apk…**

**Introduction:**

Android is a Linux based operating system it is designed primarily for touch screen mobile devices such as smart phones and tablet computers. The operating system have developed a lot in last 15 years starting from black and white phones to recent smart phones or mini computers. These applications are more comfortable and advanced for the users. The android is a powerful operating system and it supports large number of applications in Smartphones. These applications are more comfortable and advanced for the users. The hardware that supports android software is based on ARM architecture platform. The android is an open source operating system means that it’s free and any one can use it. The android has got millions of apps available that can help you managing your life one or other way and it is available low cost in market at that reasons android is very popular. A mobile game is a game played on a feature phone, smartphone/tablet. The earliest known game on a mobile phone was a Tetris variant on the Hagenuk MT- 2000 device from 1994.

Catch the ball is an android game. Here user (player) needs to catch the right balls to gain point and go on. Catching wrong ball will end the game.

The official language for Android development, Java will be used to build this game application. And using xml for app interface.

**Using the code:**

1. Xml

2. Java

**Interface details:**

1. activity\_main.xml

2. activity\_result.xml

3. activity\_start.xml

4. MainActivity.java

5. result.java

6. start.java

7. Sound.java

**Code:**

1. MainActivity.java

package com.example.catchtheballapk;

import android.content.Intent;

import android.graphics.Point;

import android.os.Bundle;

import android.os.Handler;

import android.support.v7.app.AppCompatActivity;

import android.view.\*;

import android.widget.FrameLayout;

import android.widget.ImageView;

import android.widget.TextView;

import java.util.Timer;

import java.util.TimerTask;

public class MainActivity extends AppCompatActivity {

private TextView scoreLabel;

private TextView startLabel;

private ImageView box;

private ImageView orange;

private ImageView pink;

private ImageView black;

///size

private int frameHeight;

private int boxSize;

private int screenWidth;

private int screenHeight;

///position

private int boxY;

private int orangeX;

private int orangeY;

private int pinkX;

private int pinkY;

private int blackX;

private int blackY;

//score

private int score =0;

///initialization class

private Handler handler=new Handler();

private Timer timer= new Timer();

private Sound sound;

///status check

private boolean action\_flg=false;

private boolean start\_flg=false;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

sound = new Sound(this);

scoreLabel=(TextView) findViewById(R.id.scoreLabel);

startLabel=(TextView) findViewById(R.id.startLabel);

box=(ImageView) findViewById(R.id.box);

orange=(ImageView) findViewById(R.id.orange);

pink=(ImageView) findViewById(R.id.pink);

black=(ImageView) findViewById(R.id.black);

/// get screen size

WindowManager wm=getWindowManager();

Display disp= wm.getDefaultDisplay();

Point size =new Point();

disp.getSize(size);

screenWidth=size.x;

screenHeight=size.y;

/// move out of screen

orange.setX(-100);

orange.setY(-100);

pink.setX(-90);

pink.setY(-90);

black.setX(-90);

black.setY(-90);

scoreLabel.setText("Score : 0") ;

}

public void changePos(){

hitcheak();

/// orange

orangeX-=17;

if(orangeX<0){

orangeX = screenWidth + 20;

orangeY=(int)Math.floor(Math.random()\*(frameHeight - orange.getHeight()));

}

orange.setX(orangeX);

orange.setY(orangeY);

///black

blackX-=19;

if (blackX<0){

blackX= screenWidth + 10;

blackY= (int)Math.floor(Math.random()\*(frameHeight - orange.getHeight()));

}

black.setX(blackX);

black.setY(blackY);

///pink

pinkX-=22;

if(pinkX<0){

pinkX= screenWidth +5500;

pinkY=(int)Math.floor(Math.random()\*(frameHeight - orange.getHeight()));

}

pink.setX(pinkX);

pink.setY(pinkY);

///move box

if (action\_flg==true) {

///touching

boxY -= 25;

}

else{

//realizing

boxY+=25;

}

///check box position.

if(boxY<0)boxY=0;

if(boxY>frameHeight-boxSize)boxY=frameHeight-boxSize;

box.setY(boxY);

scoreLabel.setText("Score : "+score) ;

}

public void hitcheak(){

// if center of the ball is in the box it counts hits

//orange

int orangeCenterX = orangeX+orange.getWidth()/2;

int orangeCenterY = orangeY+orange.getHeight()/2;

//0<=orangeCenterX<=boxWidth

//boxY<= orangeCenterY<=boxY+boxHeight

if(0 <= orangeCenterX && orangeCenterX <= boxSize &&

boxY <= orangeCenterY && orangeCenterY <= boxY+boxSize){

score +=10;

orangeX=-10;

sound.playHitSound();

