

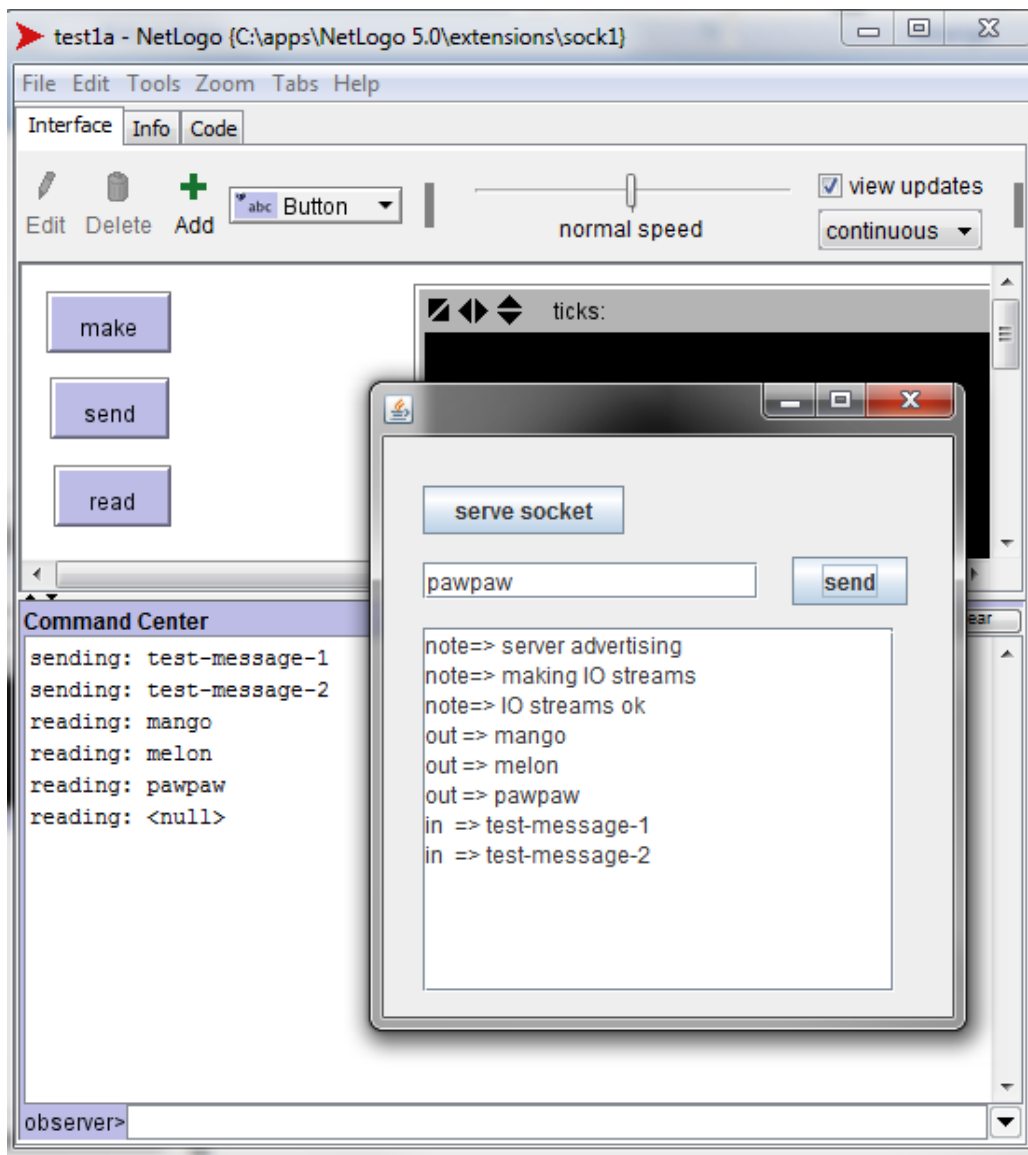
a socket connection for NetLogo

This is an example of a simple socket extension for NetLogo which allows netlogo to communicate with other (Java) applications via a socket.

The class files are bundled into a jar conforming to netlogo extension requirements, source files for the example are also provided.

running the example

The screen-shot below shows netlogo running test2a and the example java frame.



extension contents

general

the sock2.zip file decompresses to a Netlogo extension. Read the .pdf file for details & documentation.

Netlogo

the extension includes the following...

- test2a.nlogo – a simple Netlogo demonstration of socket use
- sock2.nls – an include file containing socket primitives for Netlogo
- sock2nls-test(1a).nlogo – a skeletal file to test sock2.nls

Java

The "sock2" subfolder is a Netbeans project with a simple example (below) demonstrating how Java can connect to Netlogo.

NB: this project does not include Netlogo.jar in its dist/lib folder, this should be added, it can be found in the Netlogo application folder or obtained from the Netlogo website.

Clojure

socket.clj – contains Clojure primitives for socket-based comms, see below & comments in the file for an examples of connecting to Netlogo from Clojure.

running the example (Java)

1. run the SocketExample.class file;
2. open test2a.nlogo in netlogo;
3. click the "serve socket" button in the SocketExample frame
 - you will see a message on the frame stating that it is advertising a socket;
4. click "make" on test1a.nlogo
 - you will see messages on the SocketExample frame showing that it has made I/O streams. If you have error output connected to netlogo you may also see messages here;
5. clicking the "send" button on the netlogo side will send a message of the form "test-message-#" to the java side which you will see displayed in the output area of the SocketExample frame, you will also see a message displayed on the netlogo side;
6. typing a message into the textfield on the java side and hitting the SocketExample send button will send a message to netlogo. This will be queued with any other unretrieved messages then retrieved & printed when the read button is pressed on the netlogo model.

using Clojure

step 1: load "socket.clj" (all dependencies are handled within the source code)

...then in the repl...

```
user=> (def s25 (startup-server 2222))
advertising #<ServerSocket ServerSocket[addr=0.0.0.0/0.0.0.0,
          port=0,localport=2225]>
the Clj thread now waits until the socket is accepted by some other thread...
socket accepted #<Socket Socket[addr=/152.105.17.36,
          port=55053,localport=2225]>
#'user/s25

user=> s25
{:sock #<Socket Socket[addr=/152.105.17.36,port=55053,localport=2225]>,
 :inp #<LineNumberingPushbackReader LineNumberingPushbackReader@176feac>,
 :outp #<OutputStreamWriter java.io.OutputStreamWriter@dc033a>}

user=> (socket-read s25)
test-message-1

user=> (socket-read s25)
test-message-2

user=> (socket-write s25 "banana")
nil
```

development

As it stands, this extension is just an example. I intend to develop it further in the next few months. Please contact me if you use this example and/or would be interested in a more developed comms link with netlogo.