3 Event on Receive

In the previous chapter we developed projects, which sent simple messages. Now, we are going to refine them.

We know how to send and receive text messages. If we want to find out, what message we received, we have to type in the command line the instruction print netl'message. This instruction will show the most recently received message. However, how can we easily find out, that the next message has just arrived? The solution is the onReceive **event** of the Net object.

1. If you open the **Change net1** dialogue box, right there on its **Basic** tab sheet you will see the edit line titled onReceive. The connection will react to this event and will print the input message in the Text screen immediately. Type the following instruction into the edit line:

§ print message

You don't have to type print netl'message, because this is the **Change netl** dialogue box, so this instruction naturally belongs to the netl object.

🖉 Change net1 - based on Net 📃 🗖 🗙	🖑 Change net1 - based on Net 📃 🗖 🗙
Basics Connection Events Variables Procedures	Basics Connection Events Variables Procedures
Name: net1 Nickname: server	Name: net1 Nickname: client
C No C Client	Style C No C Client Server: localhost
Server Disconnect Net object is connected Description	Disconnect Net object is connected
onReceive: print message	onReceive: print message
Refresh OK Cancel	Refresh OK Cancel

Specify the onReceive event in this way in both connected Imagines.

2. Now when the left Imagine sends a message, this message will show in the Text screen immediately in the right Imagine (and vice versa).

Hello. What's your name?
? net1'send [] [Hello. I'm Paul.]
? net1'send [] [And you?]
My name is John.
How are you?

Illustration of the communication between two Imagines - a kind of very simple chat.

3. Let us slightly upgrade our simple communication – we won't display the coming messages in the Text screen, but let the turtle t1 print them in the page. Change the onReceive event for the net1 object (in both Left and Right Imagines):

\$ t1'label message t1'back 20
the instructions label and back belong to the turtle t1, therefore we must write
t1'label ... and t1'back ...

```
onReceive: t1'label message t1'back 20
```

4. Next step: set the turtle's pen to penUp, set its colour and font to whatever you like (in both Left and Right Imagines). Now, send the message from the Left Imagine:

§ net1'send [] [Hello. What's your name?]

This message won't appear in the Text screen, but will be printed by the turtle to the page of the Right Imagine.



If we want to write each message in different colour, we must modify the onReceive event as follows:

\$ t1'setPC any t1'label message t1'back 20

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onReceive: t1'setPC any t1'label message t1'back 20
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Hello. I'm Paul. And you? Fine. Thank you. Where do you live?	Hello. What's your name? My name is John. How are you? In Bristol. @
<pre>? net1'send [] [Hello. What's your name?] ? net1'send [] [Hy name is John.] ? net1'send [] [How are you?] ? net1'send [] [In Bristol.] ?</pre>	? net1'send [] [Hello. I'm Paul.] ? net1'send [] [And you?] ? net1'send [] [Fine. Thank you.] ? net1'send [] [Where do you live?] ?

Conclusion

The onReceive event for the net object helps us react properly to the incoming messages automatically. We can define it in the **Change net1** dialogue box for the net object.