VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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Project Report on

"Currency convertor android application"

Submitted in the partial fulfilment of Sixth Semester Computer Graphics Laboratory with mini project

BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE AND ENGINEERING by

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CERTIFICATE

This is to certify that the project work entitled "Currency convertor" carried out by the AKASH J(1ME19CS003) NAVEEN KUMAR N(1ME19CS056), is bonfire student of M.S ENGINEERING COLLEGE have successfully submitted the Mini Project for 6th semester Bachelor of Engineering in Computer Science and Engineering of the VISHVESVARAYA TECHNOLOGICAL UNIVERSITY, Belgaum, during the year 2021-22 In "MOBILE APPLICATION DEVELOPMENT LABORATORY WITH MINI PROJECT".The project has been hereby approved as it satisfies the academic requirements in respect of the project work prescribed for the course of Bachelor of Engineering Degree.

Signature of the Guide

Mr.Pankaj kumar
Associate Professor
Dept.of.CSE

Signature of the HOD

Prof.Malatesh
Associate Professor Dept.of.CSE

Internal Examiner:		Name:	Sign:
External Examiner:		Name:	Sign:
Exam Date:			

ACKNOWLEDGEMENT

The successful completion of any work depends upon the cooperation and help of many people and not just those who directly execute the work. It is difficult to express in words our profound sense of gratitude to those who helped us, but we make a humble attempt to do so.

I am grateful to my institution, M.S Engineering College with its ideals and inspiration for having provided us with facilities, which has made this project work success.

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CHAPTER 1

Introduction

1.1 Background of the Study

The staffs who work at places like money exchange offices have to distinguish between different types of currencies and convert them to other currencies and that is not an easy job. They have to remember the symbol of each currency. This may result into wrong recognition, so they need an efficient and foolproof system to aid in their work. The aim of our system is to help people who need to recognize different currencies, and be able to convert them to another currency using a known exchange rate. With development of modern banking services, automatic methods for paper currency recognition become important in many applications such as vending machines. It is very difficult to count different denomination notes in a bunch. This project proposes an image processing technique for paper currency recognition and conversion. The extracted region of interest (ROI) can be used with Pattern Recognition and Neural Networks matching technique. Image Processing involves changing the nature of an image in order to improve its pictorial information for human interpretation. There are various techniques for currency recognition that involve texture, pattern or color based. We use digital image processing techniques to find region of interest, after that Neural Network and Pattern Recognition Technique is used for matching the pattern. A number of methods for banknote classification have been proposed. Template matching is often used as a simple method to classify banknotes.

However, new template or matching rules are required for new bill types. An effective way to overcome the problem is to extract features from bill images representing unique characteristics of bill data. After studying different currencies and considering the availability, we have chosen 5 currencies to work on

for this project. The chosen currencies are Indian Rupees (INR), Australian Dollar (AUD), Euro (EUR), Nigerian Naira (NGN) and US Dollar (USD).

A lot of work has been done in order to recognize currencies automatically,

A distinctive point extraction method used a coordinate data extraction method from specific parts of a Euro banknote representing the same color. In order to recognize banknotes, they used two key properties of banknotes: direction (front, rotated front, back, and rotated back) and face value, neural network-based bill recognition and verification method, the learning vector quantization (LVQ) method to recognize Italian Liras, 4 Robust and Effective Component-based method for Banknote Recognition by SURF Features. [Rubeena Mirza, 2012].

In another research work, a simple statistical test is used as the verification step, where univariate Gaussian distribution is employed, in another technique for paper currency recognition, three characteristics of paper currencies including

size, color and texture are used in the recognition. [Vipin Kumar Jain, 2013] After studying the previously used methods for currency recognition, we can see that most of these methods/algorithms use Artificial Neural Networks.

1.2 Statement of the Problem

Currently, human is needed to recognize the amount of the currency and to convert it manually. This is stressful especially to people who aren't so smart in calculations. So, this project is developed to replace human power to recognize the amount of the currency.

