A PROJECT REPORT

On

FUN WITH LEARNING

Submitted in partial fulfillment of the requirement of
University of Mumbai for

Android Lab Mini Project
In
Information Technology

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Academic Year 2019 – 20

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PROJECT APPROVAL FOR

This project entitled "Fun with Learning" by Neha Shahu, Virag Savaliya, Vignesh Srinivas are approved for the degree of Bachelor of Engineering in Information Technology.

Examiners:

1. _____

2. _____

3. _____

Date:

Place:

DEPARTMENT OF INFORMATION TECHNOLOGY
Pillai College of Engineering
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DECLARATION

We declare that this written submission for Android Lab Mini Project entitled “Project Title” represent our ideas in our own words and where others' ideas or words have been included. We have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any ideas / data / fact / source in our submission. We understand that any violation of the above will cause for disciplinary action by institute and also evoke penal action from the sources which have not been properly cited or from whom prior permission have not been taken when needed.

Project Group Members:

Neha Shahu: _____

Virag Savaliya: _____

Vignesh Srinivas: _____

Date:

Place:

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Abstract

This digital revolution has brought forth smartphones and touch screen tablets, and with this, has fundamentally changed our experience with media. The popularity of smart mobile devices is growing fast. These digital devices represent a new generation of technological tools that offer remarkable access to content as well as opportunities for creative use even by young children. Nowadays children are relatively more competent users of mobile at a very young age. So when parents select apps for their young children, they want their child to learn something from the apps they are using, instead of just playing games or watching videos. So to fulfill this need, we have developed an application that will help children learn something. Fun with learning is an application developed to teach children counting, alphabets and other very basic yet very important things. The best part is that the children will be able to learn new things while playing and having fun. It will help parents to teach their children's anywhere and anytime. This application is built using Android studio, Java and XML

Chapter 1
Introduction

1.1 Fundamentals

Android is a Linux based operating system. Primarily it is designed for touchscreen mobile devices like smartphones and tablet computers. We are all very well known that Android has third-party applications, which can be acquired by users either through an app store such as Google Play, Amazon Appstore, etc., or by downloading and installing the application from a third-party site. The Play Store application allows users to browse, download, and update apps published by Google and third-party developers. It became very comfortable for the users and also they are showing a lot of interest to use the devices based on android applications.

1.2 Problem statement

The smartphone is one of the best inventions. It allows us to connect with people on the other side of the world. It has many other advantages. With the increasing popularity of smartphones, mobile games are also becoming very popular in all age groups. Nowadays children at a young age use mobiles just for playing games and watching videos. There is a need for an application in which children can learn basic kindergarten level things while playing and having fun. To overcome this problem, we have developed an application called fun with learning.

1.3 Objective

The project aims to deliver an application that will be available on android mobile devices. There are some kindergarten level lessons in this application. This can be an initial step-parent can take to teach their kids before they go to school. Children can easily learn basic things while having fun, such as alphabets, numbers, and colours, and so on, all through some rhymes.

1.4 Hardware and Software requirements

Software:
1. Android version 7 or above.
2. Monitor resolution of 1024 x 768 or higher.

Hardware:
1. 2 GB RAM.
2. 100 MB ROM.

Chapter 2
Implementation of Mini Project

2.1 Coding implementation of mini Project

Activity 1 Layout:

```
<?xml version="1.0" encoding="utf-8"?>
<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:background="@color/body_background"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/numbers"
        android:layout_width="132dp"
        android:layout_height="53dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="120dp"
        android:layout_marginTop="409dp"
        android:layout_marginEnd="120dp"
        android:layout_marginBottom="266dp"
        android:backgroundTint="#7289da"
        android:onClick="openNumbers"
        android:text="Numbers" />
```

```
    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="47dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="0dp"
        android:layout_marginTop="0dp"
        android:layout_marginEnd="0dp"
        android:layout_marginBottom="684dp"
        android:background="@color/tv_background"
        android:fontFamily="sans-serif-smallcaps"
        android:text="Fun With Learning"
        android:textAlignment="center"
        android:textColor="#99AAB5"
        android:textSize="32sp"
        android:textStyle="bold" />

</RelativeLayout>
```

