Majlis Arts and Science College, Puramannur

(Affiliated to the University of Calicut)

PROJECT REPORT

On

FAKE CURRENCY DETECTION

Submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Computer Science

UNIVERSITY OF CALICUT

Submitted By:

ABDUL HALEEM K (MSATSCS004)

Guided By:

BIJITHRA NC

Assistant Professor,

Dept. of Computer Science

2021-22

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DEPARTMENT OF COMPUTER SCIENCE

Certificate

This is to certify that the project entitled "FAKE CURRENCY DETECTION" submitted in the partial fulfillment of the requirement for the award of the Degree of Bachelor of Computer Science, University of Calicut, is a bonafide record of the project work done by ABDUL HALEEM K(MSATSCS004) during the academic year 2021-2022 in the Department of Computer Science, Majlis Arts and Science College, Puramannur under my supervision and guidance.

Mrs.Bijithra NC
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Principal

Submitted for the University exam held on …………..

Internal Examiner

External Examiner

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DECLARATION

I hereby declare that this project work entitled **“FAKE CURRENCY DETECTION”** submitted to the University of Calicut in partial fulfillment of requirements for the award of Bachelor of ComputerScience is a record of original work done by **ABDUL HALEEM K(MSATSCS004)** under the guidance of **Mrs.Bijithra NC**, Asst. Professor, Department of Computer Science, Majlis Arts and Science CollegePuramannur.

Abdul Haleem k

Place:Puramannur

Date:

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1. INTRODUCTION

1.1 ABSTRACT

The present scenario of Indian economy is disastrous. There is an increase in the amount of fake notes of various denominations being circulated all over the country. This is a big economic loss for the country’s economy. So , it is important to find ways to identify the fake notes. Monetary transaction is an integral part of our day to day activities. However, blind people particularly suffer in monetary transactions. They are not able to effectively distinguish between various denominations and are often deceived by other people. Also, a reliable currency recognition system could be used in any sector wherever monetary transaction is of concern. Thus, there is an ardent need to design a system that is helpful in recognition of paper currency notes correctly. Counterfeit currency (fake currency) varies from low quality color scanner/printer-based notes to high quality counterfeits whose production is sponsored by hostile states. Due to their harmful effect on the economy, detecting counterfeit currency notes is a task of national importance. However, automated approaches for counterfeit currency detection are effective only for low quality counterfeits; manual examination is required to detect high quality counterfeits. Furthermore, no automatic method exists for the more complex and important problem of identifying the source of counterfeit notes. The project focus on the identification of the denominations of the currency and also to find whether the note is fake or original. The whole project mainly depends on image processing , where the features of the input is extracted to identify whether a note is fake or original. The input is taken as an image of the currency. The features are extracted and checked if the currency is fake or not.

2. SYSTEM STUDY

1.1 EXISTING SYSTEM

Modern automation systems in real world require a system for currency recognition. It has various potential applications including banknote counting machines, money exchange machines, electronic banking, currency monitoring systems etc**.** it is difficult for people to recognize currencies from different countries. Our aim is to help people solve this problem. However, currency recognition systems that are based on image analysis entirely are not sufficient. Our system is based on image processing and makes the process automatic and robust. In the modern era the trade and commerce between countries has increased in all sorts of levels. The need for acquiring knowledge about all the currencies by the banks has been extremely important. However for any human teller to recognize each note correctly is something that is not feasible. Thus the need for an efficient automated system that helps in recognizing notes is pivotal for the future.

1.2 PROPOSED SYSTEM

To overcome the drawbacks of the existing systems, we proposed new system which is an GUI based currency recognition using image processing. The proposed system is based on image processing and makes the process robust and automatic. We used INR,EURO and USD as an example toillustrate the technique. This system is based on our knowledge about computer science technologies like Digital Image Processing, python and alsoa small step to implement in a system that is most important for industrial development. The captures images of currency in from various angles. The input image is taken in various angle. These separated images are used for learning purpose using test data and trained data sets for the purpose of identification of currency. Image processing is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. In our proposed system we use image processing architecture for currency recognition. Here the system extract the general attributes of the paper currency like various dominant parts of image of currency note (like identification mark, latent image etc). The identification marks help to know denomination of currency. The system will be developed to check different currency notes of 10,50,100,2000 rupees.

3. SYSTEM ANALYSIS

1.3 SYSTEM SPECIFICATION

The following requirements are only the minimal requirements to run this utility more successfully and efficiently, there should be sufficient memory and software tools for efficient processing.

HARDWARE REQUIREMENTS

○ Processor	: 64 bit
○ RAM	: Min 3 GB
○ Hard disk	: 10 GB

SOFTWARE REQUIREMENTS

○ Operating system	: windows 7 or above, android
○ Technology used	: Python
○ IDE	:PyCharm ,Eclipse / AndroidStudio

○ Frame work	: Flask
○ Database	: MYSQL

1.4 FEASIBILITY STUDY

The key condition involved in the feasibility analysis are:-

- Economical Feasibility.
- Operational Feasibility.
- Technical Feasibility.

