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Technical Documentation

AIE - Assessment 2 Complex Game Systems (Networking)

Summary:

The objective for this assignment is to construct a english draughts game using c++. the game must support peer to peer multiplayer with a single user per client. over a network.

Libraries:

for the current project i am using the Raknet library, an open source networking library that helps the user implement a tcp network, though at its lowest level it can also assist the user with making a udp one as well.

Packets being sent (Definitions):

Raknet has some default message packets that the programmer may integrate into their project of them i am using the following.

Client Side:

ID_REMOTE_DISCONNECTION_NOTIFICATION:
(**Raknet Packet**) Our connection has been disconnected (*Client*)

ID_REMOTE_CONNECTION_LOST:
(**Raknet Packet**) Our connection has been lost (*Client*)

ID_REMOTE_NEW_INCOMING_CONNECTION:
(**Raknet Packet**) Attempting to join a server: (*Client*)

ID_CONNECTION_REQUEST_ACCEPTED:
(**Raknet Packet**) We have been accepted onto a server/ Connection Request has went through (*Client*)

Server Side:

ID_NEW_INCOMING_CONNECTION:
(**Raknet Packet**) a client has successfully connected to the server, also when this happen i also send out a (**Custom Packet**) PLAYERNUMBER_PACKET: to the user.

ID_NO_FREE_CONNECTIONS:
(**Raknet Packet**) the server is full.

ID_DISCONNECTION_NOTIFICATION:
(**Raknet Packet**) another client has disconnected from server

ID_CONNECTION_LOST:
(**Raknet Packet**) a client has lost connection to the server

Custom Packets (The Server and Client):

MOVEPIECE_PACKET:
the info in this packet includes a (**vec3**) position. a (**int**) ID reference which is the pieces unique id from 0-23: for which one is being moved. a (**int**) Object reference for which tile from 0-63 that the piece is being shifted to. as well as a (**bool**) isKing so that the user can visually see if the piece is a king or a regular piece on their monitor

DELETEPIECE_PACKET:
all this packet contains is a (**int**) ID reference which is the pieces unique number from 0-23: and its (**int**) object reference which is what tile it's tethered to from 0-63: (A checker board is made up of 64 tiles or 8x8)

PLAYERNUMBER_PACKET:
all this packet contains is a (**int**) ID and is sent when a user first joins the server.

TURNORDER_PACKET:
a packet that only contains a (**bool**)Turn Order for whose turn it currently is.

Data Flow Diagram on the next page:

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