Currency Recognition and converter system is implemented to reduce human

power to automatically recognize the amount of currency and convert it into the other currency without human supervision.

1.3 Objectives of the Study

The main objective of the study is to develop a currency converter for major countries in the world. The countries to be used here are Indian Rupees (INR), Australian Dollar (AUD), Euro (EUR), Nigerian Naira (NGN) and US Dollar (USD). To achieve this objective, specific objectives are laid out which include:

i. Develop a system which able to convert between the currencies mentioned above

ii. A system in which an exchange rate for any particular currency can be stored and used in conversion between the correspondent currency.

iii. Develop the program that can determined the amount of paper currency

using neural network

iv. Extract the data from the currency image by using digital image processing toolbox.

1.4 Scope of the Study

The scope of this project is to develop a currency recognition and converter

system by using image processing and neural network. In other to implement this system we have to use MATLAB Toolbox to achieve the objectives of the project.

The system will be able to recognize the currency amount, integrate hardware and software, extract the data from the currency image by using digital image processing toolbox, accept and store an exchange rate for conversion between currencies.

1.5 Significance of the Study

This study will be useful to every organization that deals with money, it will help in easy conversion of money to another. It will be of immense help to bureau de change as it will ease the task of currency recognition and conversion. This work is also significant to scholars who needs to make research about currency recognition and conversion.

1.6 Limitations of the Study

The major limitation of this thesis is during the actual software development. The source code for image recognition was difficult to obtain as Php programming language don't have much support for image recognition.

Also due to lack of enough money, time and confidentiality of information, system developed convers all aspect of money conversion and few aspects of currency recognition.

1.7 Definition of Terms

Currency: Money or any item used for exchange of goods and services and facilitates transactions

Conversion: The act of bringing out an equivalent of one commodity in another commodity

CHAPTER-2

SYSTEM REQUIREMENT SPECIFICATION

2.1 SYSTEM REQUIREMENTS:

2.1.1 Software Requirements:

 Operating System – Windows. Memory-8GB RAM

 Free storage-8GB

 Screen resolution-1280 x 800

2.1.2 Hardware Requirements:

 Processor – At least 2.0 GHZ

 RAM – 8GB or more

TECHNOLOGIES USED:2.2 TOOLS AND

2.2.1 Android Studio:

Android Studio [6] is exclusively designed for developing Android applications. It

consists of all Android SDK tools to design, develop, maintain, test, debug andpublish our app.

2.2.2 Android Software Development Kit(SDK):

One of the main tools used in developing android applications, as it packages manycore features into one SDK and it can be used in the application easily. This helps

us to avoid writing lot of code, and building applications faster. 2.2.3 Android Debug Bridge(ADB);

Android SDK uses ADB tool as a connection device which allows us to connect theAndroid Devices or Emulator with the machine via USB. After developing or whiledeveloping applications, we can connect with the device to check howtheapplication runs. Later, we can debug and run the applications. 2.2.4 Android Software Development Kit(SDK):

One of the main tools used in developing android applications, as it packages manycore features into one SDK and it can be used in the application easily. This helps

us to avoid writing lot of code, and building applications faster

LANGUAGES:

There are two kinds of languages have used in “Student Information System”. Oneisa Programming Language and other is Database Language. Front End, I have usedXML & Back End, I have used Java Programming Language in my “Student

Information System” Programming Language & Markup Language: JAVA, XML JAVA:

Java is a high-level, class-based, object-oriented programming language that is

designed to have as few implementation dependencies as possible. XML:

XML stands for extensible markup language. A markup language is a set of

codes, or tags, that describes the text in a digital document. The most famous

markup language is hypertext markup language (HTML), which is used toformat Web pages. SQLite Database: It is a local or in built android database. Similar to Microsoft Access Database. All components are contained within one file. Embedded Relative Database. No Installation or drivers required.

