

# CS355

## Mobile Application Development การพัฒนาโปรแกรมประยุกต์สำหรับอุปกรณ์พกพา



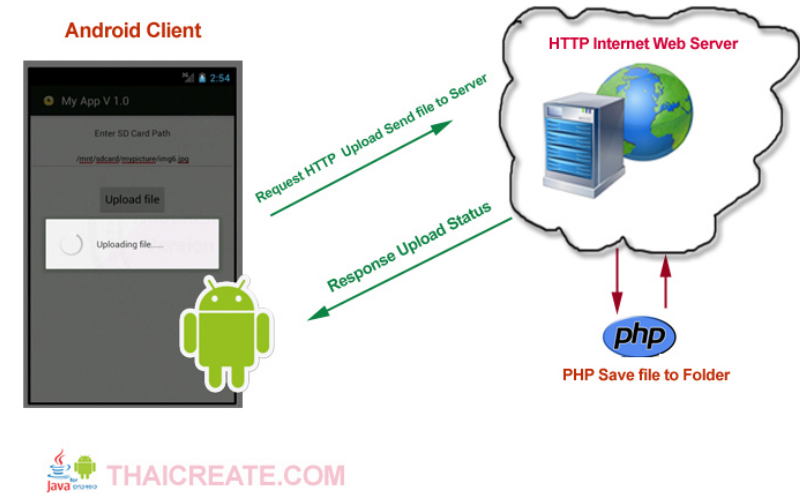
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### MA13: File Server Connection การเชื่อมต่อไฟล์เซิร์ฟเวอร์

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## Upload File to Server : Project 'FileServer'



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## FileServer : Layout



```
<LinearLayout>
  <TextView
    android:id="@+id/textUpload"
    android:text="@string/upload" />
  <ImageButton
    android:id="@+id/btnCamera"
    android:src="@android:drawable/ic_menu_camera"
    android:contentDescription="@string/upload" />
  <Button
    android:id="@+id/btnUpload"
    android:text="@string/upload" />
  <View
    android:layout_height="1dip"
    android:background="#CCCCCC"
    android:layout_width="match_parent"
    android:layout_marginTop="10dp" />
  <TextView
    android:id="@+id/textDownload"
    android:text="@string/download" />
  <Button
    android:id="@+id/btnDownload"
    android:text="@string/download" />
  <View
    android:layout_height="1dip"
    android:background="#CCCCCC"
    android:layout_width="match_parent"
    android:layout_marginTop="10dp" />
</LinearLayout>
```

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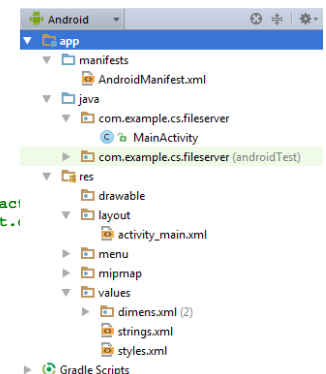
## FileServer : Manifests

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.cs.fileserver" >

    <uses-permission android:name="android.permission.INTERNET" />
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.CAMERA" android:required="true" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="@string/app_name"
            android:configChanges="orientation|screenSize" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```



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## FileServer : MainActivity.java : Camera Image

```
camera_btn.setOnClickListener(new OnClickListener() {
    public void onClick(View v) {
        Call Camera Activity
        Set File Name and Path
    }
});

@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
    if (requestCode == 0 && resultCode == Activity.RESULT_OK) {
        try {
            Adjust Image Size
            Show Image
        } catch (Exception e) {
            Log.e("Log", "Error on saving file");
        }
    }
}
```

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## FileServer : MainActivity.java : 'Camera Image Button' Calls 'Camera Activity'

```
final ImageButton camera_btn = (ImageButton) findViewById(R.id.btnCamera);
camera_btn.setOnClickListener(new OnClickListener() {
    public void onClick(View v) {
        Intent intent = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
        String timeStamp =
            new SimpleDateFormat("yyyyMMdd_HHmmss").format(new Date());
        String imageFileName = "pkl_" + timeStamp + ".jpg";
        File f = new File(Environment.getExternalStoragePublicDirectory(
            Environment.DIRECTORY_PICTURES), imageFileName);

        Uri fileUri = Uri.fromFile(f);
        filePath = fileUri.toString();
        intent.putExtra(MediaStore.EXTRA_OUTPUT, fileUri);
        startActivityForResult(intent, 0);
    }
});
```