Economical Feasibility:-

Economical feasibility analysis is the most frequently used evaluating technique for the effectiveness of the candidate system. This checks , are their sufficient benefits in creating the system to make cost acceptable . In the case of the proposed system it is very necessary to implement in such a firm and when its necessity compared its cost for implementing is very low and it is very acceptable by the users of the system. When it advantages and efficiency evaluated it is economically feasible.

Operational Feasibility:-

The proposed systems are beneficial only if they can turn into information system that will meet the organization's operating requirements. This test of feasibility asks if the system will work when it is developed and installed. Since this system is developed in vb.net its operation is very simple, very attractive and user friendly. The software is very much available, and it is the most using package now, and since it is a Microsoft version and it provides many tools which helps to make usage very easier. It is very much acceptable by the users of the systems and it is keeping its standard.

Technical Feasibility:-

This checks that , can the work for the project be done with current equipment and existing software technology and available personnel. Since there is no other technical supports are necessary for the function of the system we can conclude that it is technically feasible. When it is implemented there is only need of a computer (pc) and its other peripherals as usual so it is very satisfied in the matter of technical feasibility.

4. SYSTEM REQUIREMENTS

1.5 SOFTWARE REQUIREMENTS

Software Requirements for Developer:

- Operating System: Windows 7 OR above and Android
- Web Browser: Chrome
- Front-End: HTML,CSS and JAVA SCRIPT
- Back-End: Database: My Sql
- Framework:Flask
- IDE: Android Studio , Pycharm

Software Requirement for User:

- Operating System: Android
- Version: 5.0 and Above

1.6 HARDWARE REQUIREMENTS

Hardware Requirements for Developer:

- Processor: 64 bit
- RAM: MIN 3gb

- Hard Disk: 10gb

Hardware Requirements for User:

- Device: Android Mobile
- Processor: Dual Core
- Memory: 1GB

5. SYSTEM DESIGN

5.1. MODULE DESCRIPTION

Admin (Android)

- ADMIN
- USER

ADMIN

- LOGIN
- VIEW USER
- VIEW FEEDBACK
- ADD & MANAGE DATA SET

USER

- REGISTRATION
- LOGIN

5.2 OVERVIEW OF PYTHON

Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python has a design philosophy that emphasizes code readability, notably using significant whitespace. It provides constructs that enable clear programming on both small and large scales.

Python is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL).

Python is a popular programming language. It was created in 1991 by Guido van Rossum.

It is used for:

- web development (server-side),
- software development,
- mathematics,
- System scripting

Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

- **Python is Interpreted** − Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.

- **Python is Interactive** − You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.

- **Python is Object-Oriented** − Python supports Object-Oriented style or technique of programming that encapsulates code within objects.

- **Python is a Beginner's Language** − Python is a great language for the beginner-level programmers and supports the development of a wide range of application

Python's features include –

- **Easy-to-learn** − Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.

- **Easy-to-read** − Python code is more clearly defined and visible to the eyes.

- **Easy-to-maintain** − Python's source code is fairly easy-tomaintain.

- **A broad standard library** − Python's bulk of the library is very portable and cross-platform compatible on UNIX, Windows, and Macintosh.

- **Interactive Mode** − Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.

- **Portable** − Python can run on a wide variety of hardware platforms and has the same interface on all platforms.

- **Extendable** − You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.

- **Databases** − Python provides interfaces to all major commercial database

- **GUI Programming** − Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.

- **Scalable** − Python provides a better structure and support for large programs than shell scripting

Apart from the above-mentioned features, Python has a big list of good features, few are listed below –

- It supports functional and structured programming methods as well as OOP.
- It can be used as a scripting language or can be compiled to bytecode for building large applications.
- It provides very high-level dynamic data types and supports dynamic type checking.
- It supports automatic garbage collection.
- It can be easily integrated with C, C++, COM, ActiveX, CORBA, and Java.

Features of Python Programming

- **A simple language which is easier to learn:** Python has a very simple and elegant syntax. It's much easier to read and write Python programs compared to other languages like: C++, Java, C#. Python makes programming fun and allows you to focus on the solution rather than syntax. If you are a newbie, it's a great choice to start your journey with Python.
  - **Free and open-source**: You can freely use and distribute Python, even for commercial use. Not only can you use and distribute softwares written in it, you can even make changes to the Python's source code. Python has a large community constantly improving it in each iteration.
- **Portability**: You can move Python programs from one platform to another, and run it without any changes. It runs seamlessly on almost all platforms including Windows, Mac OS X and Linux.
- **Extensible and Embeddable**: Suppose an application requires high performance. You can easily combine pieces of C/C++ or other language with Python code. This will give your application high performance as well as scripting capabilities which other languages may not provide out of the box.

- **A high-level, interpreted language:** Unlike C/C++, you don't have to worry about daunting tasks like memory management, garbage collection and so on. Likewise, when you run Python code, it automatically converts your code to the language your computer understands. You don't need to worry about any lower-level operations
- **Object-oriented**: Everything in Python is an object. Object oriented programming (OOP) helps you solve a complex problem intuitively. With OOP, you are able to divide these complex problems into smaller sets by creating objects.
- **Large standard libraries to solve common tasks**: Python has a number of standard libraries which makes life of a programmer much easier since you don't have to write all the code yourself. For example: Need to connect MySQL database on a Web server? You can use MySQLdb libraryusing import MySQL db . Standard libraries in Python are well tested and used by hundreds of people

Script Mode Programming

Invoking the interpreter with a script parameter begins execution of the script and continues until the script is finished. When the script is finished, the interpreter is no longer active.

Let us write a simple Python program in a script. Python files have extension .py. Type the following source code in a test.py file –

Python Identifiers

A Python identifier is a name used to identify a variable, function, class, module or other object. An identifier starts with a letter A to Z or a to z or an underscore (_) followed by zero or more letters, underscores and digits (0 to 9).

Python does not allow punctuation characters such as @, $, and % within identifiers. Python is a case sensitive programming language. Thus, **Manpower** and **manpower** are two different identifiers in Python. Here are naming conventions for Python identifiers –

- Class names start with an uppercase letter. All other identifiers start with a lowercase letter.
- Starting an identifier with a single leading underscore indicates that the identifier is private.
- Starting an identifier with two leading underscores indicates a strongly private identifier.
- If the identifier also ends with two trailing underscores, the identifier is a language-defined special name.

Applications of Python

Web Applications

You can create scalable Web Apps using frameworks and CMS (Content Management System) that are built on Python. Some of the popular platforms for creating Web Apps are: Django, Flask, Pyramid, Plone, Django CMS. Sites like Mozilla, Reddit, Instagram and PBS are written in Python.

Scientific and Numeric Computing

There are numerous libraries available in Python for scientific and numeric computing. There are libraries like: SciPy and NumPy that are used in general purpose computing. And, there are specific libraries like: EarthPy for earth science, AstroPy for Astronomy and so on. Also, the language is heavily used in machine learning, data mining and deep learning.

Creating software Prototypes

Python is slow compared to compiled languages like C++ and Java. It might not be a good choice if resources are limited and efficiency is a must.

However, Python is a great language for creating prototypes. For example: You can use Pygame (library for creating games) to create your game's prototype first. If you like the prototype, you can use language like C++ to create the actual game.

Good Language to Teach Programming

Python is used by many companies to teach programming to kids and newbies.

It is a good language with a lot of features and capabilities. Yet, it's one of the easiest language to learn because of its simple easy-to-use syntax.

FLASK

Flask is a web framework. This means flask provides you with tools, libraries and technologies that allow you to build a web application. This web application can be some web pages, a blog, a wiki or go as big as a web-based calendar application or a commercial website.

Flask is part of the categories of the micro-framework. Micro-framework are normally framework with little to no dependencies to external libraries. This has pros and cons. Pros would be that the framework is light, there are little dependency to update and watch for security bugs, cons is that some time you will have to do more work by yourself or increase yourself the list of dependencies by adding plugins.

Flask is an API of python that allow us to build up web applications. It was developed by Armin Ronacher. Flask’s framework is more explicit than Djangos framework and is also easier to learn because it has less base code to implement a simple web application. A web application framework or web framework is the collection of modules and libraries that helps the developer to write applications without writing the low level codes such as protocols , thread management etc.

5.3. OVERVIEW OF MYSQL

Advantages of MYSQL

MYSQL is one of the top databases available in the market. MYSQL is a relational database with many advanced features and options. Over time , MYSQL has proved itself to be a fast , reliable and cost effective competitor to the other more expensive databases like MYSQL server and oracle . Here are few advantages of using MYSQL in database development.

- **Open source**

MYSQL is an open source database system which means that anyone can use it for free. Developers can amends its code to suit their requirements which means that MYSQL is highly customizable as well. Another edge of using MYSQL over other database systems is that it is available widely in the market with no ownership cost.

- **Fast Development**

A lot of people around the globe are continuously developing new modules for integration with MYSQL. This means that it has a wider and faster development circle. Pathces, upgrades and fixes are developed fast and become available in forums , blogs and developer sites on the internet.

- **Better for Small Businesses**

This relational database system is free so it reduces the cost of overall database solution for small businesses and companies. This database is relatively easy to learn and operate , so operational cost is reducedsubstantially which is again an important factor in classifying MYSQL as anapplicable and practical tool for small businesses.

