

DAFTAR RIWAYAT HIDUP

NAMA LENGKAP : RITA SIBURIAN
NIM : 0613 4035 1629
TEMPAT TANGGAL LAHIR : PALEMBANG, 28 JANUAR 1995
ALAMAT : JL. TAPAK LEBAR II RT.008
KEL.SIDOREJO KEC. LUBUKLINGGAU
BARAT II
TELEPON : 081278424157

RIWAYAT PENDIDIKAN FORMAL :

PENDIDIKAN	NAMA SEKOLAH	TAMAT TAHUN
SD	SD NEGERI 10 C	2007
SMP	SMP XAVERIUS LUBUKLINGGAU	2010
SMA	SMA XAVERIUS LUBUKLINGGAU	2013

RIWAYAT PENDIDIKAN NON FORMAL :

JENIS PENDIDIKAN NON FORMAL	TAHUN
SD	-
SMP	-
SMA	-

PENGHARGAAN/PRESTASI SELAMA KULIAH :

NO	NAMA PENGHARGAAN/PRESTASI	TAHUN
1	PESERTA PENDIDIKAN DASAR KEDISPLINAN POLITEKNIK NEGERI SRIWIJAYA	2014
2.	PESERTA KOMPETISI LINE FOLLOWER GEBYAR ELEKTRO SRIWIJAYA	2015

PENGALAMAN ORGANISASI/BEKERJA :

NO	NAMA ORGANISASI	TAHUN PERIODE
1		-
2		-

PENGALAMAN PENELITIAN :

NO	NAMA PENELITIAN	TAHUN
1	-	-
2	-	

PENGALAMAN PENGABDIAN :

NO	NAMA PENGABDIAN	TAHUN
1	-	-
2	-	-

Semua data yang saya sikandantercantumdalamdaftarriwayatiniadalahbenardandapatdipertanggungjawabkansecarahukum. Apabila di kemudianhariternyatadijumpaiketiidak-sesuai dengankenyataan, saya sanggup menerimasanksi.

Palembang, Juli 2017

Rita Siburian



SEMINAR NASIONAL
TEKNOLOGI INFORMASI, BISNIS, DAN DESAIN (SNTIBD) 2017
"Developing Digital Society For a Better Future"



LETTER OF ACCEPTANCE

No. 229/SNTIBD/PCT/VII/17

Yang bertandatangan dibawah ini:

Nama : Adelin, S.T., M.Kom.
NIK : 13.PCT.07
Jabatan : Ketua Panitia Pelaksana SNTIBD 2017

Dengan ini menerangkan bahwa naskah paper yang kami terima dengan:

Judul : Implementasi Steganografi Audio MP3 dan WAV untuk File Word pada Smartphone Android dengan menggunakan metode LSB (Least Significant Bit)
Penulis : Rita Siburian, Lindawati, Aryanti

Dari hasil review yang telah dilakukan dinyatakan **DITERIMA** untuk dapat diseminarkan di Seminar Nasional Teknologi Informasi, Bisnis, dan Desain 2017 pada tanggal 12 Juli 2017, di Hotel Aryaduta Palembang.

Untuk itu kami mohon untuk melakukan pembayaran dengan rincian berikut:

1. Kontribusi pemakalah Rp. 450.000,00
2. Biaya cetak prosiding Rp. 200.000,00

Dapat ditransfer ke rekening **BNI** nomor **0144057077** an. **Adelin** hingga tanggal **8 Juli 2017**.

Konfirmasi pembayaran dapat dilakukan dengan mengirimkan bukti transfer via email dengan **Subject: Konfirmasi Pembayaran SNTIBD – NamaPenulisUtama**.

Demikian surat ini dibuat agar dapat dipergunakan sebagaimana-mestinya.

Catatan : Jika ada revisi berikutnya untuk kelengkapan prosiding akan kami beritahukan melalui email.

Palembang, 7 Juli 2017
Ketua Panitia SNTIBD 2017

Adelin, S.T., M.Kom.
13.PCT.07



Bank Rakyat Indonesia

Mengutamakan Kepuasan Nasabah

08/07/2017 14:59:36

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NAMA : IBU ADELIN

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TRANSAKSI TRANSFER BERHASIL
HARAP TANDA TERIMA INI DISIMPAN
SEBAGAI BUKTI TRANSAKSI

*Certificate
of Participation*



Organized by:
IPR
Institut Teknologi Sepuluh Nopember

SEMINAR NASIONAL
TEKNOLOGI INFORMASI, BISNIS, DAN DESAIN
(SNTIBD) 2017

CALL FOR PAPER: PROSIDING IT & DESAIN, PROSIDING EKONOMI & BISNIS

"Developing Digital Society For a Better Future"

Palembang, 12 Juli 2017
Diberikan Kepada:

Rita Siburian

Sebagai:

PEMAKALAH

Ketua Steering Committee

Dr. Ir. Djoko Soetarno, DEA.

Ketua Pelaksana,

Adelin, S.T., M.Kom.

Palembang, 12 Juli 2017
Ketua STMIK/ Direktur Politeknik
PalComTech

Benedictus Effendi, S.T., M.T.

Supported by:



Dear Prof./Dr./Mr./Mrs. Rita Siburian,

The 3rd International Conference on Wireless and Telematics (ICWT) 2017 Editorial Committee has completed the reviewing process and we are pleased to inform you that your manuscript,

Title : Steganography Implementation on Android Smartphone using the LSB (Least Significant Bit) to MP3 and WAV Audio

Paper Number : 59

has been ACCEPTED as ORAL presentation in the 3rd International Conference on Wireless and Telematics (ICWT) 2017. For inclusion in the conference proceeding we require that you revise the full paper according to the reviewers' comments (if any).

The author shall submit the camera ready full paper by July 7, 2017 along with signed IEEE Copyright Form to: icwt.info@gmail.com (Printable versions of the IEEE Copyright Form can be downloaded at: https://www.ieee.org/publications_standards/publications/rights/copyrightmain.html).

The full paper MUST STRICTLY comply with A4-format IEEE Conference Template (downloadable at: http://www.ieee.org/conferences_events/conferences/publishing/templates.html) and PDF-Express (<http://www.pdf-express.org/>, Conference ID: 41399x). Please refer to the following page for your guidance of Camera-Ready Submission: <http://icwt-conference.org/2017/submission-guidelines/>

Failure in complying with the IEEE Conference Template as well as in sending the signed IEEE Copyright Form may cause the full paper excluded for submission to IEEEExplore. For your consideration in presenting a paper at the 3rd ICWT 2017 in Palembang, at least one author of each accepted paper MUST register at the FULL registration fee and the required FULL registration fee MUST be paid before July 14, 2017. Visit our website for additional information regarding registration.

We appreciate your participation and look forward to welcoming you to the 3rd ICWT 2017 in Palembang, 27-28 July 2017!

Sincerely yours,
General Chair
=====

Note on Registration:

* Participants are charged based on institution not nationality. Full Registration fee includes the attendance at all scientific sessions, lunch, and coffee breaks. A

registered author can submit and present maximum 2 papers in the conference.

* The program schedule of each session will be posted soon on the 3rd International Conference on Wireless and Telematics (ICWT) 2017 Website (<http://icwt-conference.org/>).

* Publishing authors MUST attend and present their paper at the 3rd ICWT 2017 for inclusion to IEEEXplore database. Papers that are not presented at the conference by one of the authors will be excluded for submission to IEEEXplore.

Reviewers'Comments:

----- REVIEW 1 -----

PAPER: 59

TITLE: Steganography Implementation on Android Smartphone using the LSB (Least Significant Bit) to MP3 and WAV Audio
AUTHORS: Lindawati and Rita Siburian

Novelty and Originality: 2 (poor)
Argumentation and Analysis: 2 (poor)
Clarity and Logically: 2 (obscure)
Quality of Paper Presentation: 2 (poor)

----- Review -----

It is strongly required to revise this paper especially in writing and its grammar in order to be accepted for this conference proceeding. Some notes to be considered by the authors:

- Some incorrect capital letters are still found, e.g. the word "Using" in the title, several keywords, heading of subtitle, etc
- Many incorrect writing and grammatical errors of English are still found, please recheck and correct them all
- Figure's caption should be centered
- Below figure 1 you write "in the figure 2.10" where is it?
- Write the word "WAV" and "MP3" consistently
- It should be "Encryption process" not "process encryption"
- Figure 4 and 5 should be full English, translate them all to full English
- Summarize your results and add them to the last section "Conclusion", and brief the results in abstract too
- Edit your table to be in proper way, correct all grammar of the table's caption
- Try to search and compare related works/papers on international journals/papers in order to avoid plagiarism, you could search the related papers on free resource e.g. Google Scholar
- Cite the formula if taken from a reference

----- REVIEW 2 -----

PAPER: 59

TITLE: Steganography Implementation on Android Smartphone
using the LSB (Least Significant Bit) to MP3 and WAV Audio
AUTHORS: Lindawati and Rita Siburian

Novelty and Originality: 2 (poor)
Argumentation and Analysis: 2 (poor)
Clarity and Logically: 2 (obscure)
Quality of Paper Presentation: 3 (fair)

----- Review -----

1. Manuscript needs to be revised to comply IEEE paper format.
2. Section II Basic Theory, sub section B and C similar title.
3. Many figures and tables are still in Bahasa Indonesia. Please revise.
4. Idea in the paper is not new, therefore it needs a breakthrough of an ideas in order the paper accepted in this conference.

----- REVIEW 3 -----

PAPER: 59
TITLE: Steganography Implementation on Android Smartphone
using the LSB (Least Significant Bit) to MP3 and WAV Audio
AUTHORS: Lindawati and Rita Siburian

Novelty and Originality: 3 (fair)
Argumentation and Analysis: 3 (fair)
Clarity and Logically: 3 (fair)
Quality of Paper Presentation: 3 (fair)

----- Review -----

This paper develops a software using Java language that implements steganography using LSB technique to audio file. The authors claim that the software is valid by calculating the time of file insertion and PSNR values.

Further comments:

1. The structure of the sentences are poorly constructed, hence, it is very difficult to understand the paper. Please consult native speaker to help proofread the manuscript.
2. It is hard to understand some parts of the abstract, for example 'This method works is Messages that have been encrypted beforehand will be hidden evenly on each region in MP3 or Wav already divided, withmodify / change the LSB of the media container with the bits of information to be hidden.'. Since abstract is the most important part of a paper after the title, the authors should carefully provide a more meaningful abstract.
3. Please compare the proposed technique (LSB) to other existing techniques in the result and discussion section.