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## FileServer : MainActivity.java : Return to Caller

```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
    if (requestCode == 0 && resultCode == Activity.RESULT_OK) {
        try {
            Bitmap bmpPic = BitmapFactory.decodeFile(filePath.replace("file://", ""));
            FileOutputStream bmpFile = new FileOutputStream(filePath.replace("file://", ""));
            bmpPic = Bitmap.createScaledBitmap(bmpPic, 600, 400, true);
            Matrix mat = new Matrix();
            mat.postRotate(90);
            bmpPic = Bitmap.createBitmap(bmpPic, 0, 0, bmpPic.getWidth(), bmpPic.getHeight(),
                                         mat, true);

            bmpPic.compress(Bitmap.CompressFormat.JPEG, 10, bmpFile);
            bmpFile.flush(); bmpFile.close();
            ImageButton img = (ImageButton) findViewById(R.id.btnCamera);
            img.setImageBitmap(bmpPic);
        } catch (Exception e) { Log.e("Log", "Error on saving file"); }
    }
}
```

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## FileServer : MainActivity.java : Upload File

```
btnUpload.setOnClickListener(new View.OnClickListener() {
    public void onClick(View v) {
        if(SaveData()){
            Display 'File has been uploaded'
        }
    }
});

public boolean SaveData(){
    if (filePath != null) {
        String strUrlServer = "http://www.lstpch.com/android/uploadFile.php";
        filePath = filePath.replace("file://", "");
        String resultServer = uploadFiletoServer(filePath, strUrlServer);
        Get StatusID and Error Msg
        if (strStatusID.equals("0")) {
            Display Error Msg return false;
        } else {
            Display Success Msg return true;
        }
    } else Display File Not Found return false;
}
```

StatusID = 0 : Error  
Display Error Message

StatusID = 1 : Success  
Show Success Message

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```

public boolean SaveData(){
    final AlertDialog.Builder dialog = new AlertDialog.Builder(this);
    dialog.setTitle(R.string.err_title);
    dialog.setIcon(android.R.drawable.ic_menu_info_details);
    dialog.setPositiveButton("Close", null);
    if (filePath != null) {
        String strUrlServer = "http://www.lstpch.com/android/uploadFile.php";
        filePath = filePath.replace("file://", "");
        String resultServer = uploadFiletoServer(filePath, strUrlServer);
        String strStatusID = "0";
        String strError = "Unknow Status!";
        try {
            JSONObject c = new JSONObject(resultServer);
            strStatusID = c.getString("StatusID");
            strError = c.getString("Error");
        } catch (JSONException e) { e.printStackTrace(); }
        if (strStatusID.equals("0")) {
            dialog.setMessage(strError);
            dialog.show(); return false;
        } else {
            dialog.setTitle(R.string.submit_title);
            dialog.setMessage(R.string.submit_result);
            dialog.show();
            filePath = null; return true;
        }
    } else { Toast.makeText(MainActivity.this, "File not found!" ,Toast.LENGTH_LONG).show();
        return false; }
}
9 }

```

## uploadFile.php

```

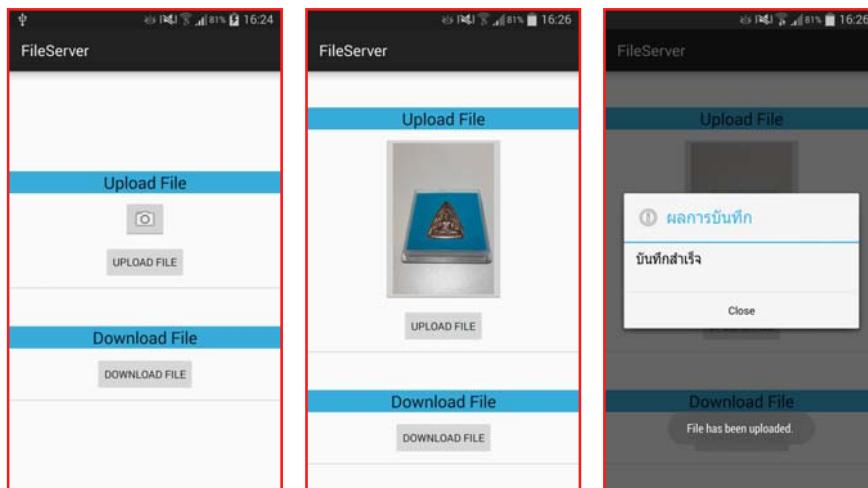
1. <?
2. if(@move_uploaded_file($_FILES["fileUpload"]["tmp_name"],
3.                                     $_FILES["fileUpload"]["name"])){
4.     $arr["StatusID"] = "1";
5.     $arr["Error"] = "";
6. }else{
7.     $arr["StatusID"] = "0";
8.     $arr["Error"] = "Error cannot upload file.";
9. }