- **Cross Platform Operability**

MYSQL is easily installable and operable on different platforms including windows , Linux , OS2 and Solaris . Cross platform operability makes it a favourable choice for development companies. MYSQL database system also contains APIs for integration with c , c++ , PHP , java , python and ruby etc. You can connect it easily with different development platforms so you can actually integrate applications developed in different OS and development platforms.

- **Security**

MYSQL as a relational database is secure as all access passwords are stored in an encrypted format restricting any unauthorised access to the system. It also encrypts the transaction so eavesdroppers and data harvest tools cannot replicate or regenerate the database transactions once they are processed.

- **Connectivity**

MYSQL clients can access this relational database through standard TCP/IP sockets , named pipes , UNIX sockets and many more.

Standard ODBC 2.5 and above functions and commands are also supported in MYSQL.

5.4 DATABASE SERVERS

A database server is used to store data in a database. Users can access the data and manipulate it. A web application can provide the user with the interface to the database. There are many types of databases. The most popular among them is the Relational Database Management System (RDBMS).

RDBMS:

RDBMS is a type of database management system that stores data in the form of related tables. Relational databases are powerful because they require few assumptions about how data is related or how it will be extracted from the database. As a result, the same database can be viewed in many different ways. An important feature of relational systems is that a single database can be spread across several tables. This differs from flat-file databases, in which each database is self-contained in a single table.

SQL:

The structured Query Language (SQL) comprises one of the fundamental building blocks of modern database architecture. SQL is an ANSI (American National Standards Institute) standards computer language for accessing and manipulating database systems. SQL statements are used to retrieve and update data in a database. SQL works with database programs like MS Access, Oracle, DB2, Informix, MS SQL Server and Sybase etc.

A database most often contains one or more tables. Each table is identified by a name (E.g. “staff” or “travellor”). A table contains record (rows) with data. With SQL we can query a database and have a result set returned. SQL is the syntax for executing queries. But the SQL language also includes the syntax to insert and delete records. These query and update commands together form the Data
Manipulation Language (DML) part of SQL. The Data Definition Language (DDL) part of SQL permits database tables to be created or detected. We can

also define indexes (keys), specify links between tables and imposes constraints between databases.

5.5 Data Flow Diagram (DFD)

Data Flow Diagram Data Flow Diagram (DFD) is a graphical representation of flow of data in an information system. It is capable of depicting incoming data flow, outgoing data flow, and stored data. The DFD does not mention anything about how data flows through the system.

There is a prominent difference between DFD and Flowchart. The flowchart depicts flow of control in program modules. DFDs depict flow of data in the system at various levels. It does not contain any control or branch elements.

DFD Components

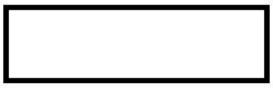
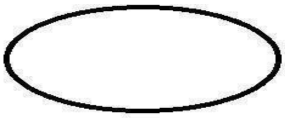
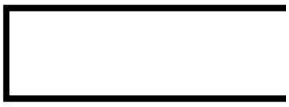
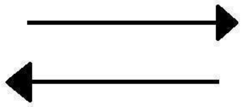
DFD Components DFD can represent source, destination, storage, and flow of data using the following set of components.

1. **Entities** - Entities are sources and destinations of information data. Entities are represented by rectangles with their respective names.

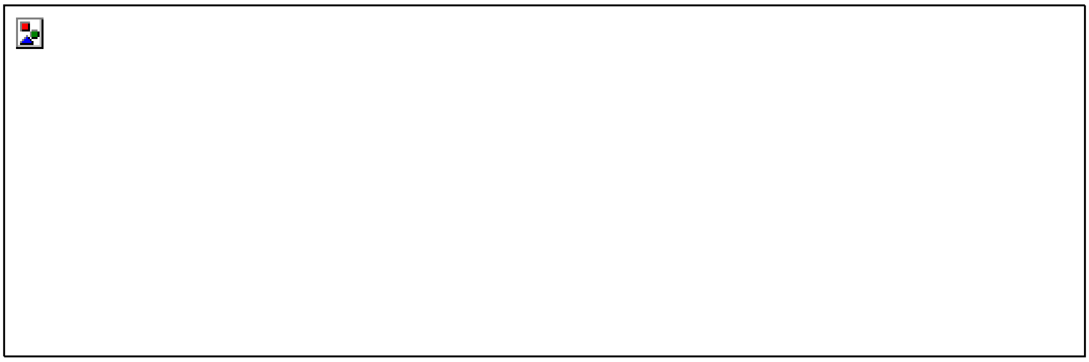
2. **Process** - Activities and action taken on the data are represented by Circle or Roundedged rectangles.

3. **Data Storage** - There are two variants of data storage - it can either be represented as a rectangle with absence of both smaller sides or as an open-sided rectangle with only one side missing.

4. **Data Flow** - Movement of data is shown by pointed arrows. Data movement is shown from the base of arrow as its source towards head of the TeachersManagement arrow as destination.