4. The subtitles of section II.B and II.C are the same. Are these correct?

5. Please add conclusion to the paper.

6. Some parts of the paper is poorly translated which are unacceptable, for example, 'This file was developed by an engineerGermanKarlheinz Brandenburg, MP3 wearing codingPulse Code Modulation (PCM).'

7. Typo mistakes, for example 'The idea is meyembunyikan secret'

8. Grammatical mistakes, for example, 'In this final audio steganography implemented.', 'using an algorithm that not too complicated', 'Judging from the above description also applies to testing the greater the audio and data which described the greater or the longer the description process.', and many more.

9. Please translate Fig 4 and Fig 5 to English

The 3rd International Conference on Wireless and Telematics ICWT 2017



Certificate of Participation

Rita Siburian

For participating and presenting paper(s) on
ICWT 2017, Palembang, Indonesia, July 27th – 28th 2017

Organized by
Telecommunication Engineering Research Group, School of Electrical Engineering and Informatics, Institut Teknologi Bandung
and
Department of Electrical Engineering, Politeknik Negeri Sriwijaya



Rita Siburian

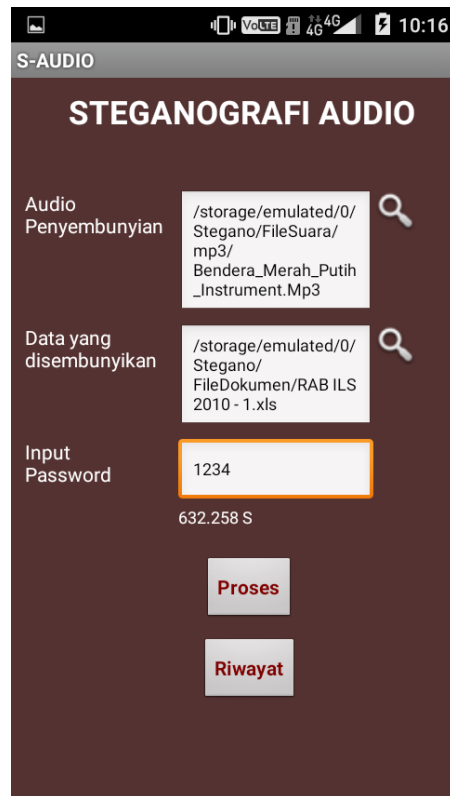
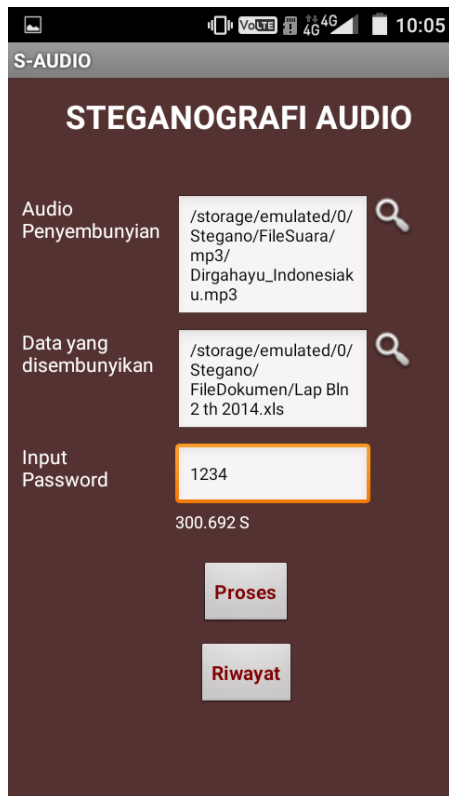
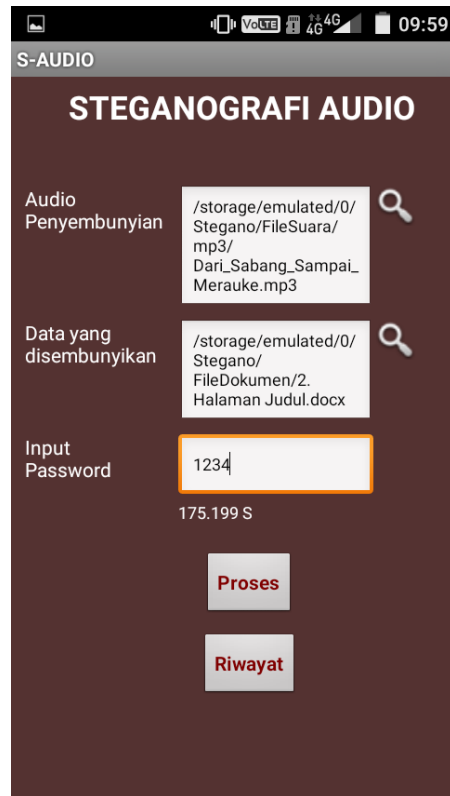
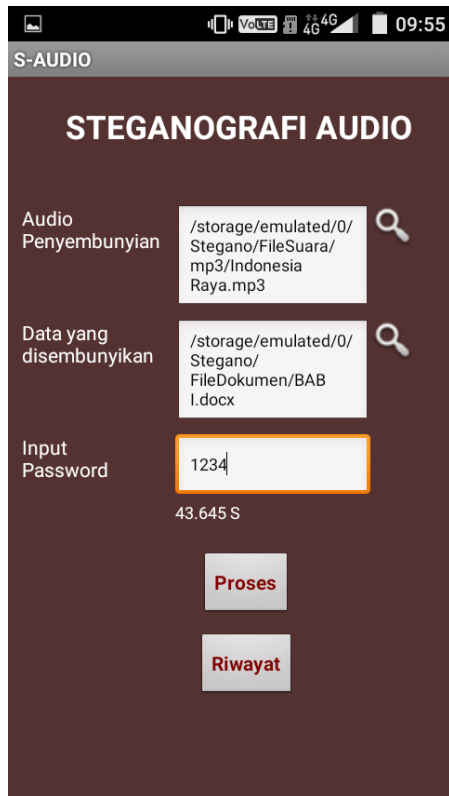
Dr. Ir. Hendrawan, M.Sc.
General Chair

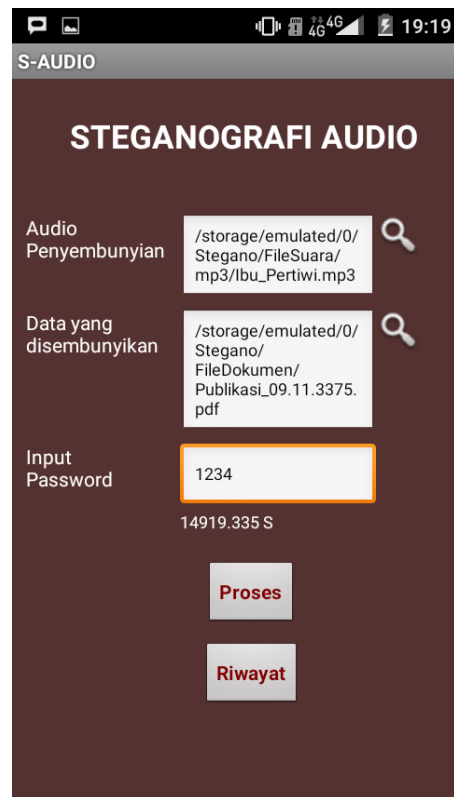
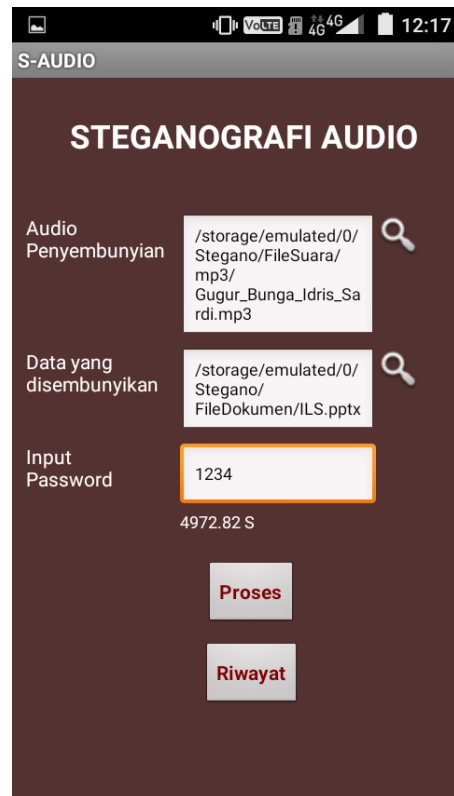
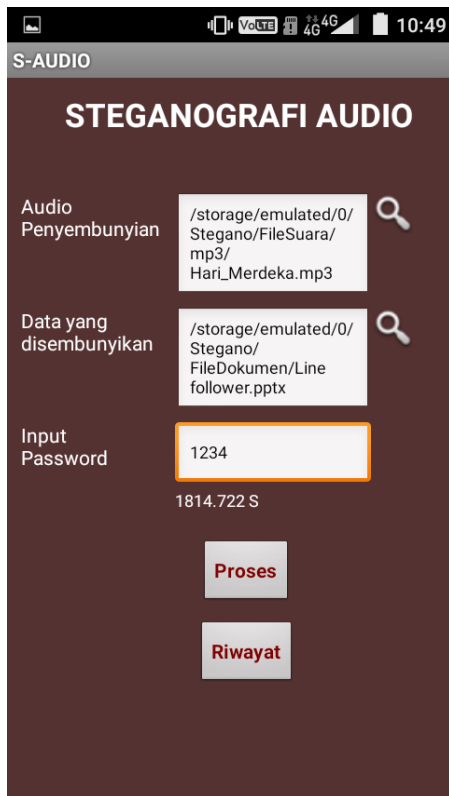


Dr. Dipl. Ing. Ahmad Taqwa, MT.

Dr. Dipl. Ing. Ahmad Taqwa, MT.
Co-Chair

Tampilan Layar Hasil Enkripsi MP3

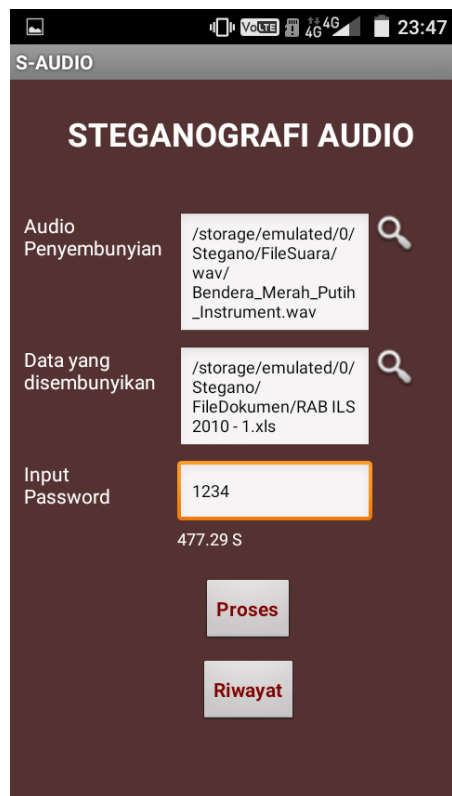
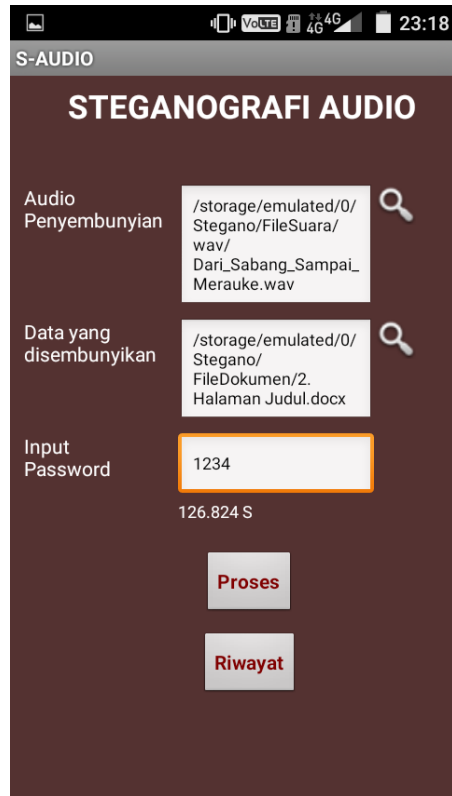
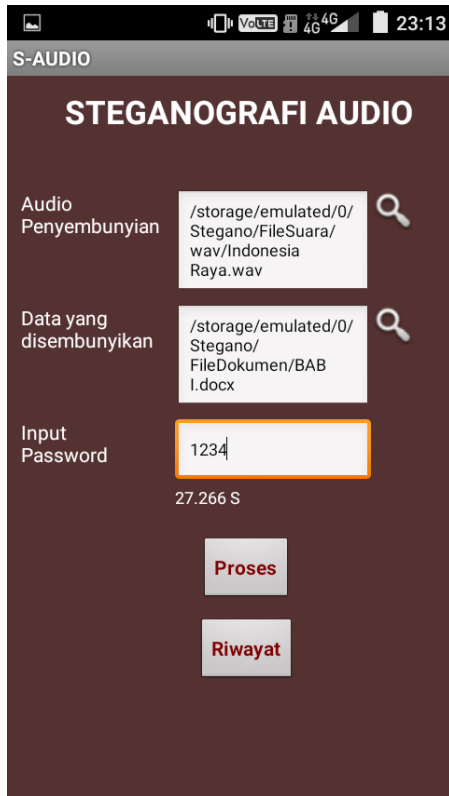


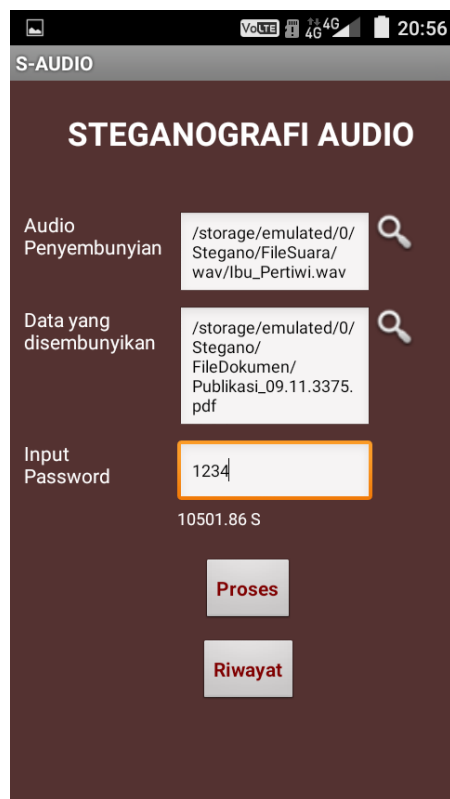
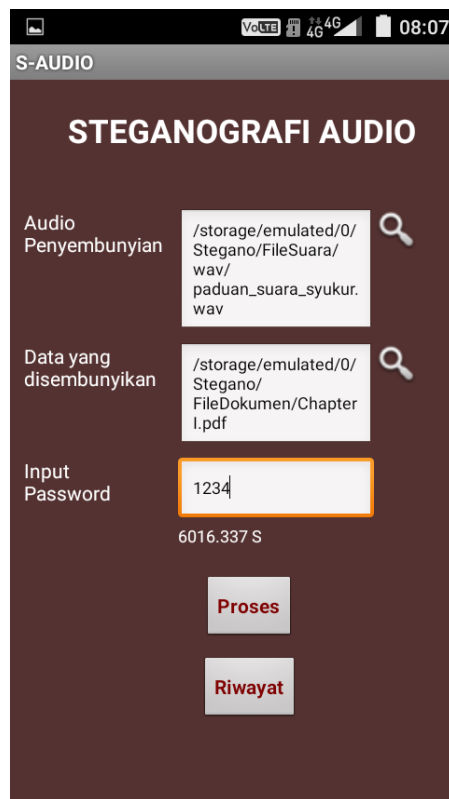
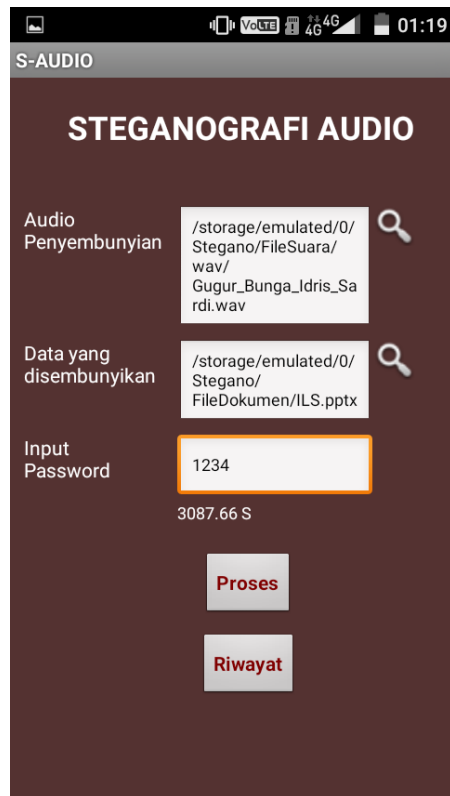
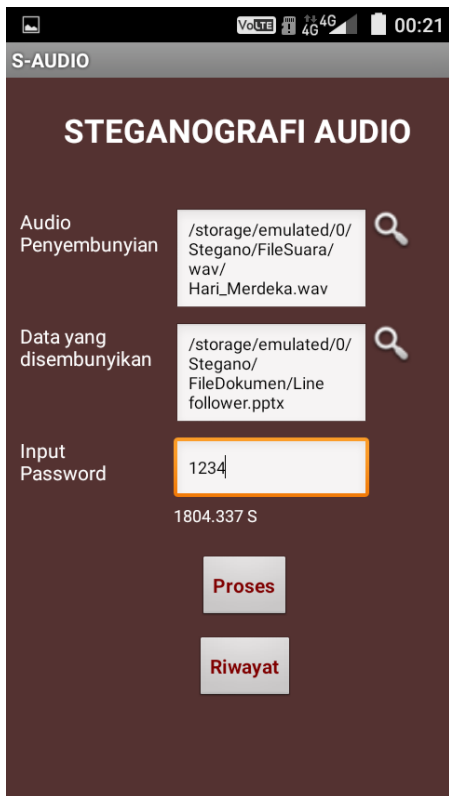


Tampilan Layar Riwayat Enkripsi Mp3

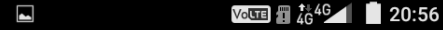
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	14 Juni 2017

Tampilan Layar Hasil Enkripsi WAV





Tampilan Layar Riwayat Enkripsi WAV


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ILS.pptx


14 Juni 2017
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14 Juni 2017
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14 Juni 2017
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14 Juni 2017
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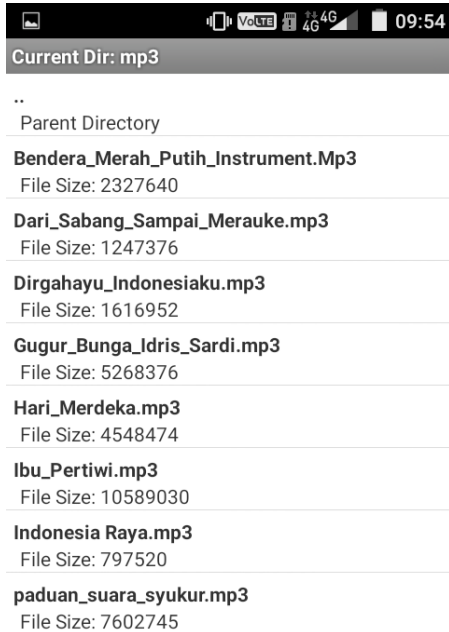
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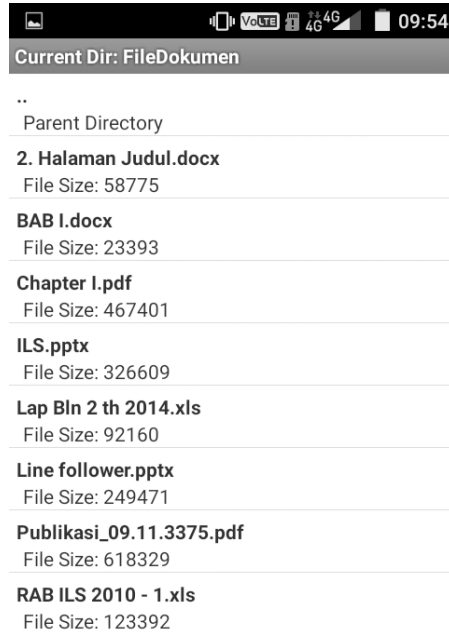
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Tampilan Layar File yang Digunakan Dalam Enkripsi dan Deskripsi