10. echo json_encode($arr);
11. ?>

```

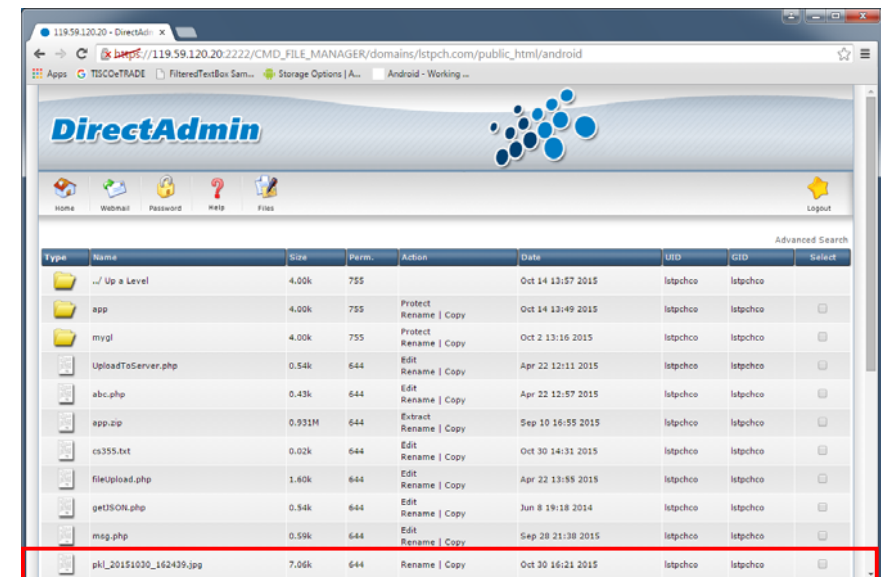
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## During Upload File



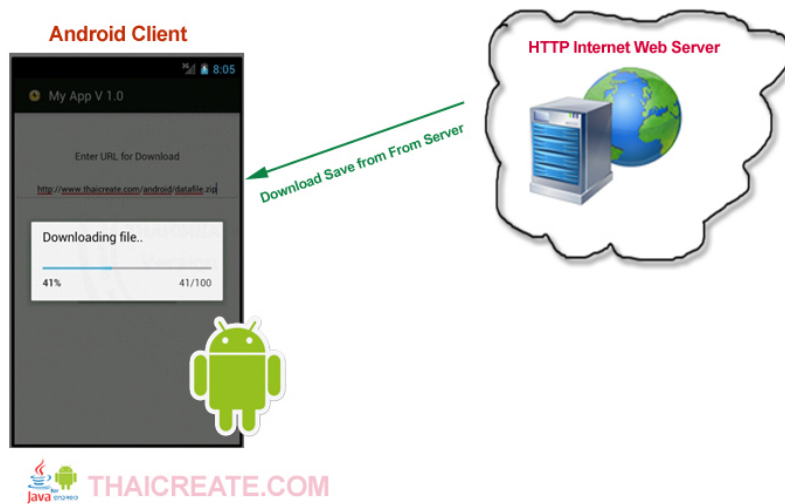
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## After Uploaded File



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## Download File from Server



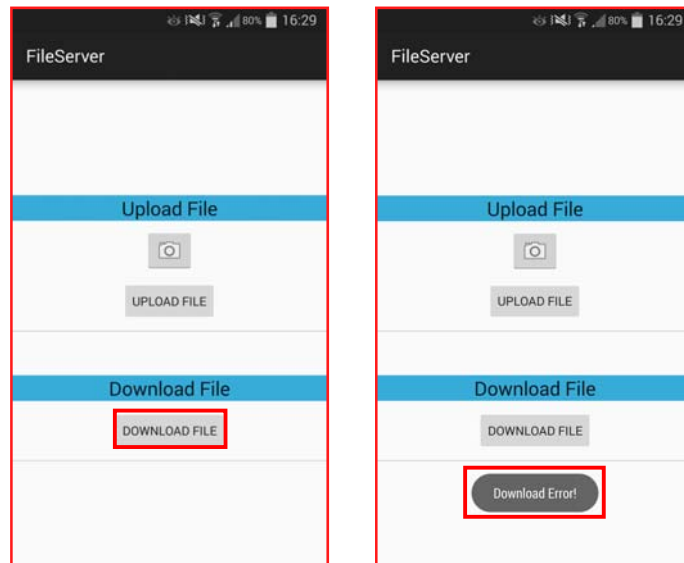
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## FileServer : MainActivity.java : Download File