Main Activity:

activity_main.xml | MainActivity.java | activity_color_page.xml | colorPage.java | activity_alphabet_page.xml | alphabetPage.java | activity_number_page.xml | nur

```
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void openAlphabets(View view) {
        Intent intent = new Intent( packageContext: this,alphabetPage.class);
        startActivity(intent);
    }


    public void openNumbers(View view) {
        Intent intent = new Intent( packageContext: this,numberPage.class);
        startActivity(intent);
    }

    public void openColor(View view) {
        Intent intent = new Intent( packageContext: this,colorPage.class);
        startActivity(intent);
    }
}
```

Activity 2:

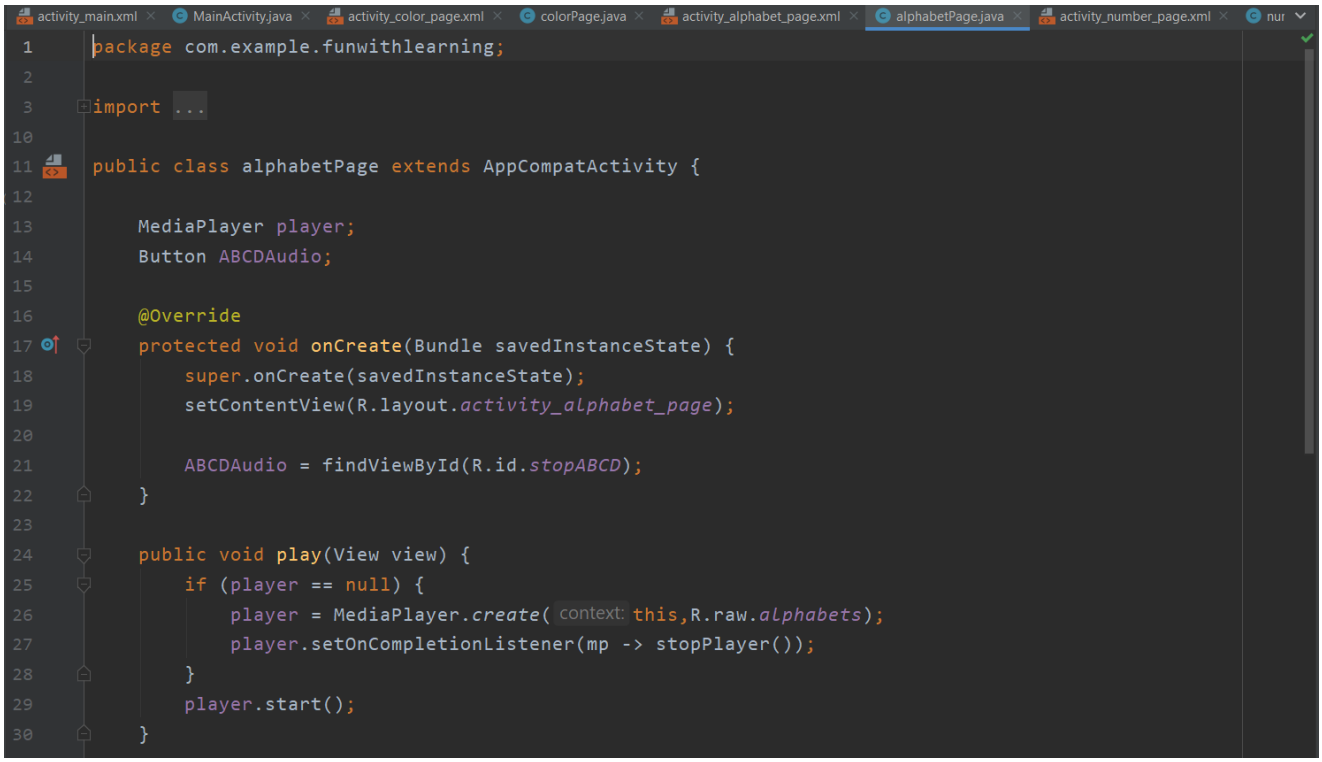
activity_main.xml | MainActivity.java | activity_color_page.xml | colorPage.java | activity_alphabet_page.xml | alphabetPage.java | activity_number_page.xml | nur

```java
package com.example.funwithlearning;

import androidx.appcompat.app.AppCompatActivity;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.widget.Button;

public class colorPage extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_color_page);

        Button buttonRED = findViewById(R.id.button2);
        Button buttonORANGE = findViewById(R.id.button1);
        Button buttonYELLOW = findViewById(R.id.button6);
        Button buttonBLUE = findViewById(R.id.button3);
        Button buttonVIOLET = findViewById(R.id.button4);
        Button buttonPURPLE = findViewById(R.id.button5);
        Button buttonPINK = findViewById(R.id.button7);

        buttonRED.setOnClickListener(v -> {
            MediaPlayer red = MediaPlayer.create( context: colorPage.this,R.raw.red);
            red.start();
        });
```

