

Welcome activity

User chooses between client sever module

```
public void startServer(View v){
    startActivity(new Intent(WelcomeActivity.this,MainActivity.class));
}
public void startClient(View v){
    startActivity(new Intent(WelcomeActivity.this, UserActivity.class));
}
```

Main Activity

Permission requests and initialization is done in this page. This is the main service for http.

The activity also generates the QR code. The QR code is generated using the network address broadcasting.

The activity starts services that use a port mostly 8080 to listen to http requests.

The services used is called Main service

Main Service

This is the service that initializes the java servlets it initializes using the class

AndroidServerConfigFactory

```
@NonNull
@Override
protected Class<MainActivity> getActivityClass() {
    return MainActivity.class;
}

@NonNull
@Override
protected BaseAndroidServerConfigFactory getServerConfigFactory(final Context
context) {
    return new AndroidServerConfigFactory(context);
}
```

MusicListServlet

This is a servlet responsible for serving music list

GetFileServlet

This sends the required music file to the client

MySongs

This is a model that represents a single song

USER MODULE

User Activity

This is the main activity for the client. The client starts by scanning the QR code on the server. The QR code ids then converted to IP address and port number which is used to make requests.

```
if (urls.contentEquals("")){  
    new IntentIntegrator(this).initiateScan(); // `this` is the current Activity  
}
```

The activity also has a button to get media from the server.

```
getMedia.setOnClickListener(v -> {  
    send_request(urls);  
    // new DownloadTask(UserActivity.this).doInBackground(urls);  
});
```

It contains an adapter which populates the music list to a recycler view. A recycler view is used to auto generate and recycle the list.

Music Adapter

This is adapter has onclick listeners for each item in the recyclerview. It takes the purpose of play pause and recycle songs

```
holder.musicName.setText(mySong.getDisplayName());  
holder.playPause.setImageDrawable(c.getResources().getDrawable(R.drawable.ic_baseline  
_play_arrow_24));  
holder.playPause.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View view) {  
        ((UserActivity)c).playMusic(mySong,holder.playPause);  
    }  
});
```

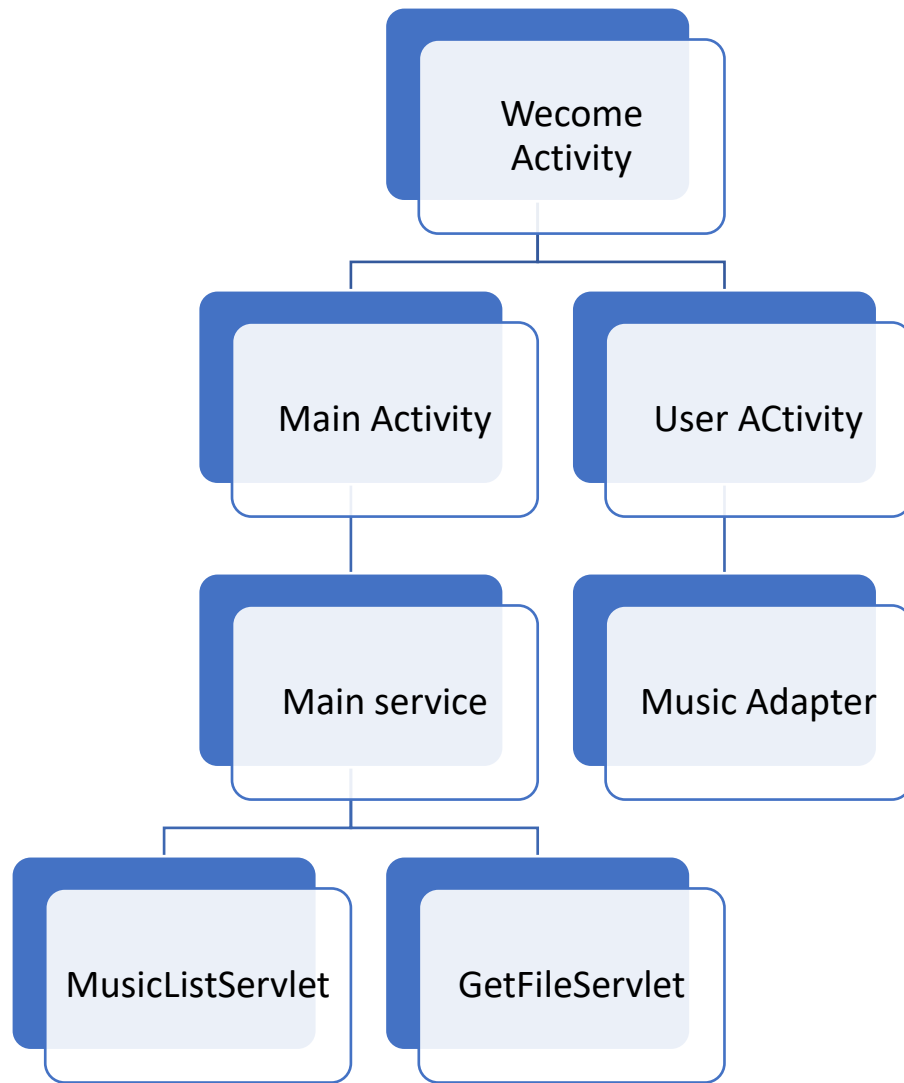


Figure 1:Activity Flow