

## Laboratory 7

### Laboratory 7a

Create a project L8Network1 and copy the files from F8Network1 (files under values, drawable, layout, source files, and finally permissions in the AndroidManifest.xml).

Test the app with textAndImage call enabled in Main Activity - onCreate.

Rewrite LoadBitmap to inherit from Thread instead of inheriting from AsyncTask:

```
public class LoadBitmap extends Thread {  
:  
}
```

### Laboratory 7b

Continue in the project L8Network1 writing a class LoadText so that another class implements Runnable (and AsyncTask is not used)

```
public class LoadText {  
:  
    Public LoadText (TextListener listener, String url, String encoding) {  
        :  
        new Thread (new textLoader ()).start (); // or something similar  
    }  
    text private classloader implements Runnable {  
        :  
    }  
}
```

### Laboratory 7c

Create project L8RetainedFragment and copy the files from F8Network2. If you run the app, the connection to the server is lost when the phone is rotated.

Fix this by making TCPConnection inherit Fragment, and set the Fragment as a Retained Fragment. The constructor must be replaced by one or more methods which are called from the Controller class in onCreate, where setRetainInstance is called.

```
public class TCPConnectionFragment extends Fragments {  
    private RunOnThread thread;  
    private Receive receive;  
:  
    Public TCPConnectionFragment () {  
        // Required empty public constructor  
    }  
    public void onCreate (Bundle savedInstanceState) {  
        super.onCreate (savedInstanceState);  
        setRetainInstance (true);  
    }  
:  
}
```

Furthermore, you must change the MainActivity as well as the Controller to some extent.