}

//pink

int pinkCenterX = pinkX + pink.getWidth()/2;

int pinkCenterY = pinkY + pink.getHeight()/2;

if(0 <= pinkCenterX && pinkCenterX <= boxSize &&

boxY <= pinkCenterY && pinkCenterY <= boxY+boxSize){

score +=30;

pinkX=-10;

sound.playHitSound();

}

//black

int blackCenterX = blackX + black.getWidth()/2;

int blackCenterY = blackY + black.getHeight()/2;

if(0 <= blackCenterX && blackCenterX <= boxSize &&

boxY <= blackCenterY && blackCenterY <= boxY+boxSize){

//stop timer !!

timer.cancel();

timer=null;

sound.playOverSound();

//show result

Intent intent =new Intent(getApplicationContext(),result.class);

intent.putExtra("Score",score);

startActivity(intent);

}

}

//touch screen

public boolean onTouchEvent(MotionEvent me){

if (start\_flg == false){

start\_flg=true;

///why get frame height and box height here?

///because the ui has not been set on the screen in OnCreate()!!

FrameLayout frame= (FrameLayout)findViewById(R.id.frame);

frameHeight = frame.getHeight();

boxY=(int) box.getY();

///the box is a square.(height and weight are the same.)

boxSize=box.getHeight();

startLabel.setVisibility(View.GONE);

timer.schedule(new TimerTask(){

public void run(){

handler.post(new Runnable() {

@Override

public void run() {

changePos();

}

});

}

},0,20);

}else{

if (me.getAction()==MotionEvent.ACTION\_DOWN) {

action\_flg=true;

}else if (me.getAction()==MotionEvent.ACTION\_UP){

action\_flg=false;

}

}

return true;

}

//disable return button

@Override

public boolean dispatchKeyEvent(KeyEvent event){

if (event.getAction()==KeyEvent.ACTION\_DOWN){

switch (event.getKeyCode()){

case KeyEvent.KEYCODE\_BACK:

return true;

}

}

return super.dispatchKeyEvent(event);

}

}

2. activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout 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:orientation="vertical"

tools:context=".MainActivity">

<TextView

android:id="@+id/scoreLabel"

android:layout\_width="match\_parent"

android:layout\_height="50dp"

android:text="Score : 300"

android:textSize="18sp"

android:paddingLeft="10dp"

android:gravity="center\_vertical"/>

<FrameLayout

android:id="@+id/frame"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<TextView

android:id="@+id/startLabel"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Tap to Start"

android:textSize="30sp"

android:layout\_gravity="center\_horizontal"

android:layout\_marginTop="130dp"/>

<ImageView

android:id="@+id/box"

android:layout\_width="50dp"

android:layout\_height="50dp"

android:src="@drawable/box"

android:layout\_gravity="center\_vertical"/>

<ImageView

android:id="@+id/orange"

android:layout\_width="30dp"

android:layout\_height="30dp"

android:src="@drawable/orange"

android:layout\_gravity="bottom"/>

<ImageView

android:id="@+id/black"

android:layout\_width="28dp"

android:layout\_height="28dp"

android:src="@drawable/black"

android:layout\_gravity="right">

<ImageView

android:id="@+id/pink"

android:layout\_width="24dp"

android:layout\_height="24dp"

android:src="@drawable/pink"/>

</FrameLayout>

</LinearLayout>

3. Start.java

package com.example.catchtheballapk;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.KeyEvent;

import android.view.View;

public class start extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_start);

}

public void startGame(View view) {

startActivity(new Intent(getApplicationContext(),MainActivity.class));

}

//disable return button

@Override

public boolean dispatchKeyEvent(KeyEvent event){

if (event.getAction()==KeyEvent.ACTION\_DOWN){

switch (event.getKeyCode()){

case KeyEvent.KEYCODE\_BACK:

return true;

}

}

return super.dispatchKeyEvent(event);

}

}

4. activity\_start.xml

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout 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:orientation="vertical"

android:gravity="center\_horizontal">

<TextView android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Catch the Ball"

android:textSize="32sp"

android:layout\_marginTop="50dp"/>

<TableLayout android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:layout\_marginTop="80dp">

