process (base class)

pid_t pid (process ID)

listening process

(parent; inherits from process)

pid t distributorPID

(ID of distributor process)

Socket listeningSocket

distributor process

(coordinates client-oriented processes;

inherits from process;

spawned by the listening process)

string usersFileName

(file for storing user information)

managed_shared_memory* **pUserSegment** (pointer to the object managing shared memory for exchanging user data)

managed_shared_memory* **pMessageSegment** (pointer to the object managing shared memory for exchanging messages between processes)

boost::interprocess::allocator* pUserAllocator

boost::interprocess::allocator* pMessageAllocator

boost::interprocess::vector* pUserVector

boost::interprocess::allocator* pMessageVector

client-dedicated process (communicates with other client-oriented processes through the distributor process;

inherits from process;

spawned by the listening process)

string usersFileName

(file for storing user information)

Socket& rCommunicationSocket

managed shared memory* pUserSegment

managed shared memory* pMessageSegment

boost::interprocess::vector* **pUserVector**

boost::interprocess::allocator* pMessageVector

socket

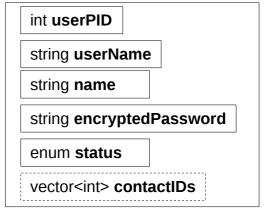
int sfd (file descriptor)

int bufSize

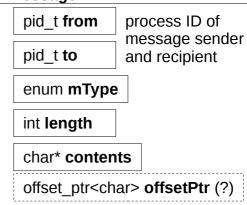
char* buffer

sockaddr networkAddress

user



message



client (inherits from NCursesApplication)

Socket socket

login dialog (inherits from dialog; started by client; not spawned as a new process)

Socket* pSocket

(I can't remember why I decided to use a reference to Socket on the server side, and a pointer here. It's possible that I was just experimenting to see what would work. Is there a design preference?)

login item (inherits from NCursesMenuItem; started by login dialog; placed as one of the menu items in the login dialog)

LoginDialog* pParentPanel

(Needs connection with the parent window in order to access data from its form fields.)

signup item (inherits from NCursesMenuItem; started by login dialog; placed as one of the menu items in the login dialog)

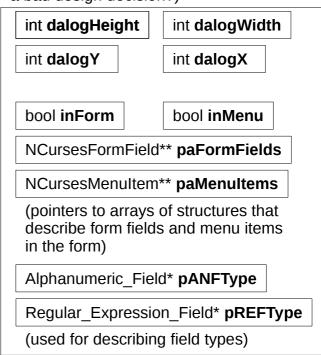
Socket* pSocket

quit item (inherits from NCursesMenuItem; started by login dialog; placed as one of the menu items in the login dialog)

Socket* pSocket

dialog (inherits from NcursesForm and NcursesMenu)

(Is multiple inheritance considered a bad design decision?)



signup dialog (inherits from dialog; started by login dialog (by the signup item in it); not spawned as a new process)

(No new members. Constructor populates different fields and menus of the parent Dialog class.)

signup OK item (inherits from NCursesMenuItem; started by signup dialog; placed as one of the menu items in the signup dialog)

SignupDialog* pParentPanel

Socket* **pSocket**

signup cancel item (inherits from NCursesMenuItem; started by signup dialog; placed as one of the menu items in the signup dialog)

(No members. Just used to cancel the sign-up process.)