activity_main.xml | MainActivity.java | activity_color_page.xml | colorPage.java | activity_alphabet_page.xml | alphabetPage.java | activity_number_page.xml | nur

```java
        buttonYELLOW.setOnClickListener(v -> {
            MediaPlayer yellow = MediaPlayer.create( context: colorPage.this,R.raw.yellow);
            yellow.start();
        });

        buttonBLUE.setOnClickListener(v -> {
            MediaPlayer blue = MediaPlayer.create( context: colorPage.this,R.raw.blue);
            blue.start();
        });

        buttonVIOLET.setOnClickListener(v -> {
            MediaPlayer violet = MediaPlayer.create( context: colorPage.this,R.raw.violet);
            violet.start();
        });

        buttonPURPLE.setOnClickListener(v -> {
            MediaPlayer purple = MediaPlayer.create( context: colorPage.this,R.raw.purple);
            purple.start();
        });

        buttonPINK.setOnClickListener(v -> {
            MediaPlayer pink = MediaPlayer.create( context: colorPage.this,R.raw.pink);
            pink.start();
        });
    }
}
```

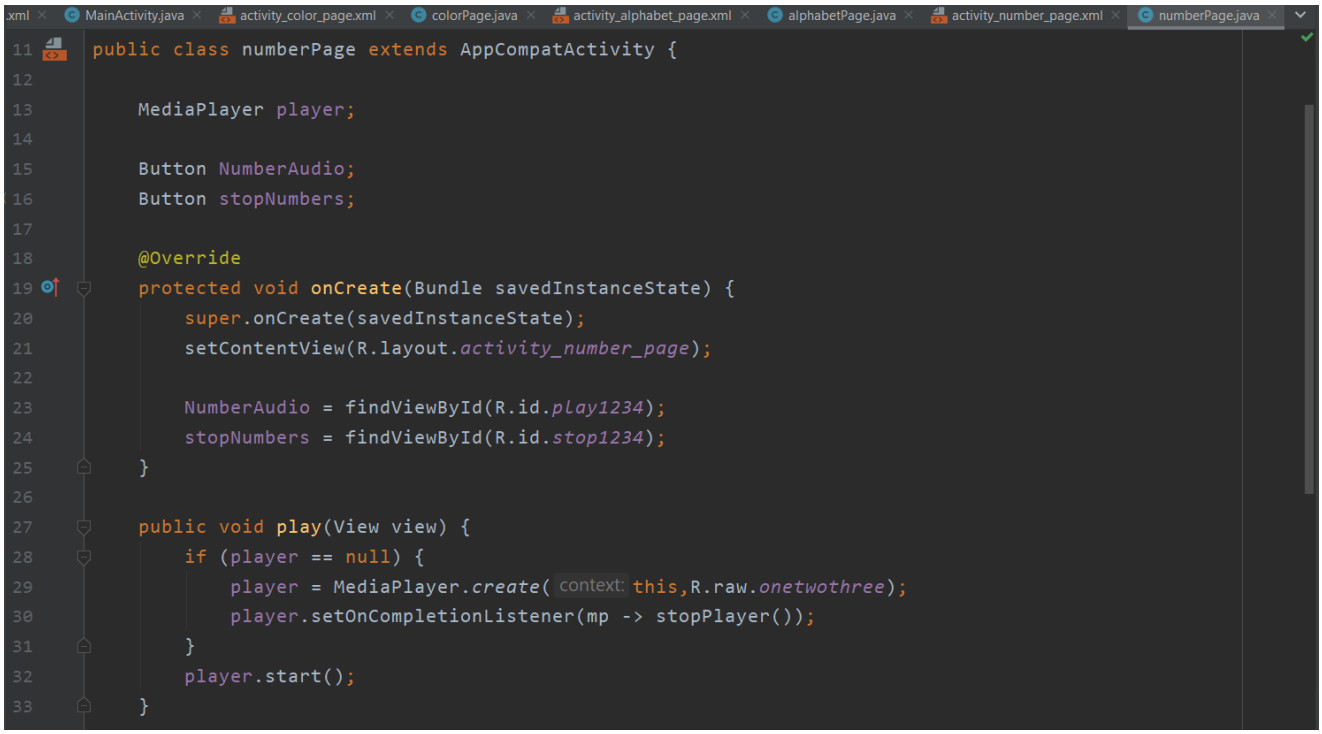
Activity 3:



```
activity_main.xml | MainActivity.java | activity_color_page.xml | colorPage.java | activity_alphabet_page.xml | alphabetPage.java | activity_number_page.xml | nur

1   package com.example.funwithlearning;
2
3   import ...
10
11  public class alphabetPage extends AppCompatActivity {
12
13      MediaPlayer player;
14      Button ABCDAudio;
15
16      @Override
17      protected void onCreate(Bundle savedInstanceState) {
18          super.onCreate(savedInstanceState);
19          setContentView(R.layout.activity_alphabet_page);
20
21          ABCDAudio = findViewById(R.id.stopABCD);
22      }
23
24      public void play(View view) {
25          if (player == null) {
26              player = MediaPlayer.create( context: this,R.raw.alphabets);
27              player.setOnCompletionListener(mp -> stopPlayer());
28          }
29          player.start();
30      }
```

```
activity_main.xml | MainActivity.java | activity_color_page.xml | colorPage.java | activity_alphabet_page.xml | alphabetPage.java | activity_number_page.xml | nur

32      public void pause(View view) {
33          if (player != null) {
34              player.pause();
35          }
36      }
37
38      public void stop(View view) { stopPlayer(); }
41
42      private void stopPlayer() {
43          if (player != null) {
44              player.release();
45              player = null;
46              Toast.makeText( context: this, text: "Rhymes Stopped", Toast.LENGTH_SHORT).show();
47          }
48      }
49
50      @Override
51      protected void onStop() {
52          super.onStop();
53          stopPlayer();
54      }
55
56  }
```

Activity 4:

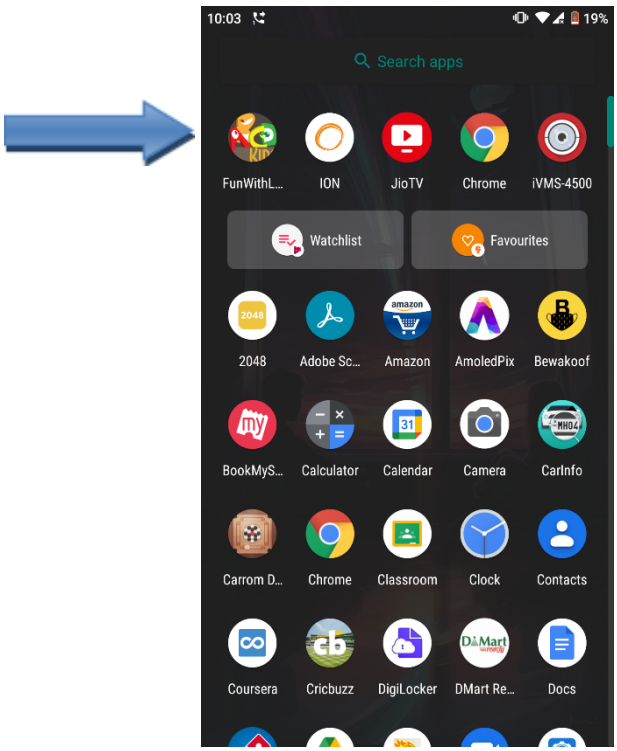


```
.xml  MainActivity.java  activity_color_page.xml  colorPage.java  activity_alphabet_page.xml  alphabetPage.java  activity_number_page.xml  numberPage.java

11  public class numberPage extends AppCompatActivity {
12
13      MediaPlayer player;
14
15      Button NumberAudio;
16      Button stopNumbers;
17
18      @Override
19      protected void onCreate(Bundle savedInstanceState) {
20          super.onCreate(savedInstanceState);
21          setContentView(R.layout.activity_number_page);
22
23          NumberAudio = findViewById(R.id.play1234);
24          stopNumbers = findViewById(R.id.stop1234);
25      }
26
27      public void play(View view) {
28          if (player == null) {
29              player = MediaPlayer.create( context: this,R.raw.onetwothree);
30              player.setOnCompletionListener(mp -> stopPlayer());
31          }
32          player.start();
33      }
```