```
btnDownload.setOnClickListener(new View.OnClickListener() {
    public void onClick(View v) {
        String from = "http://www.lstpch.com/android/pkl_20151030_162439.jpg";
        String path = Environment.getExternalStoragePublicDirectory(
            Environment.DIRECTORY_DOWNLOADS).toString() + "/";

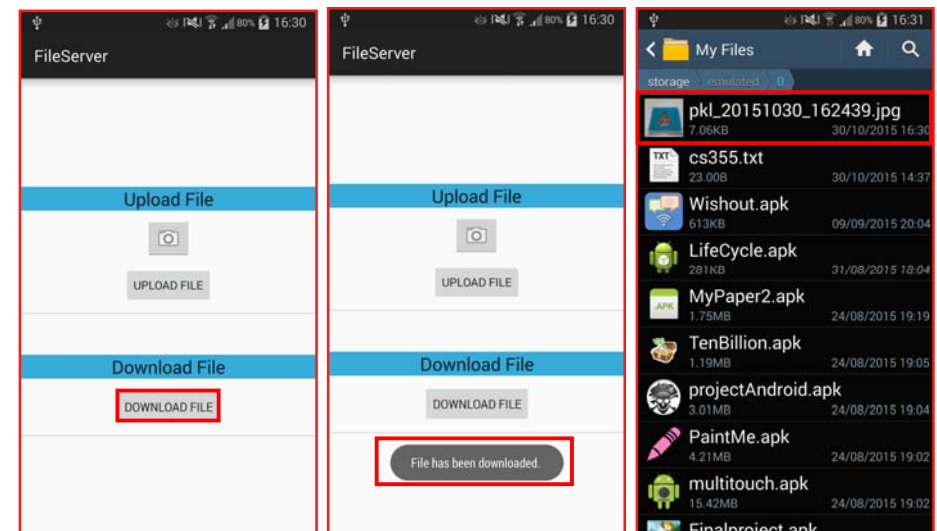
        try {
            URL url = new URL(from);
            URLConnection con = url.openConnection();
            con.connect();
            InputStream input = new BufferedInputStream(url.openStream());
            String fileName = from.substring(from.lastIndexOf('/') + 1, from.length());
            OutputStream output = new FileOutputStream(path + fileName);
            byte data[] = new byte[1024];
            while ((count = input.read(data)) != -1) {
                output.write(data, 0, count);
            }
            output.flush();
            output.close();
            input.close();
            Toast.makeText(MainActivity.this, "File has been downloaded. ",
                Toast.LENGTH_LONG).show();
        } catch (IOException e) {
            Toast.makeText(MainActivity.this, "Download Error!", Toast.LENGTH_LONG).show();
            e.printStackTrace();
        }
    }
});
```

## During and After Downloaded File : Error



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## During and After Downloaded File : Success

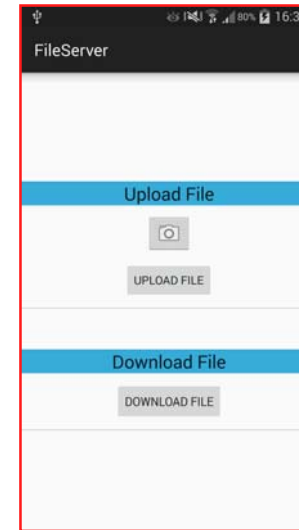


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## References

- <http://developer.android.com>
- <http://www.thaicreate.com/mobile/android-upload-file-to-web-server.html>
- <http://www.thaicreate.com/mobile/android-download-file-from-server.html>

## In Class Exercise



จากตัวอย่างแอปพลิเคชัน FileServer  
จงแก้ไขแอปพลิเคชันเพิ่มเติม  
ให้สามารถอัปโหลดไฟล์รูปภาพ  
จากแกลลอรี ขึ้นไปยัง Server ได้  
โดยสร้างภายใต้การคลิกปุ่ม 