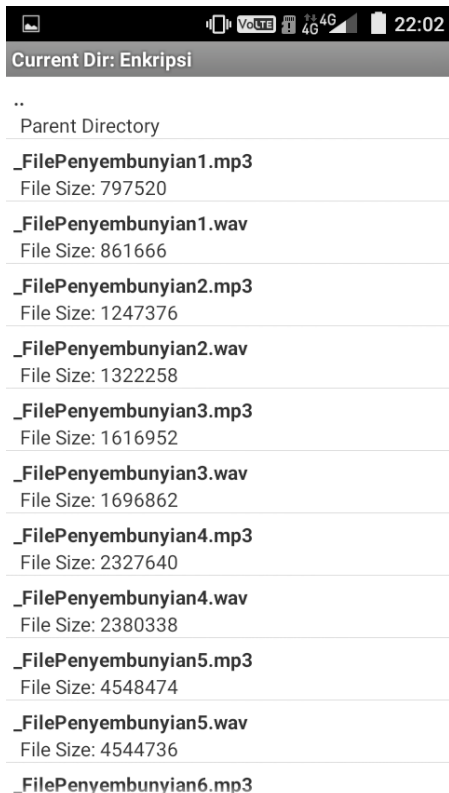
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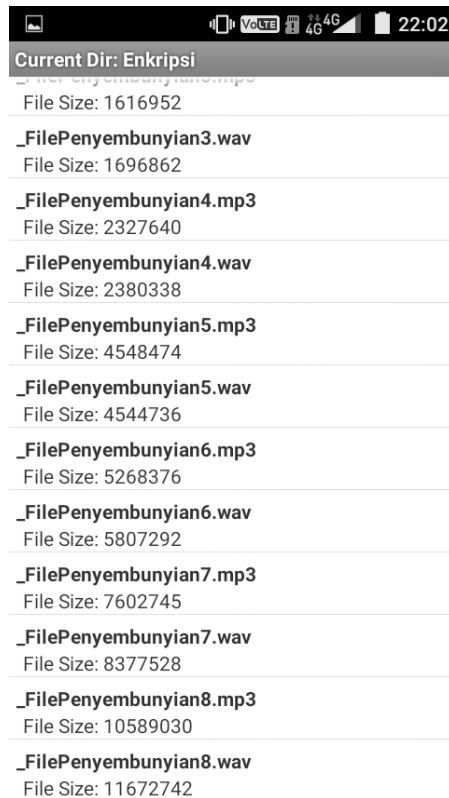
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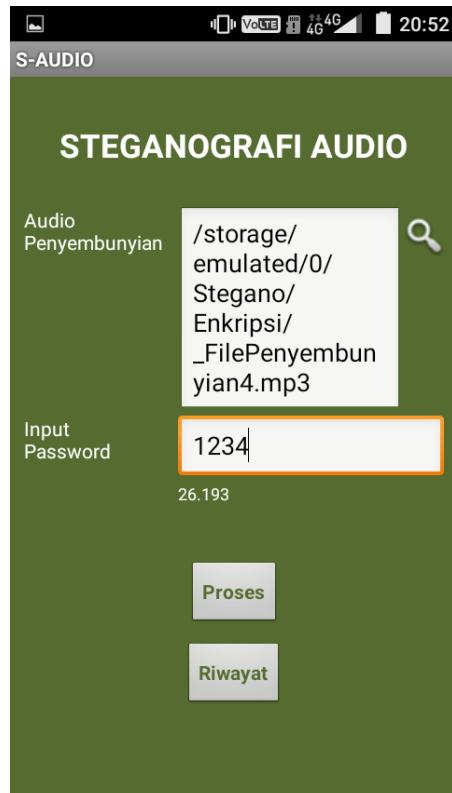
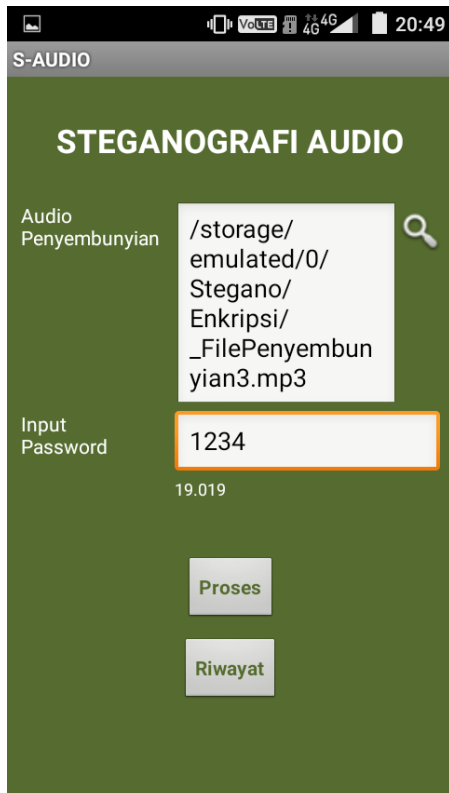
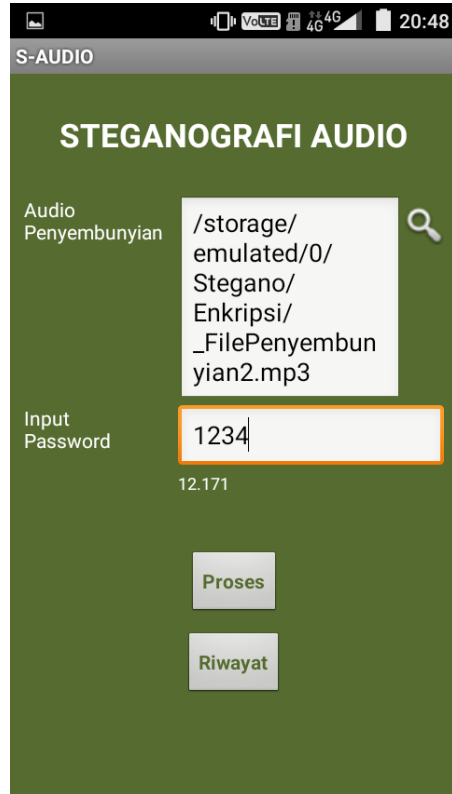
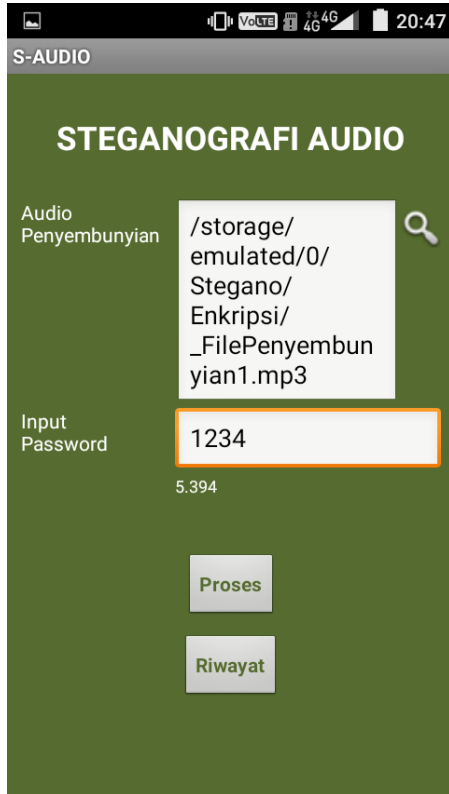
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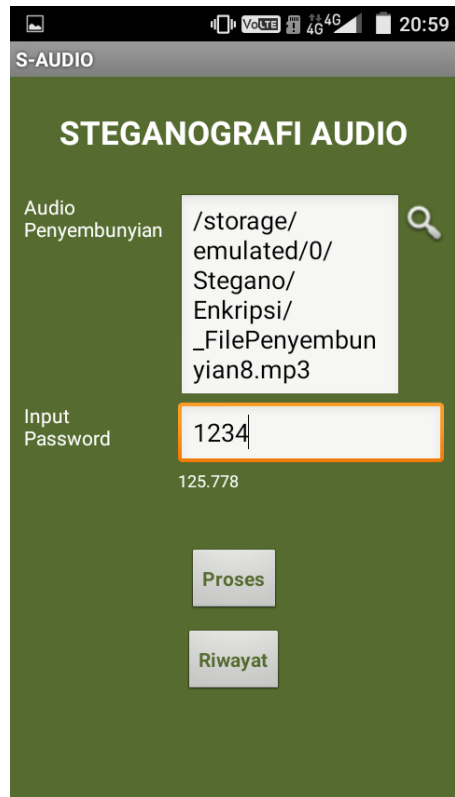
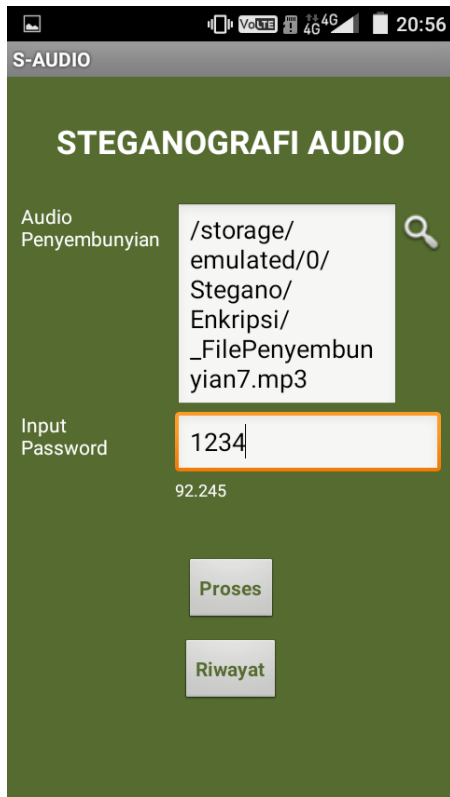
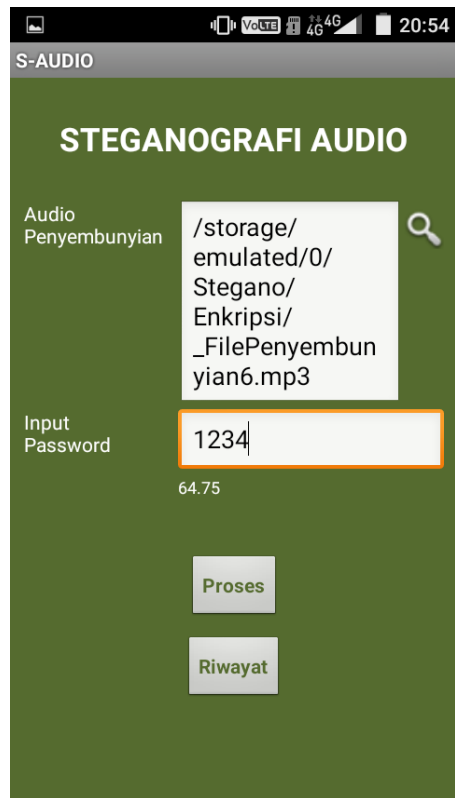
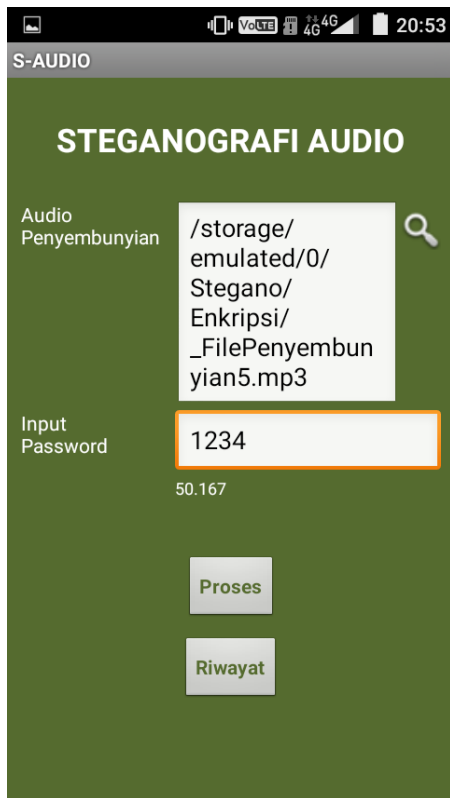


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Tampilan Layar Hasil Deskripsi MP3





Tampilan Layar Riwayat Deskripsi MP3

 VoLTE 4G 21:02

S-AUDIO

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16 Juni 2017
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16 Juni 2017
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 VoLTE 4G 21:02

S-AUDIO

16 Juni 2017
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_FilePenyembunyian8.mp3
File Asli : Ibu_Pertiwi.mp3

16 Juni 2017
Chapter 1.pdf [Size:467401Byte]
_FilePenyembunyian7.mp3
File Asli : paduan_suara_syukur.mp3

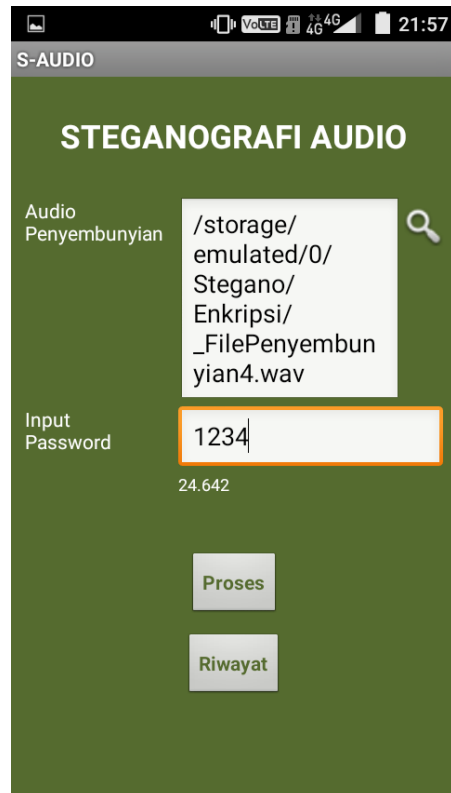
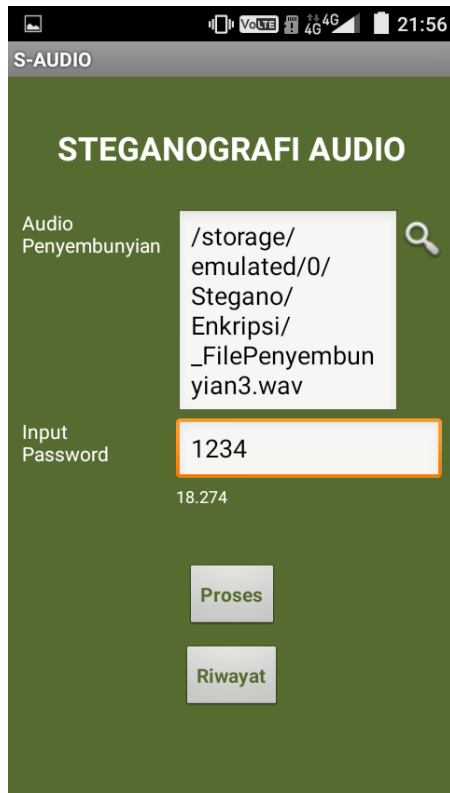
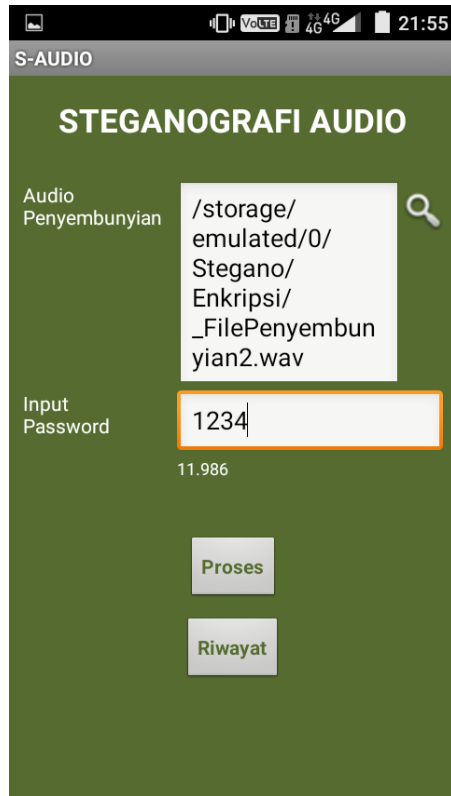
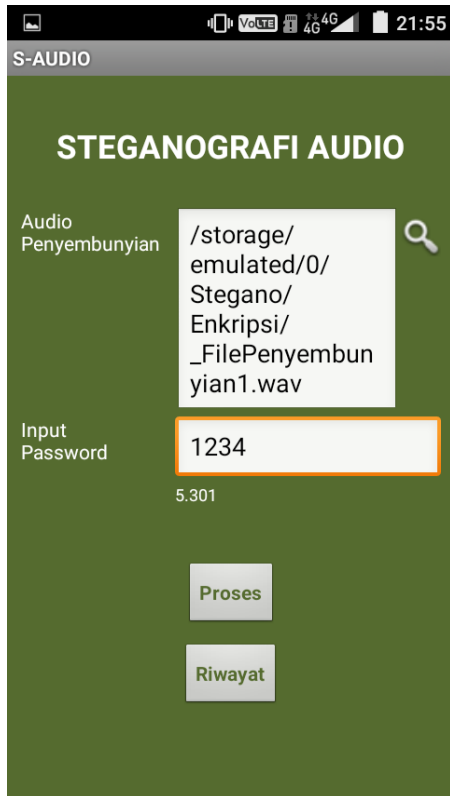
16 Juni 2017
ILS.pptx [Size:326609Byte]
_FilePenyembunyian6.mp3
File Asli : Gugur_Bunga_Idris_Sardi.mp3

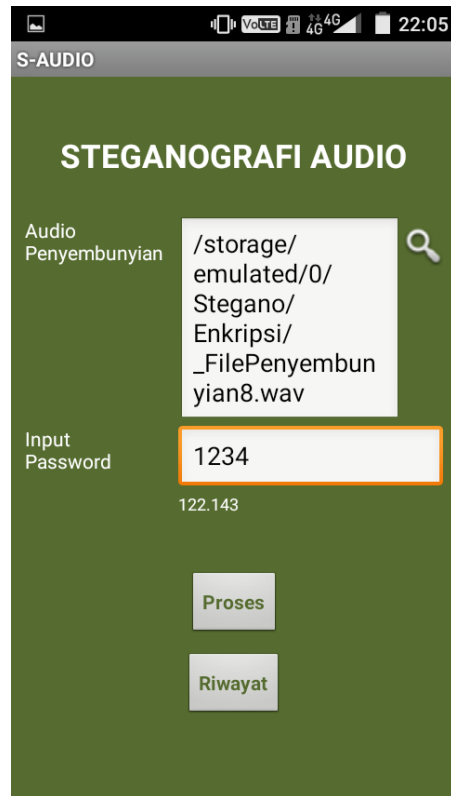
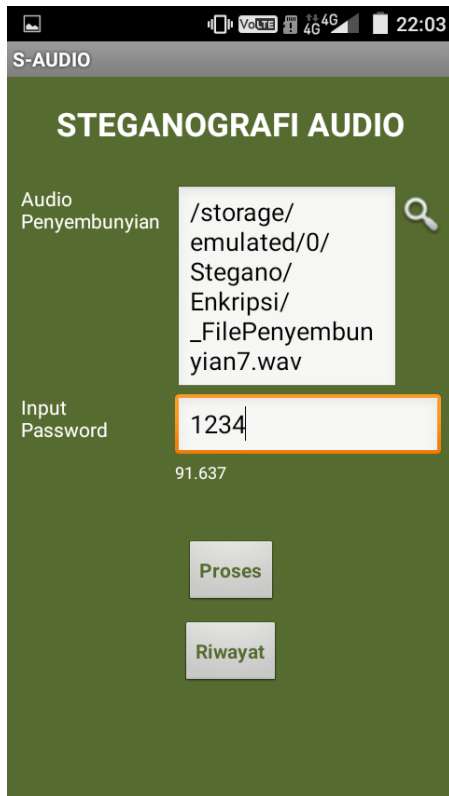
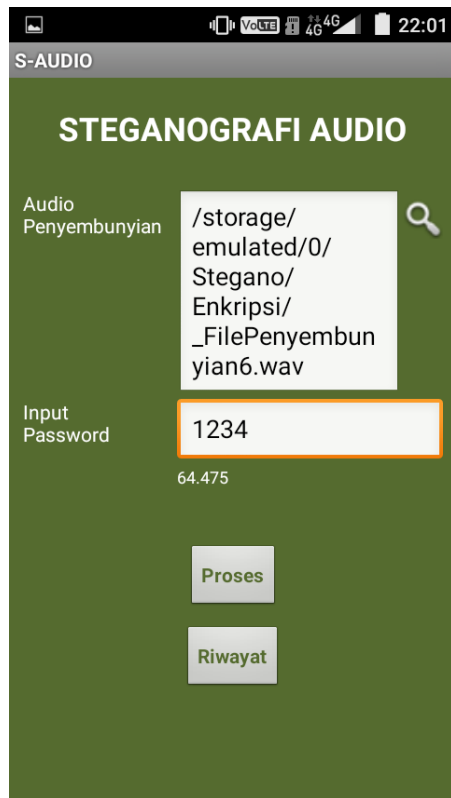
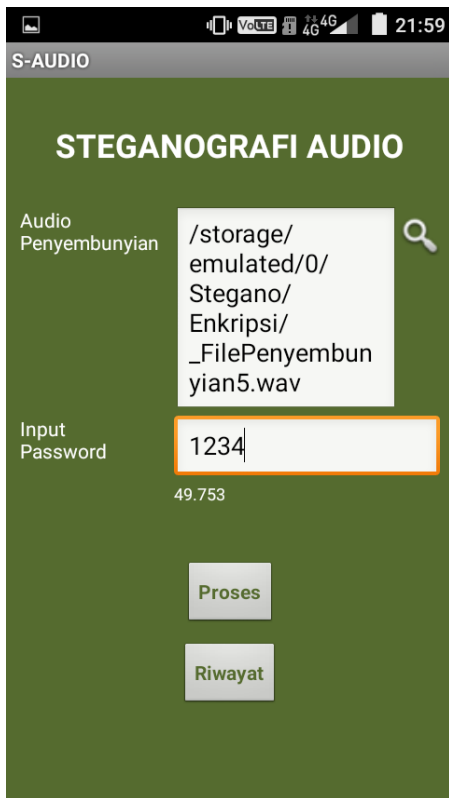
16 Juni 2017
Line follower.pptx [Size:249471Byte]
_FilePenyembunyian5.mp3
File Asli : Hari_Merdeka.mp3