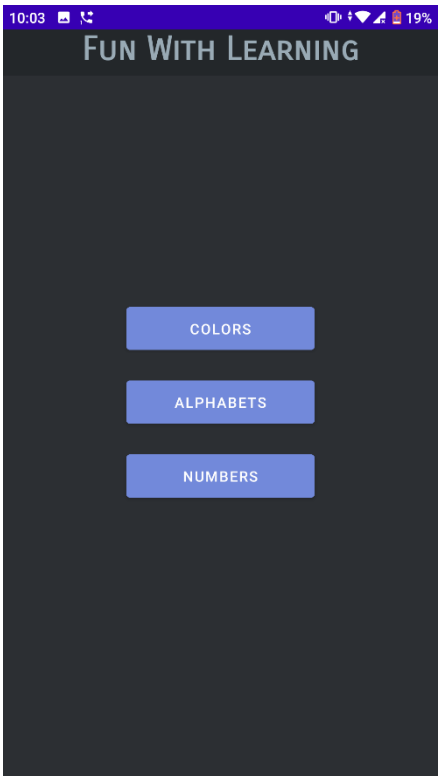
```
.xml  MainActivity.java  activity_color_page.xml  colorPage.java  activity_alphabet_page.xml  alphabetPage.java  activity_number_page.xml  numberPage.java

35      public void pause(View view) {
36          if (player != null) {
37              player.pause();
38          }
39      }
40
41      public void stop(View view) { stopPlayer(); }
44
45      private void stopPlayer() {
46          if (player != null) {
47              player.release();
48              player = null;
49              Toast.makeText( context: this, text: "Rhymes Stopped", Toast.LENGTH_SHORT).show();
50          }
51      }
52
53      @Override
54      protected void onStop() {
55          super.onStop();
56          stopPlayer();
57      }
58  }
```

2.2 Snapshots of working project

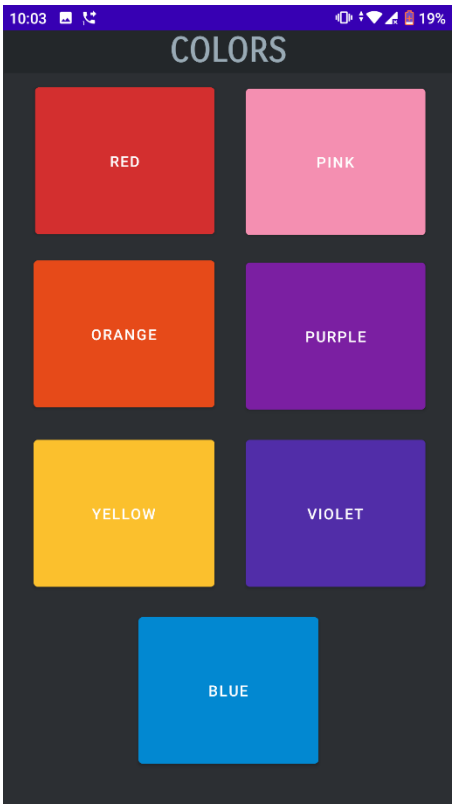
1. Open the fun with learning app.