Entity	
Process	
Data Storage	
Data Flow	

LEVEL 0



LEVEL 1.1

LEVEL 1.2

DATABASE TABLES

Table 1: login

Column Name	Data type	size	Constraint
id	Int	11	Primary key
username	Varchar	30	Null
password	Varchar	30	Null
type	Varchar	30	Null

TABLE 2 : USER

Column Name	Data Type	Size	Constraint
Id	int	11	Primary key
Fname	varchar	50	Null
Lname	varchar	20	Null
Place	varchar	50	Null
Post	varchar	50	Null
Pin	bigint	20	Null
Email	varchar	50	Null
Phone	bigint	20	Null
Login id	int	11	Null

Table 3: feedback

Column name	Data type	size	Constraint
Id	int	11	Primary key
Userid	int	50	null
Feedback	varchar	50	null
Date	varchar	50	Null

6. SYSTEM IMPLMENTATION AND TESTING

6.1 IMPLEMENTATION

In the implementation phase all the program are written, database is created, user operational document is written, users are trained, and the system tested with operational data. The implementation is carried out with the results that have been obtained from the feasibility study and analysis. The system is implemented by finishing the project with the help of appropriate tools. Then the system is tested with appropriate data inputs to check the successfulness of the system. This being carried out by inputting data of rare to be inputted. Then the administrator being trained of the operational functionalities to control and maintain system at later stage. The third party users 'role is being carried out by the implementation team itself. There by it is made sure that the system meets the required standard. Implementation is the stage in the project where the theoretical design is turned into working system and is giving confidence on the new system for the users that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementations, design of the methods to achieve the changeover methods. Apart from planning major tasks of preparing the implementations are education and training of users. The more complex system is being implemented, the more involve will be the system analysis and design effort required just for implementation.

An implementation co-ordination committee based on politics of individual organization has been appointed. The implementation process begins with preparing a plan for the implementation of a system. According to this plan, the activities are to be carried out, discussions made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system. Implementation is the final and important phase. The system can be implemented only after through testing is done and it is found to working according to the specification. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain type of transactions while using the new system. The implementation plan includes a description of all activities that must occur to implement the system and to put in to operation.

- List all files required for implementation.
- Identify all data required to build new files during the implementation.
- List all new documents and procedures that go into the new system.

The implemented system has the following features:

- Reduce data redundancy.
- Ease of use
- Controlled flow • Simplifies the management activities.

6.2 TESTING

Web testing is a software testing practice to test websites or web applications for potential bugs. It’s a complete testing of web-based applications before making live. A web-based system needs to be checked completely from end-to-end before it goes live for users. By performing website testing, an organization can make sure that the webbased system is functioning properly and can accepted by real-time users.

Testing is a set of activity that can be planned in advance and conducted. Systematically, this is aimed at ensuring that the system works accurately and efficiently before live operations commences.

- Testing is the process of correcting a program with intend of finding an error.
- A good test case is one that has high probability of finding a yet undiscovered error.
- A successful test is one that uncovers a yet undiscovered error.

Testing is vital of the success of the system. System testing makes a logical assumption that if all parts of the system are subject to variety of tests on-line response, volume, stress, recovery and security and usability tests. A series of tests are performed before the system is ready for user acceptance testing.

6.3 TESTING STRATEGIES

Scrum testing

Scrum testing is a type of software testing that is performed to check the ability of the software or application execute the complicated processes. This testing also checks various other parameters of the software like quality, usability and performance. Execution of complex process needs a complex software. Hence in order to make a complex software, scrum testing is required.

Objectives of Scrum Testing:

- To check the complexity of the software.
- To test the quality of the software.
- To test the performance of the software.
- To test the usability of the software.
- To support in unit testing.

Characteristics of Scrum Testing:

- Scrum testing has some sequences that are repeated continuously.
- Scrum testing has life cycles that expire after some time.
- Scrum testing has fixed schedule for each cycle.
- Basically depends on the some key gadgets of the development.

In our project, the different modules of the system are tested individually and we correct all the errors. Each process was done individually and tested separately. In unit testing we have tested each of the modules and confirmed that all individual units work properly. In integration testing all the tested modules are combined into subsystems and these are tested again. It is the second level of testing. When modules are integrated, problems can arise at boundaries like incompatibility of data type of value being passed across the interface or some unexpected problems will appeared only after integration. We have tested all three modules namely user, admin and public in combined form. For each input forms validation testing are done to ensure that only allowed values will be entered, we have given both valid and invalid inputs and desired output was produced accordingly. We have done system testing to verify that all system elements have been properly integrated and perform allocated function.

7. FUTURE ENHANCEMENTS

We have so many limitations to implement all the ideas that we have found because of time limitation. So in future our system can be expanded with following properties

- Wireless webcam can be used.
- Make suitable for all colleges.
- Fast face matching.

8. CONCLUSION

This package has been developed to handling student attendance system.. This system is designed using a generalized application and is also a highly user-friendly one.

