Remote Resources

**System Architecture**

Instituto de Pesquisas Eldorado

Version: 1.1

January/2014

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Goals

The main goal of this document is to show a general view of the tool architecture proposed by Instituto Eldorado in order to remotely manipulate Android devices.

This is a simple document, since the application code is not extremely complex.

General View

Summarizing, Remote Resources is drawn with an architectural standard of client and server. The server is the computer where the device is physically connected and the client can be any other computer that interacts remotely with this device.

The interface between client and server is provided by exchange of control messages (control exchange) and data (information exchange).

The same computer can assume the client and server roles. In this case, any physics connected device will be treated as local device, automatically recognized by the tool.

Code Structure

This code was written using Java SE. It is organized according to a client-server view. There is a specific classes package for the server (communicating directly to the device), another specific package for the client (getting user’s commands and communicating to server) and a common package for both, which wraps the exchanged messages between client and server.

Furthermore, there is another included package responsible for the interaction between user and application. This interface layer is made using Java Swing, since this is a desktop application.

Technologies

All the actions executed in the system interface by the user (in client view) are converted in messages that are sent to server. Once received, these messages are decoded and interpreted according to its kind:

1. Android system commands (touch, slide, screenshots, etc.);
2. Standard keys pressing (home, back, etc.);
3. Scripts recover;
4. Device settings;
5. Device list

Messages like [3] to [5] are treated directly with Java. On the other hand, messages like [1] and [2] are converted in ADB events and sent to device by APIs Chimpchat, DDMLIB, GuavaLib e SDKlib. All of them are JARs added to the project.

More details can be found on class comments and methods around the code.

Licença

Remote Resources is an internal project of Instituto de Pesquisas Eldorado.

All icons images were freely obtained at [<http://www.doublejdesign.co.uk>].