Multiplayer Game in C++
Common mistakes

Networks and Online Games

Packets arriving twice

Maybe you detect a packet has arrived twice

- onPacketReceived()
- Replication 'CREATE' command
- The object already exists…
- So we don't process the rest of the command… **WRONG!**
  - **Always read the content of the packet. If not creating an actually valid game object, create a dummy game object and read the fields of the packet.**
  - The MemoryStream will not be positioned correctly after the command if you don't.

This applies every time we are tempted to not process parts of a packet.

Packets arriving before we expected

Imagine this case:

- Server sends 'DELETE' command for object at index 5
    - The packet, however, is lost and does not arrive
- Server sends 'CREATE' command for a new object at index 5
    - The packet arrives correctly
    - We create a new object… **but index 5 in the linking context is not empty!**
        - **The server has the authority, so we can assume it deleted the previous object**
        - **Delete the previous object**