The system is more effective. Less time and paper work is required. No chance of error. User can generate the report as per requirement or in middle of the session. Student can improve their attendance. Work can be done speedly and in time.

9. BIBLIOGRAPHY

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6. An integrated Approach to Software Engineering: Pankaj Jalote

Web References

- https://stackoverflow.com/
- www.w3schools.com
- https://www.geeksforgeeks.org/
- www.codeproject.com
- www.codecademy.com

10. Source Code (Sample)

Login Activity (PyCharm)

```
import functools

from flask import *

from src.dbconnection import *

app=Flask( name )
app.secret_key="abc"
 def
login_required(func):
@functools.wraps(func)
def secure_function():
        if "lid" not in
session:                return
redirect("/")            return
func()       return
secure_function

@app.route("/")
def login():
    return render_template("ADMIN/LOGIN.HTML")



 @app.route("/ADMINHOME") @login_required def ADMINHOME():
    return render_template("ADMIN/ADMIN HOME.HTML")



@app.route("/ADMINVIEWUSER")
@login_required def
ADMINVIEWUSER():
qry="SELECT * FROM USER "
res=selectall(qry)
    return render_template("ADMIN/ADMINVIEW USER.HTML",val=res)



@app.route("/ADMINVIEWFEEDBACK")
@login_required def
ADMINVIEWFEEDBACK():
    qry="SELECT `user`.*,`feedback`.* FROM `feedback` JOIN `user` ON
`user`.`loginid`=`feedback`.`userid`"
res=selectall(qry)
    return render_template("ADMIN/ADMIN VIEW FEEDBACK.HTML",val=res)
```

```
@app.route('/logincode',methods=['post'])
def logincode():
    username=request.form['textfield']
password=request.form['textfield2']
qry="SELECT * FROM `login` WHERE
`username`=%s AND `password`=%s"
val=(username,password)
res=selectonenew(qry,val)     if res is
None:
        return '''<script>alert("invalid userid or
password"); window.location="/"</script>'''      elif
res[3]=="admin":         session['lid']=res[0]
        return '''<script>alert("login success");
window.location="/ADMINHOME"</script>'''     else:          return
'''<script>alert("login failed"); window.location="/"</script>'''


@app.route('/logout')
def logout():
    session.clear()
    return render_template("ADMIN/LOGIN.HTML")




  import os from flask import *
from werkzeug.utils import
secure_filename from src import
conversion from src.detect import
detect_note from src.training import
check_currency

from src.dbconnection import *
path="static/camimg/"

app=Flask(__name__)

@app.route("/login",methods=['post'])
def login():
    username = request.form['uname']
password = request.form['pass']
    qry = "select*from `login` where username=%s and
`password`=%s"     val = (username, password)     s =
selectonenew(qry,val)     print(s)     if s is None:
        return jsonify({'task': 'invalid'})
else:
        id = s[0]
        return jsonify({'task': 'valid', "id": id})

 @app.route("/userregister",methods=['post']) def userregister():
fname=request.form['fname']     lname = request.form['lname']     place =
request.form['place']     post = request.form['post']
    pin = request.form['pin']
email = request.form['email']
phone = request.form['phone']
username = request.form['uname']
password = request.form['pswrd']
    qry="INSERT INTO `login`
VALUES(NULL,%s,%s,'user')"     val=(username,password)
iud(qry,val)
```

```
    qry2="INSERT INTO `user` VALUES(NULL,%s,%s,%s,%s,%s,%s,%s,'user')"
val=(fname,lname,place,post,pin,email,phone)     iud(qry2,val)

    return jsonify({'task':'success'})



@app.route("/sendfeedback",methods=['post'])
def sendfeedback():
    userid=request.form['lid']
feedback=request.form['feedback']
    qry = "INSERT INTO `feedback` VALUES(NULL,%s,%s,curdate())"
val = (userid,feedback)      iud(qry,val)
    return jsonify({'task':'success'})


@app.route("/uploadcurrency") def
uploadcurrency():
    image=request.files['file']
file=secure_filename(image.filename)
file.save(os.path.join("static/currency",image))     return
({'task':'success'})




@app.route('/photoupload', methods=['POST','GET']) def
photoupload():
    file=request.files['file']
    filename=str(secure_filename(file.filename))
file.save(os.path.join("static/camimg",filename))
print(filename)  pth=path+file.filename
    pth=conversion.cannysegment((os.path.join("static/camimg",filename)))
    # pth="currency/2000/fake/2000fake1.jpg"
pth=conversion.cannysegment(pth)
note=detect_note(pth)     print("note",note)

    r="no result"     if
note is not None:
        model_name='model'+note+".joblib"
r=check_currency(pth,model_name)
print("r",r)

    return jsonify({'task': str(note)+":-"+str(r)})


     if___name
=="_main_":
    app.run(host="0.0.0.0",port=5000)
```

Login Activity (android)

