# Network Documentation

## Introduction

In this paper we will briefly discuss the implementation of the network functionality in our version of “Codex Naturalis”.

## Structure

Our application operates following the client-server model.

In the server the acceptance of new connection from the clients is done by the ServerWelcomeSocket, which listens on a specified port. The client and the server communicate through an implementation of the NetworkInterface that offers functionalities to their controllers such as the “send” method that allows them to send a text message through the network to the other host. On the client this interface is implemented as ClientConnectionManager and on the server its counterpart is implemented as ClientHandler.

The NetworkInterface implements itself other two interfaces: the ConnectionObserver interface and the NetworkInputObserver interface.  
The NetworkInputObserver interface is used by NetworkInputHandler which runs in its own thread to always check on the input stream of the socket and notifies the NetworkInterface whenever a new message from the network arrives.  
The ConnectionObserver interface is used by the Pinger which also runs in its own thread and is used to check the functionality of the network by notifying the NetworkInterface in case the connection with the other host is lost. The Pinger implements the PongObserver interface which is used by the NetworkInterface to notify the pinger of an incoming pong message from the other host (in reply to a previous ping message sent by the pinger).