2. After opening the application, user have 3 options that is colors, alphabets, and numbers. User can press the button to go to the respective tab.

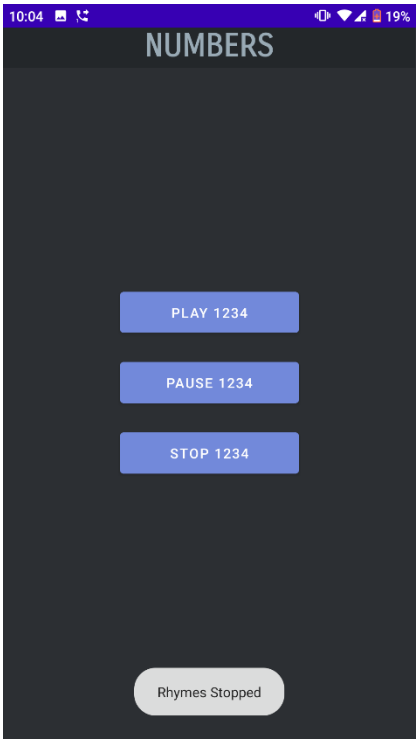


3. If the user choose to go in the colors tab, he/she will see the colors in the following screenshot. When any of the color is touched, the user will hear an audio with the respective color.

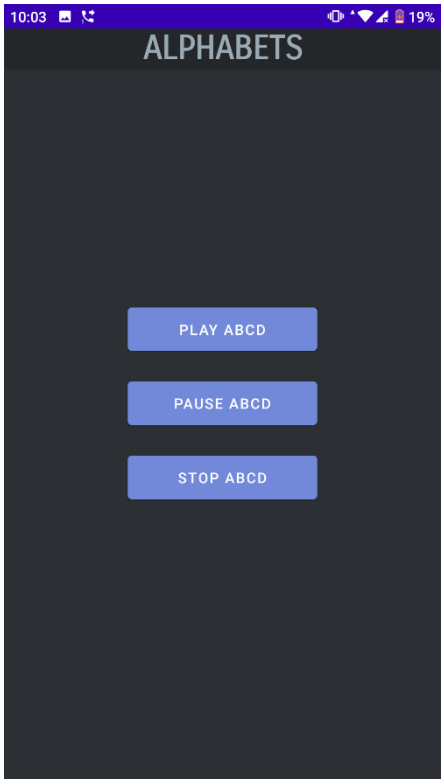


4. If the user choose to go in the number that, he/she will see the following 3 audio control buttons which will allow the user to play, pause and stop the audio. If the user stop the audio,

a message will appear saying rhymes stopped.



1. If the user choose to go in the number that, he/she will see the following 3 audio control buttons which will allow the user to play, pause and stop the audio. It is as the numbers tab.



Chapter 3
Conclusion & Future Scope

3.1 Conclusion

Thus, we have understood android studio and successfully developed an android application.

3.2 Future Scope

In future we can add the following features:

1. More audio rhymes
2. We can also add fun learning videos for children.
3. We can add lessons for school going students.
4. Live interactive lectures.
5. Books can also be added.

References

[1] Luo Zhenghua, “Realization of Individualized Recommendation System on Books Sale”, IEEE 2012 International Conference on Management of e-Commerce and e-Government. pp.10-13.

[2] Tewari, A.S. Kumar, and Barman, A.G, “Book recommendation system based on combine features of content based filtering, collaborative filtering and association rule mining”, International Advance Computing Conference (IACC), IEEE, pp 500 – 503, April 2014.

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[3] Anil Poriya, Neev Patel, Tanvi Bhagat and Rekha Sharma, “Non-Personalized Recommender Systems and User-based Collaborative Recommender Systems”, International Journal of Applied Information Systems (IJAIS), FCS, Vol. 6, No. 9, March 2014.