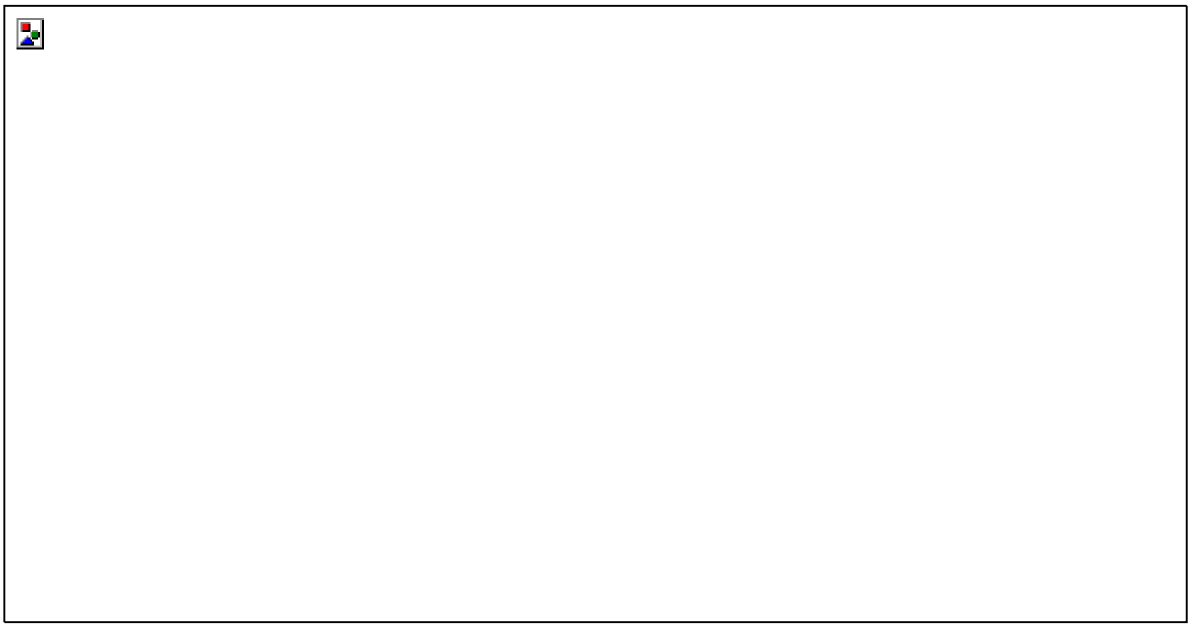
```
package
com.example.fakecurrency;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent; import
android.content.SharedPreferences; import
android.os.Bundle; import
android.preference.PreferenceManager; import
android.util.Log; import android.util.Patterns;
import android.view.View; import
android.widget.Button; import
android.widget.EditText; import
android.widget.Toast;


import com.android.volley.Request; import
com.android.volley.RequestQueue; import
com.android.volley.Response; import
com.android.volley.VolleyError; import
com.android.volley.toolbox.StringRequest; import
com.android.volley.toolbox.Volley;


import org.json.JSONException; import
org.json.JSONObject;


import java.util.HashMap;
import java.util.Map;


public class userregister2 extends AppCompatActivity {
   EditText e1,e2,e3,e4,e5,e6,e7,e8,e9;
   Button b1;

   String url;

   SharedPreferences sh;


   @Override     protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_userregister2);         sh=
PreferenceManager.getDefaultSharedPreferences(getApplicationContext());
e1=findViewById(R.id.editTextTextPersonName2);
e2=findViewById(R.id.editTextTextPersonName3);
e3=findViewById(R.id.editTextTextPersonName4);
e4=findViewById(R.id.editTextTextPersonName5);
e5=findViewById(R.id.editTextTextPersonName6);
e6=findViewById(R.id.editTextTextPersonName8);
e7=findViewById(R.id.editTextTextPersonName9);
e8=findViewById(R.id.editTextTextPersonName12);
e9=findViewById(R.id.editTextTextPassword2);         b1=findViewById(R.id.button4);
b1.setOnClickListener(new View.OnClickListener() {
       @Override            public void onClick(View
view) {              final String
Firstname=e1.getText().toString();              final String
Lastname=e2.getText().toString();              final String
Place=e3.getText().toString();              final String
Post=e4.getText().toString();              final String
Pin=e5.getText().toString();

         final String Email=e6.getText().toString();
final String Phone=e7.getText().toString();
final String Username=e8.getText().toString();
final String Password=e9.getText().toString();
if(Firstname.equalsIgnoreCase("")) {
e1.setError("Enter your name");
```