<TableRow

android:gravity="center\_vertical">

<ImageView android:layout\_height="20dp"

android:layout\_width="20dp"

android:src="@drawable/pink"/>

<TextView android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:textSize="18sp"

android:text="30 point"

android:paddingLeft="10dp"/>

</TableRow>

<TableRow android:gravity="center\_vertical"

android:layout\_marginTop="20dp">

<ImageView android:layout\_height="20dp"

android:layout\_width="20dp"

android:src="@drawable/orange"/>

<TextView android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:textSize="18sp"

android:text="10 point"

android:paddingLeft="10dp"/>

</TableRow>

<TableRow android:gravity="center\_vertical"

android:layout\_marginTop="20dp">

<ImageView android:layout\_height="20dp"

android:layout\_width="20dp"

android:src="@drawable/black"/>

<TextView android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:textSize="18sp"

android:text="Game Over"

android:paddingLeft="10dp"/>

</TableRow>

</TableLayout>

<Button android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:text="START"

android:layout\_marginTop="60dp"

android:onClick="startGame"/>

</LinearLayout>

5. result.java

package com.example.catchtheballapk;

import android.content.Context;

import android.content.Intent;

import android.content.SharedPreferences;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.KeyEvent;

import android.view.View;

import android.widget.TextView;

public class result extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_result);

TextView scoreLabel =(TextView)findViewById(R.id.scoreLabel);

TextView highScoreLabel =(TextView)findViewById(R.id.highScoreLabel);

int score = getIntent().getIntExtra("Score",0);

scoreLabel.setText(score + "");

SharedPreferences settings =getSharedPreferences("GAME\_DATA", Context.MODE\_PRIVATE);

int highScore = settings.getInt("HIGH\_SCORE",0);

if(score > highScore){

highScoreLabel.setText("High Score : " + score);

// Update High Score

SharedPreferences.Editor editor = settings.edit();

editor.putInt("HIGH\_SCORE", score);

editor.commit();

}

else{

highScoreLabel.setText("High Score : " + highScore);

}

}

public void tryAgain(View view){

startActivity(new Intent(getApplicationContext(), start.class));

}

//disable return button

@Override

public boolean dispatchKeyEvent(KeyEvent event){

if (event.getAction()==KeyEvent.ACTION\_DOWN){

switch (event.getKeyCode()){

case KeyEvent.KEYCODE\_BACK:

return true;

}

}

return super.dispatchKeyEvent(event);

}

}

6. activity\_result.xml

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout 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=".result"

android:orientation="vertical"

android:gravity="center">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="GAME OVER"

android:textSize="30sp"/>

<TextView

android:id="@+id/scoreLabel"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_connt"

android:text="150"

android:textSize="40sp"

android:layout\_marginTop="80dp"/>

<TextView

android:id="@+id/highScoreLabel"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="High Score : 300"

android:textSize="20sp"

android:layout\_marginTop="80dp"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="50dp"

android:text="Try Again"

android:textAllCaps="false"

android:onClick="tryAgain"/>

</LinearLayout>

7. Sound.java

package com.example.catchtheballapk;

import android.content.Context;

import android.media.AudioAttributes;

import android.media.AudioManager;

import android.media.SoundPool;

import android.os.Build;

public class Sound {

private AudioAttributes audioAttributes;

final int SOUND\_POOL\_MAX = 2;

private static SoundPool soundPool;

private static int hitSound;

private static int overSound;

public Sound(Context context) {

// SoundPool is deprecated in API level 21. (Lollipop)

if (Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.LOLLIPOP) {

audioAttributes = new AudioAttributes.Builder()

.setUsage(AudioAttributes.USAGE\_GAME)

.setContentType(AudioAttributes.CONTENT\_TYPE\_MUSIC)

.build();

soundPool = new SoundPool.Builder()

.setAudioAttributes(audioAttributes)

.setMaxStreams(SOUND\_POOL\_MAX)

.build();

} else {

//SoundPool (int maxStreams, int streamType, int srcQuality)

soundPool = new SoundPool(SOUND\_POOL\_MAX, AudioManager.STREAM\_MUSIC, 0);

}

hitSound = soundPool.load(context, R.raw.hit, 1);

overSound = soundPool.load(context, R.raw.over, 1);

}

public void playHitSound() {

// play(int soundID, float leftVolume, float rightVolume, int priority, int loop, float rate)

soundPool.play(hitSound, 1.0f, 1.0f, 1, 0, 1.0f);

}

public void playOverSound() {

soundPool.play(overSound, 1.0f, 1.0f, 1, 0, 1.0f);

}

}

Conclusion:

* The effect of video games on the brain is very similar to the effect of wine on the health: there are some very poor uses of wine, there are some very poor uses of video games . It vastly depends on user.
* If user use the game on right purpose, make use of it on leisure time, this will help the users brain to think and process fast.
* Impact on society will depend on peoples wants and using system.
* This game won’t going to force users stay or hurt them on any state.

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