Chapter 3

Source code

XML CODE:

```
<?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:id="@+id/activity_main"
   android:layout_width="match_parent"
   android:layout_height="match_parent"

   tools:context-tools="com.example.currconverter.MainActivity">

   <EditText
      android:id="@+id/usd"
      android:layout_width="match_parent"
      android:layout_height="70sp"
      android:layout_centerHorizontal="true"
      android:hint="Dollar"
```

```
    android:textAlignment="center"
    tools:ignore="HardcodedText"
    android:gravity="center_horizontal" />

<EditText
    android:id="@+id/bdt"
    android:layout_width="match_parent"
    android:layout_height="70sp"
    android:layout_below="@+id/submit"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="20dp"
    android:hint="Taka"
    android:textAlignment="center"
    tools:ignore="HardcodedText"
    android:gravity="center_horizontal" />

<Button
    android:id="@+id/submit"
    android:layout_width="match_parent"
    android:layout_height="60sp"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
```

```
    android:layout_below="@+id/usd"
    android:onClick="click"
    android:text="USD  to BDT"
    tools:ignore="HardcodedText" />

<Button
    android:id="@+id/submit2"
    android:layout_width="match_parent"
    android:layout_height="60sp"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
    android:layout_below="@+id/bdt"
    android:onClick="click2"
    android:text="BDT to USD"
    tools:ignore="HardcodedText" />

<Button
    android:id="@+id/reset"
    android:layout_width="match_parent"
    android:layout_height="80sp"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
```

```
        android:layout_below="@+id/submit2"
        android:layout_marginTop="24dp"
        android:onClick="reset"
        android:text="RESET"
        tools:ignore="HardcodedText" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginBottom="25dp"
        android:text="1USD = 84.15 BDT"
        tools:ignore="HardcodedText" />
</RelativeLayout>
```

JAVA CODE:

```
package com.example.currconvertor;



import android.os.Bundle;
import android.text.InputType;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    float a;

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

```
}



void convertUsdToBdt()
{  EditText usd= (EditText) findViewById(R.id.usd);
   usd.setInputType(InputType.TYPE_CLASS_NUMBER);

   EditText  bdt=(EditText) findViewById(R.id.bdt);
   bdt.setInputType(InputType.TYPE_CLASS_NUMBER);

   double a=Integer.parseInt(usd.getText().toString());
   double result=a*84.15;
   bdt.setText(String.valueOf(result));

}

void convertBdtToUsd()
{  EditText usd= (EditText) findViewById(R.id.usd);
   usd.setInputType(InputType.TYPE_CLASS_NUMBER);
   EditText  bdt=(EditText) findViewById(R.id.bdt);
```

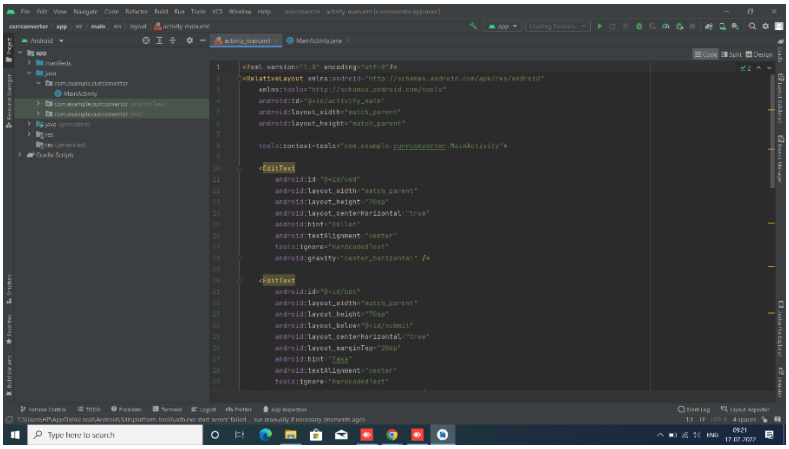
```
    bdt.setInputType(InputType.TYPE_CLASS_NUMBER);