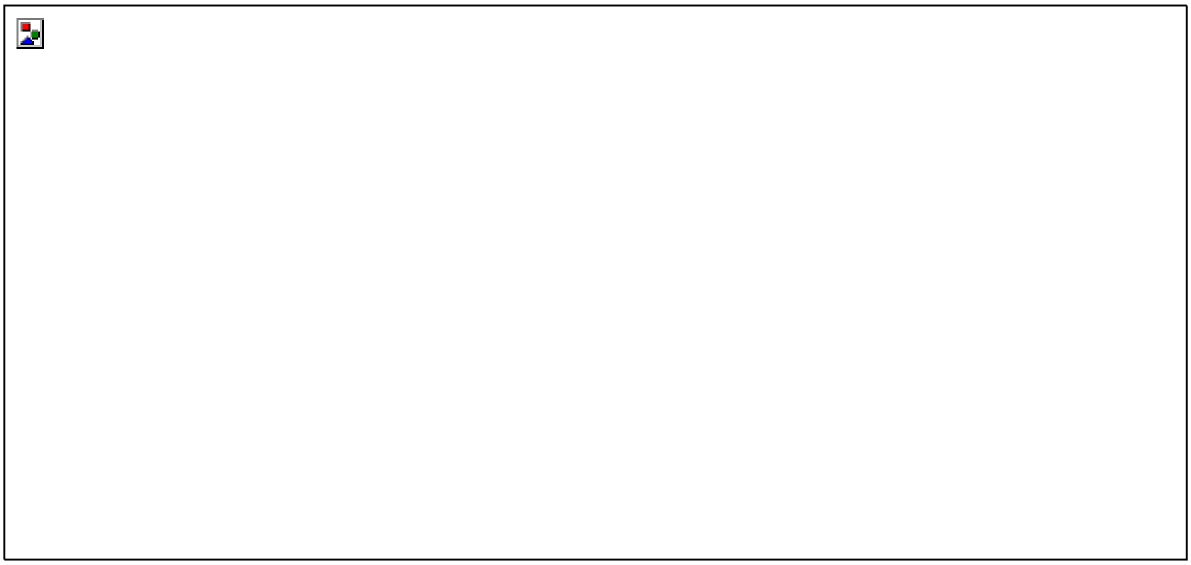
```
            }


            else if((!Firstname.matches("^[a-zA-Z]*$")))
            {
               e1.setError("characters only allowed");


            }
            else if(Lastname.equalsIgnoreCase("")) {
e2.setError("Enter your name");
            }
            else if(Place.equalsIgnoreCase("")) {
e3.setError("Enter your name");
            }
            else if(Pin.equalsIgnoreCase("")) {
e4.setError("Enter your name");
            }
 else if(Post.equalsIgnoreCase("")) {
e5.setError("Enter your name");
            }
            else if(Phone.equalsIgnoreCase("")) {
e7.setError("Enter your name");
            }
            else if(Phone.length()!=10)
            {
               e7.setError("Minimum 10 nos required");
e7.requestFocus();
            }


            else if(!Patterns.EMAIL_ADDRESS.matcher(Email).matches())
            {
```

```
            e6.setError("Enter Valid Email");
e6.requestFocus();
        }
        else if(Password.equalsIgnoreCase("")) {
e9.setError("Enter your name");            }else
if(Password.length()<=6)  {
e9.setError("Minimum 6 nos required");
        }else if(Username.length()<=6) {
e8.setError("Minimum 6 nos required");
        }
else
        {
            RequestQueue queue = Volley.newRequestQueue(userregister2.this);
            url = "http://" + sh.getString("ip", "") + ":5000/userregister";
            // Request a string response from the provided URL.
            StringRequest stringRequest = new StringRequest(Request.Method.POST, url, new
Response.Listener<String>() {
                @Override
                public void onResponse(String response) {
// Display the response string.
                    Log.d("+++++++++++++++++", response);
                    try {
                        JSONObject json = new JSONObject(response);
String res = json.getString("task");


                        if (res.equalsIgnoreCase("Success")) {
                            Toast.makeText(userregister2.this, "registration successful",
Toast.LENGTH_SHORT).show();
                            Intent ik = new Intent(getApplicationContext(), MainActivity.class);
                            startActivity(ik);
                        } else {
                            Toast.makeText(userregister2.this, res, Toast.LENGTH_SHORT).show();
                        }

                    } catch (JSONException e) {

                        e.printStackTrace();

                    }

                }

            }, new Response.ErrorListener() {

                @Override

                public void onErrorResponse(VolleyError error) {

                    Toast.makeText(userregister2.this, "duplicated entry",
Toast.LENGTH_SHORT).show();

                }

            }) {

                @Override

                protected Map<String, String> getParams() {

                    Map<String, String> params = new HashMap<String, String>();

params.put("fname", Firstname);                    params.put("lname",

Lastname);                    params.put("place", Place);

params.put("post", Post);                    params.put("email", Email);

params.put("phone", Phone);                    params.put("uname",

Username);                    params.put("pswrd", Password);

params.put("pin", Pin);                    return params;

                }

            };

            queue.add(stringRequest);


          }

        }

    });


  }
```

11. SCREENSHORTS

Webpage





Android