16 Juni 2017
RAB ILS 2010 - 1.xls [Size:123392Byte]
_FilePenyembunyian4.mp3
File Asli :
Bendera_Merah_Putih_Instrument.Mp3

16 Juni 2017

Tampilan Layar Hasil Deskripsi WAV





Tampilan Layar Riwayat Deskripsi WAV

 22:06

S-AUDIO

_FilePenyembunyian6.wav
File Asli : Gugur_Bunga_Idris_Sardi.wav


16 Juni 2017
Line follower.pptx [Size:249471Byte]
_FilePenyembunyian5.wav
File Asli : Hari_Merdeka.wav

16 Juni 2017
RAB ILS 2010 - 1.xls [Size:123392Byte]
_FilePenyembunyian4.wav
File Asli : Bendera_Merah_Putih_Instrument.wav

16 Juni 2017
Lap Bln 2 th 2014.xls [Size:92160Byte]
_FilePenyembunyian3.wav
File Asli : Dirgahayu_Indonesiaku.wav

16 Juni 2017
2. Halaman Judul.docx [Size:58775Byte]
_FilePenyembunyian2.wav
File Asli : Dari_Sabang_Sampai_Merauke.wav

16 Juni 2017
BAB 1.docx [Size:23393Byte]
_FilePenyembunyian1.wav
File Asli : Indonesia Raya.wav

 22:06

S-AUDIO

16 Juni 2017
Publikasi_09.11.3375.pdf [Size:618329Byte]
_FilePenyembunyian8.wav
File Asli : Ibu_Pertiwi.wav

16 Juni 2017
Chapter I.pdf [Size:467401Byte]
_FilePenyembunyian7.wav
File Asli : paduan_suara_syukur.wav

16 Juni 2017
ILS.pptx [Size:326609Byte]
_FilePenyembunyian6.wav
File Asli : Gugur_Bunga_Idris_Sardi.wav

16 Juni 2017
Line follower.pptx [Size:249471Byte]
_FilePenyembunyian5.wav
File Asli : Hari_Merdeka.wav

16 Juni 2017
RAB ILS 2010 - 1.xls [Size:123392Byte]
_FilePenyembunyian4.wav
File Asli : Bendera_Merah_Putih_Instrument.wav

16 Juni 2017
Lap Bln 2 th 2014.xls [Size:92160Byte]

enkripsi.java (Form Menu Enkripsi)

```
package com.example.ta;

import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Date;

import android.app.Activity;
import android.app.ProgressDialog;
import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.net.Uri;
import android.os.AsyncTask;
import android.os.Bundle;
import android.os.Environment;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class enkripsi extends Activity {

    EditText audio, filedata, password;
    TextView hasil;
    String
imagepath1, imagepath2, tgl, subkategori, ekstensi, nomor, file_suara, file_dok
umen;
    SQLiteDatabase myDB;
    TextView lama_waktu;

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

        SharedPreferences sharedPref =
getSharedPreferences("FileName", 0);
        subkategori = sharedPref.getString("subkategori", "");
        file_suara = sharedPref.getString("file_suara", "");
        file_dokumen = sharedPref.getString("file_dokumen", "");
```



```

        if(subkategori.equals("WAV"))
        {
            ekstensi="wav";
        }
    else
    {
        ekstensi="mp3";
    }

    //-----tanggalhariini
    tgl = new SimpleDateFormat("dd MMMM yyyy").format(new
Date());

    Button cari2 = (Button) findViewById(R.id.button4);
    Button cari1 = (Button) findViewById(R.id.button3);
    Button proses = (Button) findViewById(R.id.button1);
    Button riwayat = (Button) findViewById(R.id.button2);

    audio = (EditText) findViewById(R.id.editText2);
    filedata = (EditText) findViewById(R.id.editText1);
    password = (EditText) findViewById(R.id.editText3);

    lama_waktu=(TextView) findViewById(R.id.Lama_waktu);
    hasil = (TextView) findViewById(R.id.hasil);

    cari1.setOnClickListener(new View.OnClickListener() {

        @Override
        public void onClick(View arg0) {
            // TODO Auto-generated method stub
            //openSound(1);
            SharedPreferences sharedPref =
getSharedPreferences("FileName",0);
            SharedPreferences.Editor prefEditor =
sharedPref.edit();
            prefEditor.putString("lokasi","FileSuara");
            prefEditor.commit();

            Intent inten=new Intent(enkripsi.this,
FileChooser.class);
            startActivity(inten);
        }
    });
    if(file_suara.equals(" ")){
    else
    {

        imagepath1=Environment.getExternalStorageDirectory()+File.separat
or+"Stegano/FileSuara/"+ekstensi+"/"+file_suara;
        audio.setText(imagepath1);
    }
}

```

```

cari2.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {
        // TODO Auto-generated method stub
        //openFile(2);
        SharedPreferences sharedPref =
getSharedPreferences("FileName",0);
        SharedPreferences.Editor prefEditor =
sharedPref.edit();
        prefEditor.putString("lokasi","FileDokumen");
        prefEditor.commit();

        Intent inten=new Intent(enkripsi.this,
FileChooser.class);
        startActivity(inten);
    }
});
if(file_dokumen.equals(" ")){
else
{

    imagepath2=Environment.getExternalStorageDirectory()+File.separat
or+"Stegano/FileDokumen/"+file_dokumen;
    filedata.setText(imagepath2);
}

riwayat.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {
        Intent pindah=new
Intent(enkripsi.this,riwayat.class);
        startActivity(pindah);
    }
});

proses.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {
        //-----

        if(imagepath1==null || imagepath2==null ||
password.getText().toString().equals(""))
        {
            Toast.makeText(getApplicationContext(),
"file utama, file Penyembunyian dan password tidak boleh kosong!",
Toast.LENGTH_SHORT).show();
        }
        else
        {

```

```

        File file = new File(imagepath1);
        File dokumen = new File(imagepath2);
        long pj_file=file.length();
        long
pj_dokumen=(dokumen.length()+100)*16;
        String
kb_pj_dokumen=String.valueOf(pj_dokumen/1000);
        if(pj_dokumen>pj_file)
        {

            Toast.makeText(getApplicationContext(), "File audio minimal
"+kb_pj_dokumen+" KB", Toast.LENGTH_SHORT).show();
        }
        else
        {

            Toast.makeText(getApplicationContext(), "Proses akan berlangsung
cukup lama. Jangan matikan gadget anda!", Toast.LENGTH_SHORT).show();
            new sisipkan().execute();
        }
    }

    //-----
    });
}

```

//-pemilihan upload foto-----

```

    public void openSound(int req_code){
        Intent intent;
        intent = new Intent();
        if(ekstensi.equalsIgnoreCase("wav"))
        {
            intent.setType("audio/wav");
        }
        else
        {
            intent.setType("audio/mp3");
        }
        intent.setAction(Intent.ACTION_GET_CONTENT);
        intent.setAction(Intent.ACTION_PICK);

        intent.setData(MediaStore.Audio.Media.EXTERNAL_CONTENT_URI);
        startActivityForResult(Intent.createChooser(intent,
        "Select file to upload"), req_code);
    }
}

```

```

    }

    public void openFile(int req_code){
        Intent intent;
        intent = new Intent();
        intent.setAction(Intent.ACTION_GET_CONTENT);
        intent.setType("application/msword");
        startActivityForResult(Intent.createChooser(intent,
"Select file to upload"), req_code);
    }

    @Override
    protected void onActivityResult(int requestCode, int
resultCode, Intent data)
    {
        if (resultCode == RESULT_OK) {

            if (requestCode == 1)
            {
                Uri audioFileUri = data.getData();
                String MP3Path = getSoundPath(audioFileUri);
                imagepath1=MP3Path;
                audio.setText(MP3Path);
                //Toast.makeText(getApplicationContext(), MP3Path,
Toast.LENGTH_SHORT).show();

            }

            if (requestCode == 2)
            {
                Uri docFileUri = data.getData();
                String docpath = docFileUri.getPath();
                imagepath2=docpath;
                filedata.setText(docpath);

                //Toast.makeText(getApplicationContext(), docpath,
Toast.LENGTH_SHORT).show();

            }

        }
    }

    public String getSoundPath(Uri uri) {
        String[] projection = { MediaStore.Audio.Media.DATA };
        Cursor cursor = managedQuery(uri, projection, null, null,
null);
        int column_index =
cursor.getColumnIndexOrThrow(MediaStore.Audio.Media.DATA);
        cursor.moveToFirst();
        return cursor.getString(column_index);
    }

```

```

    public String biner(byte bite)
    {
        String s1 = String.format("%8s",
Integer.toBinaryString(bite & 0xFF)).replace(' ', '0');
        return s1;
    }

    class sisipkan extends AsyncTask<String, String, String> {

        ProgressDialog progressDialog;
        File root = new
File(Environment.getExternalStorageDirectory()+File.separator+"Stegano",
"Enkripsi");

        Calendar c = Calendar.getInstance();
        SimpleDateFormat df = new
SimpleDateFormat("yyMMddHHmmss");
        String formattedDate = df.format(c.getTime());

        File file = new File(imagepath1);
        File documen = new File(imagepath2);

        longtStart = System.currentTimeMillis();

        @Override
        protected void onPreExecute() {
            // Runs on the UI thread before doInBackground()
            progressDialog = ProgressDialog.show(enkripsi.this, null,
"Loading...");
        }

        @Override
        protected String doInBackground(String... params) {

            // Perform an operation on a background thread
            /***/
            String bacadokumen="";
            String stringdata="";
            String tekssisipan="";

            myDB = openOrCreateDatabase("dataStegano",
MODE_PRIVATE, null);

            if(ekstensi=="wav")
            {
                Cursor c = myDB.rawQuery("SELECT * FROM
enkripsi where file_audio like '%wav'", null);
                nomor=Integer.toString(c.getCount()+1);
            }
            else

```

```

        {
            Cursor c = myDB.rawQuery("SELECT * FROM
enkripsi where file_audio like '%mp3' ", null);
            nomor=Integer.toString(c.getCount()+1);
        }

        String fileName =
"_FilePenyembunyian"+nomor+"."+ekstensi;
        //myDB.close();
        //-----dibuat string pembatas |stg?|
        String pembatas1=teks_biner("|stg.1|");
        String pembatas2=teks_biner("|stg.2|");
        String pembatas3=teks_biner("|stg.3|");
        String pembatas4=teks_biner("|stg.4|");
        String pembatas5=teks_biner("|stg.5|");
        String pembatasdummy=teks_biner("---");

        //-----string nama file sisipan
        String
nama_audio_asli=teks_biner(file.getName());
        String
nama_file=teks_biner(documen.getName());

        //-----string password
        String
tekspassword=teks_biner(password.getText().toString());

        FileInputStream fin = null;
        try
        {
            //-----proses file dokumen
            fin = new FileInputStream(documen);
            byte[] byteArraydoc = newbyte[(int)
documen.length()];
            fin.read(byteArraydoc);
            fin.close();

            //String content = "";
            for(byte b : byteArraydoc)
                stringdata += biner(b);

            //hasil.setText(stringdata);
            int iterasi= pembatas1.length()+
pembatas2.length()+
pembatas3.length()+
pembatas4.length()+

```

```

pembatas5.length()+
pembatasdummy.length()+
tekspassword.length()+
nama_audio_asli.length()+
nama_file.length()+
stringdata.length()+
                                                    50
                                                    ;
        String jumlahiterasi
=Integer.toBinaryString(iterasi);
        String jlhiterasi =
"000000000000000000000000".substring(jumlahiterasi.length()) +
jumlahiterasi;
        bacadokumen=jlhiterasi+
                pembatas1+tekspassword+
                pembatas2+stringdata+
                pembatas3+nama_file+
                pembatas4+nama_audio_asli+
                pembatas5+pembatasdummy;

//file header wav 44 -46, jadikitamulaipenyisipanpada byte
ke 50 //konversi byte ke bit dalambentuk string

        int indeks=0;
//intjumlah=0;
//String pembacaan="";
//-----proses file mp3/wav
        fin = new FileInputStream(file);
        byte[] byteArray = newbyte[(int)
file.length()];
        fin.read(byteArray);
        fin.close();
        /*
        byte[] konten= new byte[byteArray.length];
        for(int i=0;i<=byteArray.length-1;i++)
        {
                if(i>=50 && (i%2==0) &&
(indeks<bacadokumen.length()))
                {
                        String
sisipan=bacadokumen.substring(indeks, (indeks+1));

                        if(sisipan.equalsIgnoreCase("0"))
                                {

```

```

        konten[i]=(byte)
(byteArray[i] & ~(1 << 7));
    }

    if(sisipan.equalsIgnoreCase("1"))
    {
        konten[i]=(byte)
(byteArray[i] | (1 << 7));
    }

    indeks++;
}
else
{
    konten[i]= byteArray[i];
}
i++;
}
*/

byte[] konten= newbyte[byteArray.length];
for(int i=0;i<=byteArray.length-1;i++)
{
    //int part=0;
    //String bit=biner(byteArray[i]);
    if(i>=50 && (i%2==0) &&
(indeks<bacadokumen.length()))
    {
        //String sisipan="1";
        String sisipan=bacadokumen.substring(indeks,
(indeks+1));

        //????????????????????
        if(sisipan.equalsIgnoreCase("0"))
        {
            konten[i]=(byte)
(byteArray[i] & ~(1 << 0));
        }

        if(sisipan.equalsIgnoreCase("1"))
        {
            konten[i]=(byte)
(byteArray[i] | (1 << 0));
        }
        //????????????????????
        //pembacaan+=sisipan;
        /*
        StringBuilder strb=new StringBuilder(bit);
        strb.replace(7,8,sisipan);
        part=Integer.parseInt(strb.toString(),2);
        byte parts=(byte) (part & 0xFF);
        konten[i]= parts;
        */
        indeks++;
    }
}

```



```

        else
        {
            konten[i]= byteArray[i];
        }

        //jumlah=i;
        }

//hasil.setText( tekssisipan);

        FileOutputStream buat = new
FileOutputStream(root+"/"+fileName);
        buat.write(konten,0,konten.length);
        buat.close();
        //myDB = openOrCreateDatabase("dataStegano", MODE_PRIVATE,
null);
        //myDB.execSQL("INSERT INTO enkripsi (tgl , file_audio,
file_documen) VALUES ('"+tgl+"',
 '"+fileName+"', '"+documen.getName().toString()+"');");
        myDB.execSQL("INSERT INTO enkripsi (tgl , file_audio,
file_documen) VALUES ('"+tgl+"', '"+fileName+"
[Size:"+String.valueOf(file.length())+"Byte]\nFile Asli :
"+file.getName().toString()+"', '"+documen.getName().toString()+"');");
        //myDB.execSQL("INSERT INTO enkripsi (tgl,
file_audio,file_documen,file_audio_asli) VALUES ('"+tgl+"',
'123','123','123');");

        myDB.close();

        Toast.makeText(getApplicationContext(),
"File Penyembunyian berhasil dibuat", Toast.LENGTH_LONG).show();

        //hasil.setText(iterasi+"
"+String.valueOf(iterasi)+" ~ ~ "+bacadokumen.length()+"
"+String.valueOf(bacadokumen.length()));
        /*
            hasil.setText(
                pembatas1.length()+" "+
                pembatas2.length()+" "+
                pembatas3.length()+" "+
                pembatas4.length()+" "+
                pembatasdummy.length()+" "+
                tekspassword.length()+" "+
                nama_file.length()+" "+
                stringdata.length()+" "+
                "50 = "+iterasi+"
                (""+String.valueOf(bacadokumen.length())+"
                =" +jumlahiterasi+"\n"+bacadokumen);
                */
        }

```

```

        catch (Exception e) { e.printStackTrace(); }
        /***/
        String dummy="";
        return dummy;
    }

    @Override
    protectedvoid onProgressUpdate(String... values) {
// Runs on UI thread after publishProgress(Progress...) is
invoked
// from doInBackground()
    }

    @Override
    protectedvoid onPostExecute(String result) {
// Runs on the UI thread after doInBackground()
        Toast.makeText(getApplicationContext(), "File
Penyembunyian berhasil dibuat", Toast.LENGTH_LONG).show();
        progressDialog.dismiss();
        long tEnd = System.currentTimeMillis();
        long tDelta = tEnd - tStart;
        double elapsedSeconds = tDelta / 1000.0;

        lama_waktu.setText(String.valueOf(elapsedSeconds)+"
S");
    }

}

    @Override
    publicvoid onBackPressed() {
// do something on back.
//super.onBackPressed();
        Intent move =new
Intent(enkripsi.this,enkripsi1.class);
        startActivity(move);
    }

}
}

```

deskripsi.java (Form Menu Deskripsi)

```

package com.example.ta;

import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.text.SimpleDateFormat;
import java.util.Calendar;

```

```

import java.util.Date;

import android.app.Activity;
import android.app.AlertDialog;
import android.content.Intent;
import android.content.SharedPreferences;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.net.Uri;
import android.os.AsyncTask;
import android.os.Bundle;
import android.os.Environment;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class deskripsi extends Activity{

    Button cari,proses,riwayat;
    EditText audio,password;
    String imagepath1,tgl,subkategori,ekstensi,file_enkripsi;
    SQLiteDatabase myDB;
    TextView lama_waktu,hasil;

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

        SharedPreferences sharedPref =
getSharedPreferences("FileName",0);
        subkategori = sharedPref.getString("subkategori", "");
        file_enkripsi = sharedPref.getString("file_enkripsi", "");
        if(subkategori.equals("WAV"))
        {
            ekstensi="wav";
        }
        else
        {
            ekstensi="mp3";
        }

        //-----tanggalhariini
        tgl = new SimpleDateFormat("dd MMMM yyyy").format(new
Date());
        myDB = this.openOrCreateDatabase("dataStegano",
MODE_PRIVATE, null);

        cari = (Button) findViewById(R.id.button3);

```

```

proses = (Button) findViewById(R.id.button1);
riwayat = (Button) findViewById(R.id.button2);

audio = (EditText) findViewById(R.id.editText2);
password = (EditText) findViewById(R.id.editText3);

lama_waktu=(TextView) findViewById(R.id.lama_waktu);
hasil=(TextView) findViewById(R.id.hasil);

cari.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {
        // TODO Auto-generated method stub
        //openSound(1);
        SharedPreferences sharedPref =
getSharedPreferences("FileName",0);
        SharedPreferences.Editor prefEditor =
sharedPref.edit();
        prefEditor.putString("lokasi","Enkripsi");
        prefEditor.commit();

        Intent inten=new Intent(deskripsi.this,
FileChooser.class);
        startActivity(inten);
    }
});

if(file_enkripsi.equals(" ")){
else
{

    imagepath1=Environment.getExternalStorageDirectory()+File.separator+
"Stegano/Enkripsi/"+file_enkripsi;
    audio.setText(imagepath1);
}

riwayat.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {
        Intent pindah=new
Intent(deskripsi.this,riwayat.class);
        startActivity(pindah);
    }
});

proses.setOnClickListener(new View.OnClickListener() {

    @Override
    public void onClick(View arg0) {