    double a=Integer.parseInt(bdt.getText().toString());
    double result=a/84.15;
    usd.setText(String.valueOf(result));
}

public void click(View view)
{
    convertUsdToBdt();
    Button b2=(Button) findViewById(R.id.submit2);
    b2.setEnabled(false);
}

public void reset(View view)
{
    Button b1=(Button) findViewById(R.id.submit);
    b1.setEnabled(true);
    Button b2=(Button) findViewById(R.id.submit2);
    b2.setEnabled(true);
    EditText usd= (EditText) findViewById(R.id.usd);
    EditText  bdt=(EditText) findViewById(R.id.bdt);
```

```
        usd.setText("");
        bdt.setText("");

    }

    public void click2(View view)
    {
        Button b1=(Button) findViewById(R.id.submit);
        b1.setEnabled(false);
        convertBdtToUsd();
    }
}
```

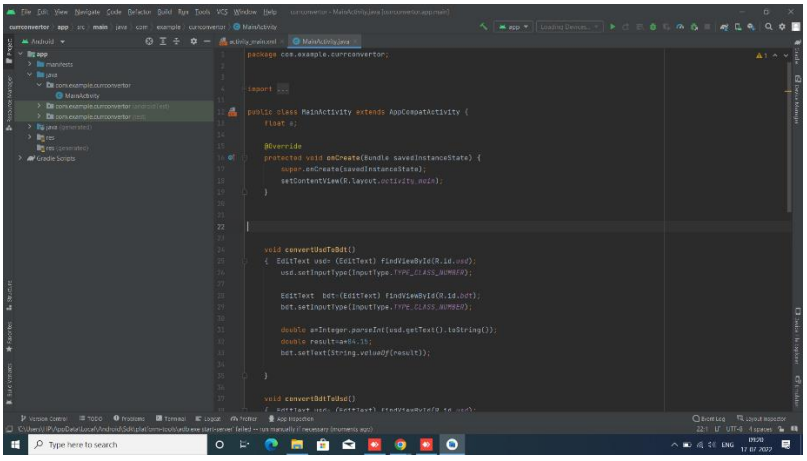
Chapter 4

Screen shots

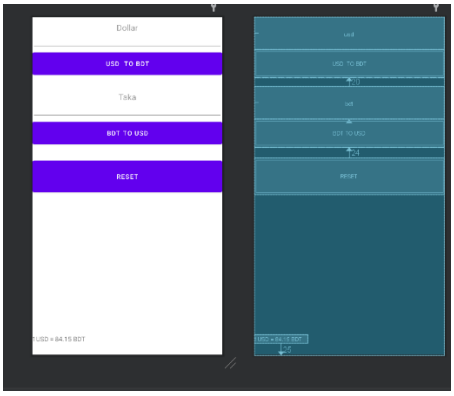
XML CODE:



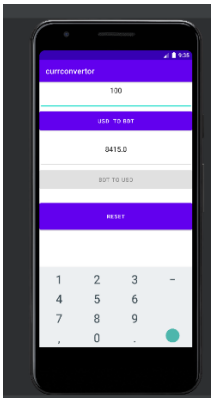
JAVA CODE:



Design layout:



ANDROID APP:



Chapter 5

Conclusion

CONCLUSIONIt was a wonderful and learning experience for us while working on this project. This software is very easy to use so all educational institute can use this frequently. So, we can hope that our software will be very popular and get sponsors to developin future. The Database system can handle full-scale computer and computer related resource. College administration system deals withal the activities done by computer suchas

registration and admission process, faculty and class management, time etc all theseprocess are handled by computer management system. This project proved good for

me as it provided practical knowledge of not only programming in VB.NETandMS Access, desktop-based application, but also about all handling procedurerelated with "STUDENT INFORMATION SYSTEM". It also provides knowledgeabout the latest technology used in developing desktop enabled application that will

be great demand in future. This will provide better opportunities and guidance infuture in developing projects independently

BIBLOGRAPHY

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