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## Exercise 3: Networking

In this exercise you should extend the application from exercise 2 to allow sharing of drawings over the Internet. Implement a peer to peer (P2P) system to provide drawings to others, find drawings on the Internet, and load drawings from remote sites.

The Snowman Cad system therefore should realize a network server which allows clients investigating a specific folder for drawings and load those into their application. Use Xml serialization as developed in exercise 2 to send drawings.

### Typical use case:

Joe shares a directory, e.g. mydrawings, with the following drawing files: hugo.xml, cat.xml and smurf.xml. Penny enters Joe's URL, requests the listing of Joe's shared files and gets the names of the shared drawings. Penny selects cat.xml and loads the drawing with the cat into her Snowman Cad application.

### Technical notes:

You should implement this exercise relying on Socket streaming. For that purpose you have to develop a simple protocol with at least two commands: "LIST" and "GET". The response to "LIST" must be a "\n" separated list of file names found on the server. "GET" has one parameter which is the name of the drawing to download. The response to "GET" must be the Xml representation of the requested drawing. In case of an error the connection should be closed. No special error handling has to be implemented!

### Commands sent in the above use case:

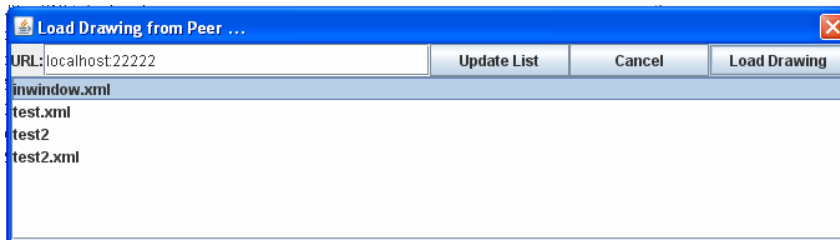
Actor	Output
Penny	LIST
Joe	hugo.xml cat.xml smurf.xml
Penny	GET cat.xml
Joe	<?xml version="1.0" encoding="UTF-8" standalone="no"?> <graphicmodel> ... </graphicmodel>

### Sending drawings by mail:

In addition to the P2P application, it should be possible to send drawings by email. Implement a simple SMTP client which allows sending the current drawing in xml format to a specified recipient. Allow configuration of the SMTP server in a configuration dialog.

### Sample dialogs:

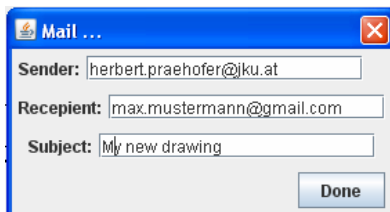
For connecting to a remote server and loading drawings the remote server:



For configuring the P2P server:



For sending the drawing in an email:



For specifying the address of the mail server:

