Communication protocol

All the messages exchanged between client and server are simple string.
We have different states which all of them have multiple etiquettes that we use to know what information the server or the client needs to proceed on the communication.
We are going to list all the different messages to let you know how they communicate.

This is a quick view of what are the different communications of client/server:

Login

- **Login**
- **Menu of settings**
- **Waiting room**

Game

- **Spawn**
- **Update background**
- **Turn**
- **Actions**
    - **Grab**
        - **Grab ammo tile**
        - **Grab weapon**
            - **Replace weapon**
    - **Run**
    - **Shoot**
        - **Keep shooting (alternative weapon)**
    - **Use power up**
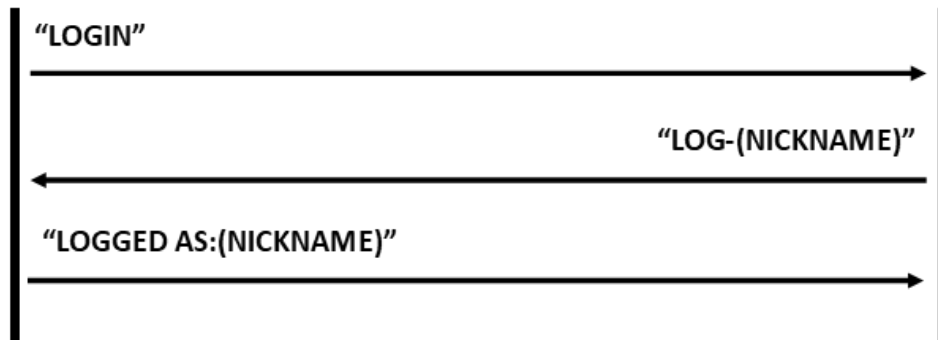   - **Reload**
- **End turn**

Information message

End game

Quit

Login

Login

Login request (server)
"Login"

Login reply (client)
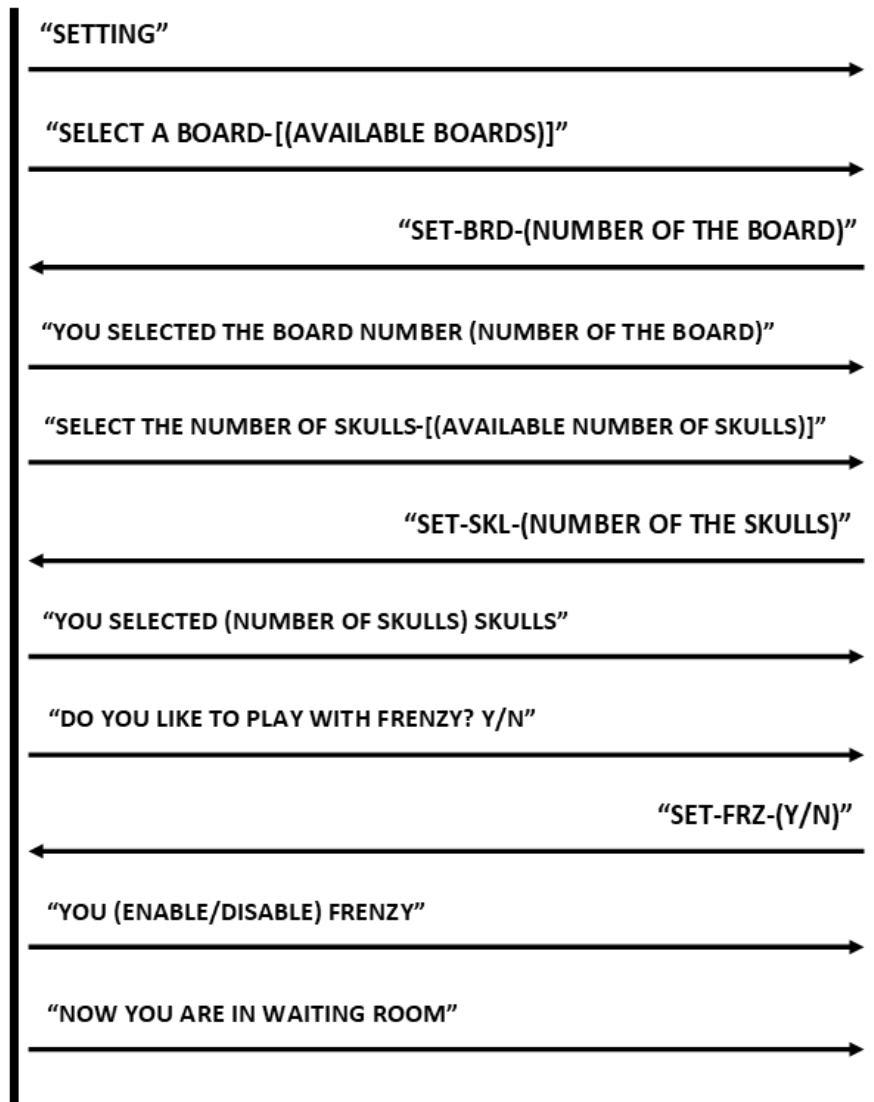"LOG-(Nickname)"

Login reply (server)
"Logged as:(Nickname)"

Menu of settings

Note: This part can only be done by the first player that is the setter of the game settings, the other player are redirected to the waiting room.

SERVER   **CLIENT**

"SETTING" →

"SELECT A BOARD-[(AVAILABLE BOARDS)]" →

← "SET-BRD-(NUMBER OF THE BOARD)"

"YOU SELECTED THE BOARD NUMBER (NUMBER OF THE BOARD)" →

"SELECT THE NUMBER OF SKULLS-[(AVAILABLE NUMBER OF SKULLS)]" →

← "SET-SKL-(NUMBER OF THE SKULLS)"

"YOU SELECTED (NUMBER OF SKULLS) SKULLS" →

"DO YOU LIKE TO PLAY WITH FRENZY? Y/N" →

← "SET-FRZ-(Y/N)"

"YOU (ENABLE/DISABLE) FRENZY" →

"NOW YOU ARE IN WAITING ROOM" →

Setting request (server)
"Setting"
"Select a board-[(Available boards)]"   → ex. "Select a board-[1,2,3,4]"

Setting reply (client)
"SET-BRD-(number of the board)"   → ex. "SET-BRD-3"

Setting reply (server)
if the reply is correct
        "You selected the board number (number of the board)"

else
>>>This board doesn't exist, please select another one"

Setting request (server)
"Select the number of skulls-[(Available number of skulls)]" → ex. "Select the number of skulls-[8,5]"

Setting reply (client)
"SET-SKL-(Number of the skulls)" → ex. "SET-SKL-8"

Setting reply (server)
if the reply is correct
"You selected (number of skulls) skulls"
else
>>>Value not valid"

Setting request (server)
"Do you like to play with frenzy? Y/N"

Setting reply (client)
"SET-FRZ-(Y/N)" → ex. "SET-FRZ-Y"

Setting reply (server)
if the reply is correct
"You enable frenzy"
else
"You disable frenzy"
"Now you are in the waiting room"

Waiting room

SERVER   CLIENT

SEND THE LIST OF ALL PLAYERS
───►

...WAITING TIMER OR 5 PLAYERS...
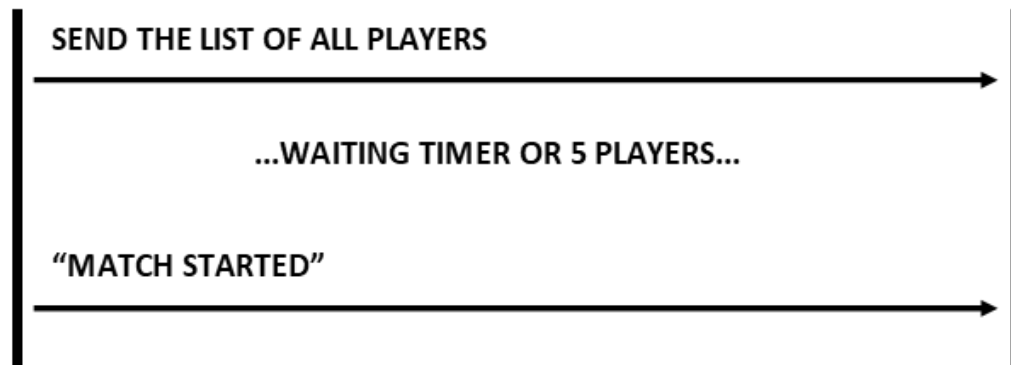
"MATCH STARTED"
───►

Send (server)
Send the list of all players who are joining the game

Waiting time if there are at least 3 players or start the match if there are 5 players
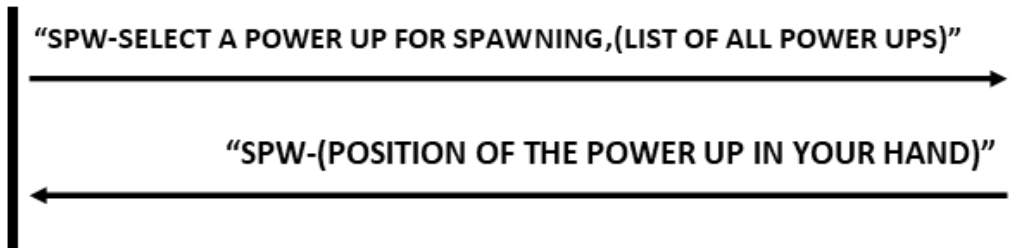
Send (server)
"Match started"

Game

Spawn

Send (server)
"SPW-Select a power up for spawning,(List of all power ups)"
    → ex. "SPW-Select a power up for spawning,targeting scope:red'newton:blue"

Reply (client)
"SPW-(Position of the power up in your hand)"
    → ex. "SPW-Select a power up for spawning,targeting scope:red'newton:blue"

Update background

Note: This information exchange allow the gui to draw the right things based on this messages.
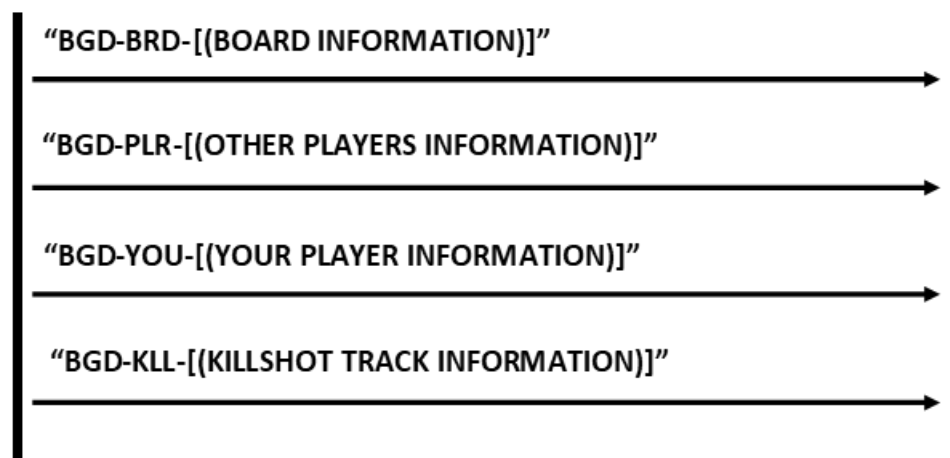
Send (server)
"BGD-BRD-[(Board information)]"

Send (server)
"BGD-PLR-[(Other players information)]"

Send (server)
"BGD-YOU-[(Your player information)]"

Send (server)
"BGD-KLL-[(Killshot track information)]"

Turn

Send (server)
"INS-"

Listening to a command action (see Actions)

Actions

Grab

Grab ammo tile
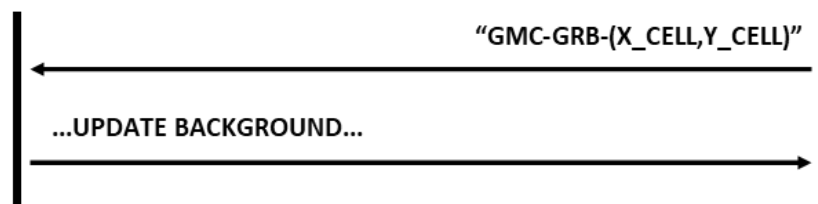
Request (client)
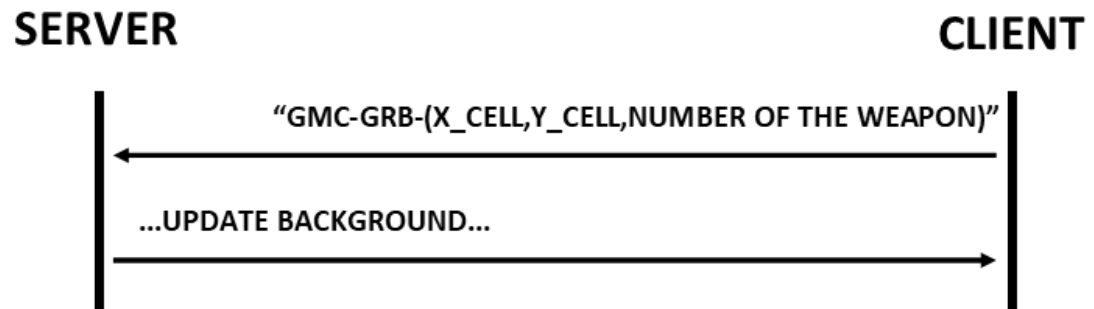"GMC-GRB-(X_Cell,Y_Cell)"   → ex. "GMC-GRB-1,3"

Update background (server)
if the request is valid
        see Update background
else
        ">>>Square not valid"

Grab weapon

Request (client)
"GMC-GRB-(X_Cell,Y_Cell,Number of the weapon)"   → ex. "GMC-GRB-1,3,2"

Update background (server)
if the request is valid
        if i already have 3 weapons in hand
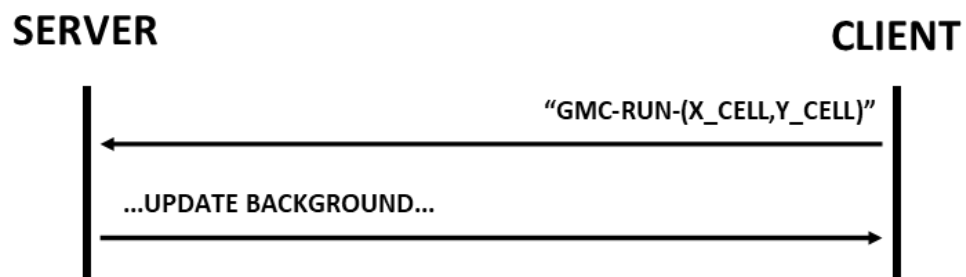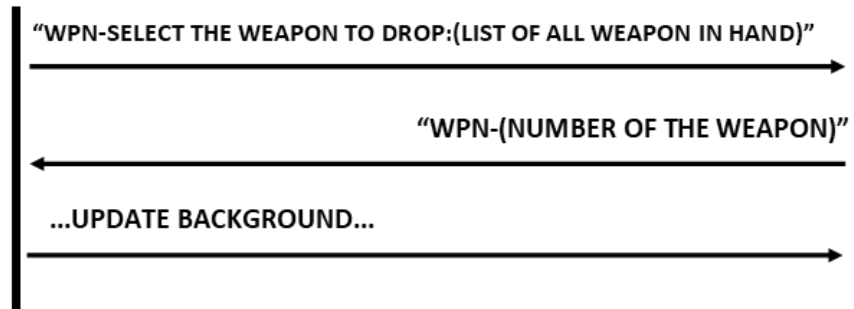   see Replace weapon
        else
                see Update background
else
        ">>>You don't have enough ammo" or ">>>Square not valid"

Run

Request (client)
"GMC-RUN-(X_Cell,Y_Cell)"   → ex. "GMC-RUN-2,3"

Update background (server)
if the request is valid
        see Update background
else
        ">>>Square not valid"

Replace weapon

Request (server)
"WPN-Select the weapon to drop:(List of all weapon in hand)"
→ ex. "WPN-Select the weapon to drop:zx2,vortex cannon,shockwave"

Reply (client)
"WPN-(Number of the weapon)"   → ex. "WPN-1"

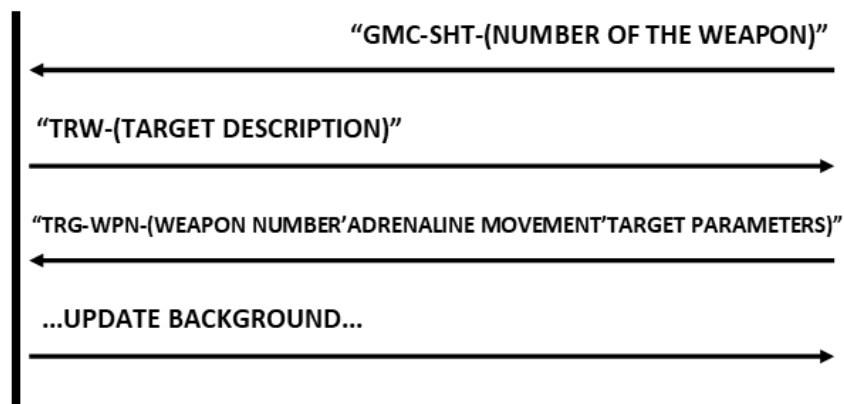**Update background (server)**
if the reply is valid
        see Update background
else
        ">>>You don't have enough ammo" or ">>>Square not valid"

Shoot

Request (client)
"GMC-SHT-(Number of the weapon)"   → ex. "GMC-SHT-1"

Request (server)
"TRW-(Target description)"

Reply (client)
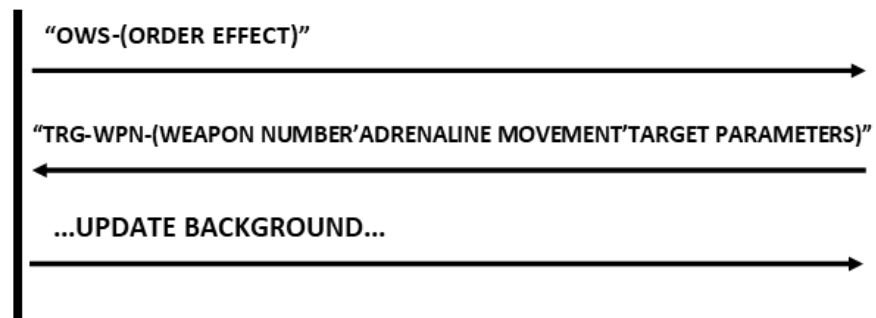"TRG-WPN-(Weapon number'Adrenaline movement'Target parameters)"

Update background (server)
if the reply is valid
      see Update background
else
      ">>>Invalid target" or ">>>Invalid destination"

Keep shooting (alternative weapon)

SERVER   CLIENT

"OWS-(ORDER EFFECT)"

"TRG-WPN-(WEAPON NUMBER'ADRENALINE MOVEMENT'TARGET PARAMETERS)"

...UPDATE BACKGROUND...

Send (server)
"OWS-(Order effect)"

Reply (client)
if i don't want to stop
      "TRG-WPN-(Weapon number'Adrenaline movement'Target parameters)"
else
      "ESH-"

Update background (server)
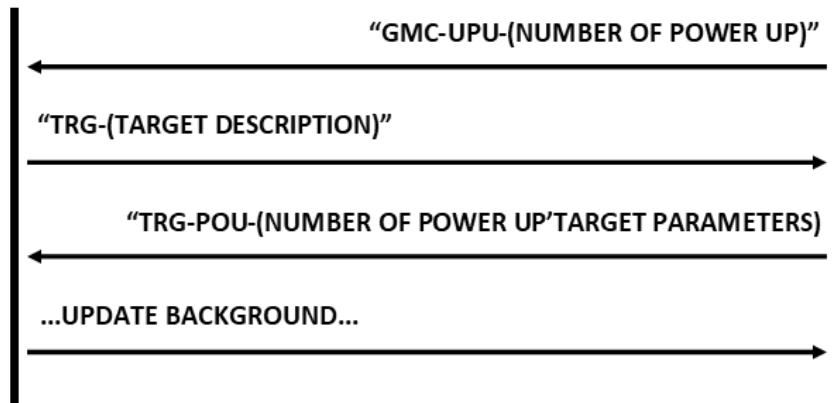if the reply is valid
      see Update background
else
      ">>>Invalid target" or ">>>Invalid destination"

Use power up

Request (client)
"GMC-UPU-(Number of power up)"   → ex. "GMC-UPU-0"

Request (server)
"TRG-(Target description)"   → ex. "TRG-Player"

Reply (client)
"TRG-POU-(Number of power up'Target parameters")   → see Target parameters
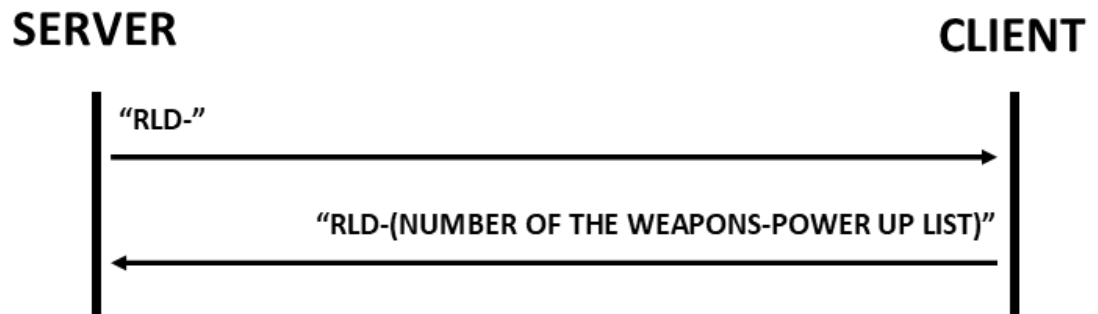
Update background (server)
if the reply is valid
        see Update background
else
        ">>>Invalid target" or ">>>This power up can be used only on response of another action"

Reload

Request (server)
"RLD-"
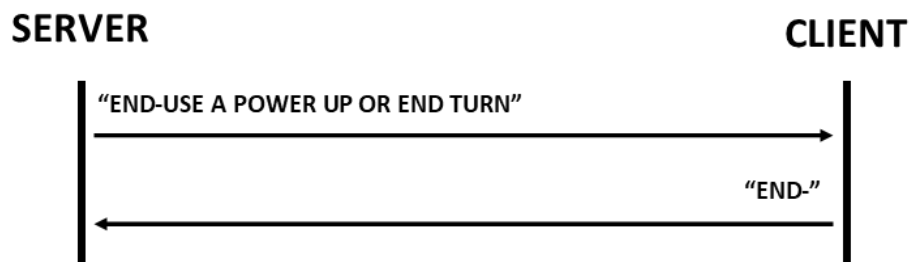
Reply (client)
if i don't want to reload the weapons
      "RLD-Ignore"
else
      "RLD-(Numbers of the weapons-Power up list)" → ex. "RLD-0,2-1"

End turn

Send (server)
"END-Use a power up or end the turn"

Reply (client)
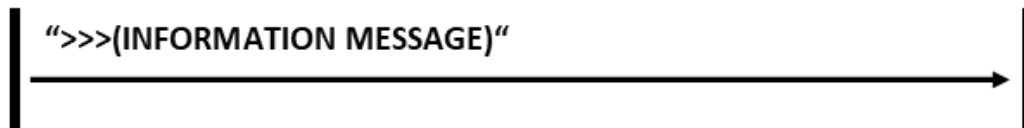if want to use a power up
      see Use power up
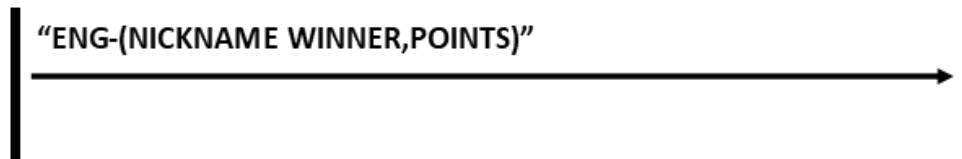else
      "END-"

Information message

Send (server)

">>>(Information message)"   → ex. ">>> Player disconnected" or ">>>Now is you turn"

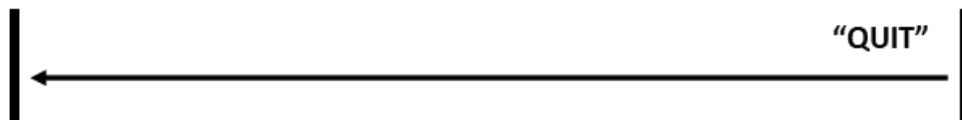## End game

Send (server)

"ENG-(Nickname winner,points)"   → ex. "ENG-Gianni,84"

Quit

Send (client)

"Quit"