```

```

//-----
        if(imagepath1==null ||
password.getText().toString().equals(""))
        {
            Toast.makeText(getApplicationContext(),
"file utama dan password tidak boleh kosong!",
Toast.LENGTH_SHORT).show();
        }
        else
        {
            new ekstrak().execute();
        }

//-----
    });
}

```

```

//-pemilihan upload foto-----

    public void openSound(int req_code){

        Intent intent;
        intent = new Intent();
        File root = new
File(Environment.getExternalStorageDirectory()+File.separator+"Stegano",
"Enkripsi");
        if(ekstensi.equalsIgnoreCase("wav"))
        {
            //intent.setType("audio/wav");

            intent.setDataAndType(Uri.fromFile(root),"audio/wav");

        }
        else
        {
            intent.setType("audio/mp3");

            intent.setDataAndType(Uri.fromFile(root),"audio/mp3");
        }

        intent.setAction(Intent.ACTION_GET_CONTENT);
        intent.setAction(Intent.ACTION_PICK);

        intent.setData(MediaStore.Audio.Media.EXTERNAL_CONTENT_URI);
        startActivityForResult(Intent.createChooser(intent,
"Select file to upload"), req_code);
    }
}

```

```

    }

    @Override
    protected void onActivityResult(int requestCode, int
resultCode, Intent data)
    {
        if (resultCode == RESULT_OK) {

            if (requestCode == 1)
            {
                Uri audioFileUri = data.getData();
                String MP3Path = getSoundPath(audioFileUri);
                imagePath1=MP3Path;
                audio.setText(MP3Path);
                //Toast.makeText(getApplicationContext(), MP3Path,
Toast.LENGTH_SHORT).show();

            }

        }
    }

    public String getSoundPath(Uri uri) {
        String[] projection = { MediaStore.Audio.Media.DATA };
        Cursor cursor = managedQuery(uri, projection, null, null,
null);
        int column_index =
cursor.getColumnIndexOrThrow(MediaStore.Audio.Media.DATA);
        cursor.moveToFirst();
        return cursor.getString(column_index);
    }

    public String biner(byte bite)
    {
        String s1 = String.format("%8s",
Integer.toBinaryString(bite & 0xFF)).replace(' ', '0');
        return s1;
    }

    public String teks_biner(String teks)
    {
        byte[] byteword = teks.getBytes();

        StringBuilder binary = new StringBuilder();
        for (byte b : byteword)
        {
            int val = b;

```

```

        for (int i = 0; i < 8; i++)
        {
            binary.append((val & 128) == 0 ? 0 : 1);
            val <<= 1;
        }
        //---menambahspasi
        //binary.append(' ');
    }
    return binary.toString();
}

static int binaryToInt (String binary){
    char []cA = binary.toCharArray();
    int result = 0;
    for (int i = cA.length-1;i>=0;i--){
        //111 , length = 3, i = 2, 2^(3-3) + 2^(3-2)
        //          0          1
        if(cA[i]=='1') result+=Math.pow(2, cA.length-i-1);
    }
    return result;
}

class ekstrak extends AsyncTask<String, String, String> {

    ProgressDialog progressDialog;
    File file = new File(imagepath1);
    File root = new
File(Environment.getExternalStorageDirectory()+File.separator+"Stegano",
"Dekripsi");

    longtStart = System.currentTimeMillis();

    @Override
    protected void onPreExecute() {
        // Runs on the UI thread before doInBackground()
        progressDialog = ProgressDialog.show(deskripsi.this, null,
"Loading...");
    }

    @Override
    protected String doInBackground(String... params) {

        // Perform an operation on a background thread
        /*****/
        String pesan="";
        String bacadokumen="";
        String result1,result2,result3="";
    }
}

```

```

//-----dibuat string pembatas |stg?|
String pembatas1=teks_biner("|stg.1|");
String pembatas2=teks_biner("|stg.2|");
String pembatas3=teks_biner("|stg.3|");
String pembatas4=teks_biner("|stg.4|");
String pembatas5=teks_biner("|stg.5|");

//-----string nama file sisipan
String nama_file="";
String nama_audio_asli="";

//-----string password
String tekspassword="";

FileInputStream fin = null;
try
{
//-----proses file mp3/wav
file.length());
fin = new FileInputStream(file);
byte[] byteArray = newbyte[(int)

fin.read(byteArray);
fin.close();

//-----menghitungjumlahiterasi
int indeks=0;
StringBuilder head = new StringBuilder();
for(int i=0;i<=byteArray.length-1;i++)
{
if(i>=50 && (i%2==0) && indeks<24)
{
String teks=biner(byteArray[i]).substring(7,
8);
head.append(teks);
indeks++;
}
}
String teks_head=head.toString();
int jlhiterasi=BinaryToInt(teks_head);

if(bacadokumen.contains(pembatas1)==false ||
bacadokumen.contains(pembatas2)==false)
{
pesan="Tidak ada file Penyembunyan";

//Toast.makeText(getApplicationContext(), "Tidakada file
sisipan", Toast.LENGTH_SHORT).show();
}
else

```



```

//-----bacaisi file
result =
bacadokumen.substring(bacadokumen.indexOf(pembatas2) +
pembatas2.length(), bacadokumen.indexOf(pembatas3));
int
panjang_byte=result.length()/8;
int part;
byte[] konten=
newbyte[panjang_byte];
for(int i=0;i<panjang_byte;i++)
{
int abs=i*8;
part=Integer.parseInt(result.substring(abs, abs+8), 2);
byte parts=(byte) (part & 0xFF);
konten[i]= parts;
}
result3=result;
//hasil.setText(result1
+"\n\n"+result2+"\n\n"+result3);
//-----create file sisipan
FileOutputStream buat = new
FileOutputStream(root+"/"+nama_file);
buat.write(konten,0,konten.length);
buat.close();
myDB.execSQL("INSERT INTO dekripsi (tgl,
file_audio,file_documen) VALUES ('"+tgl+"',
 '"+file.getName().toString()+"\nFile Asli :
 '"+nama_audio_asli+"', '"+nama_file+"
 [Size:"+String.valueOf(panjang_byte)+"Byte]');");
pesan="File berhasil
diekstraksi";
//Toast.makeText(getApplicationContext(), "File
berhasildiekstraksi", Toast.LENGTH_SHORT).show();
}
else
{
pesan="Password tidak valid";
//Toast.makeText(getApplicationContext(), "Password tidak valid",
Toast.LENGTH_SHORT).show();
}
}
}

```

```

        }
        catch (Exception e) { e.printStackTrace(); }
        /***/
        return pesan;
    }

    @Override
    protected void onProgressUpdate(String... values) {
        // Runs on UI thread after publishProgress(Progress...) is
invoked
        // from doInBackground()
    }

    @Override
    protected void onPostExecute(String pesan) {
        // Runs on the UI thread after doInBackground()
        Toast.makeText(getApplicationContext(), pesan,
Toast.LENGTH_LONG).show();
        progressDialog.dismiss();
        long tEnd = System.currentTimeMillis();
        long tDelta = tEnd - tStart;
        double elapsedSeconds = tDelta / 1000.0;

        lama_waktu.setText(String.valueOf(elapsedSeconds));
    }
}

```

Tampilan Hasil Pengujian PSNR MP3

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Indonesia Raya.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian1.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -17.5113

P1 =

    -13.2336

PSNR =

     9.8093

fx >> |
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Dari_Sabang_Sampai_Merauke.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian2.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -14.5846

P1 =

     -9.9822

PSNR =

     6.7248

fx >> |
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Dirgahayu_Indonesiaku.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyan3.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -29.0636

P1 =

    -26.0380

PSNR =

    18.6958

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Bendera_Merah_Putih_Instrument.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyan4.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -19.3447

P1 =

    -18.5858

PSNR =

    27.7803

fx >> |
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Hari_Merdeka.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian5.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -22.3553

P1 =

    -15.5105

PSNR =

     7.1053

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Gugur_Bunga_Idris_Sardi.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian6.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -13.9839

P1 =

    -10.5154

PSNR =

     9.6338

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\paduan_suara_syukur.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian7.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -21.5195

P1 =

    -14.9751

PSNR =

     7.1899

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\mp3\Ibu_Pertiwi.mp3');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian8.mp3');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -18.7308

P1 =

    -15.4713

PSNR =

    13.5278

fx >>
```

Tampilan Hasil Pengujian PSNRWAV

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Indonesia Raya.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi_filepenyembunyan1.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

-15.2319

P1 =

-15.2306

PSNR =

81.1401

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Dari_Sabang_Sampai_Merauke.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi_filepenyembunyan2.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

-12.2413

P1 =

-12.2405

PSNR =

83.9446

fx >>
```



```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Dirgahayu_Indonesiaku.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian3.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -26.7332

P1 =

    -26.6842

PSNR =

    54.7150

fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Bendera_Merah_Putih_Instrument.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian4.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -17.1371

P1 =

    -17.1323

PSNR =

    70.9224

fx >> |
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Hari_Merdeka.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian5.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -16.0035

P1 =

    -16.0035

PSNR =

    Inf
fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Gugur_Bunga_Idris_Sardi.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian6.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -11.3990

P1 =

    -11.3990

PSNR =

    Inf
fx >> |
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\paduan_suara_syukur.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian7.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -19.7134

P1 =

    -19.7134

PSNR =

    Inf
fx >>
```

```
Command Window
>> x_signal=audioread('D:\rita\Stegano\FileSuara\wav\Ibu_Pertiwi.wav');
x_noise=audioread('D:\rita\Stegano\Enkripsi\_filepenyembunyian8.wav');
P_x_signal = mean(x_signal.^2);
P_x_noise = mean(x_noise.^2);
P0 = 10*log10 (P_x_signal)
P1 = 10*log10 (P_x_noise)
PSNR = 10*log10 ((P1.^2)/((P1.^2+P0.^2)-(2*P1*P0)))

P0 =

    -16.8294

P1 =

    -16.8294

PSNR =

    Inf
fx >> |
```