PROTOCOL DESIGN

SOMMARIO

BEAN MESSAGGIO CLIENT ---> SERVER:

```
public class Command {
        String cmd;
        Int numOfPlayers;
        String username;
        Int chosenLeader1;
        Int chosenLeader2;
        String chosenResource1;
        String chosenResource2;
        Int marketPosition;
        Int shields;
        Int stones;
        Int servants;
        Int coins;
        String resourceType;        {“shield”, “stone”, “coin”, “servant”}
        Int slotNumber;
        Int fromSlotNumber;
        Int toSlotNumber;
        Boolean slot1Activation;
        Boolean slot1Activation;
        Boolean slot3Activation;
        Boolean baseProductionActivation;
        String baseInputResource1;
        String baseInputResource2;
        String baseOutputResource;
        Boolean leader1SlotActivation;
        Int leader1Code;
        String leader1ConvertedResource;
        Boolean leader2SlotActivation;
        Int leader2Code;
        String leader2ConvertedResource;
        Int chestCoins;
        Int chestStones;
        Int chestShields;
        Int chestServants;
        Int storageCoins;
        Int storageStones;
        Int storageShields;
        Int storageServants;
        Char devCardColour;
        Int devCardLevel;
        Int leaderCode;
}
```

BEAN MESSAGGIO CLIENT <--- SERVER:

```
public class Response {
        String cmd;
        Boolean commandWasCorrect;
        String resp;
        Int leader1Code;
        Int leader2Code;
        Int numOfInitialResources;
        Int jolly;
        Int stones;
        Int shields;
        Int coins;
        Int servants;
        Int newTotalVictoryPoints;
        Int [] newPlayersPositions = new int[4];
        Int newBlackCrossPosition;
        Boolean[] newActiveFirstPapalFavourCard = new boolean[4];
        Boolean[] newActiveSecondPapalFavourCard = new boolean[4];
        Boolean[] newActiveThirdPapalFavourCard = new boolean[4];
        Int newGreen1
        int newGreen2
        int newGreen3
        Int newPurple1
        Int newPurple2
        Int newPurple3
        Int newBlue1
        int newBlue2
        Int newBlue3
        Int newYellow1
        int newYellow2
        Int newYellow3
        String[] newFirstMarketRow = new String[4];
        String[] newSecondMarketRow = new String[4];
        String[] newThirdMarketRow = new String[4];
        String newExtraMarble
        String playerUsername;
        String[] playerUsernames = new String[4];
        String newResourceTypeOfSLot1
        String newResourceTypeOfSlot2
        String newResourceTypeOfSlot3
        Int newQuantityOfSlot1
        Int newQuantityOfSlot2
        Int newQuantityOfSlot3
        String newResourceTypeOfLeaderSlot1
        String newResourceTypeOfLeaderSlot2
        Int newQuantityOfLeaderSlot1
        Int newQuantityOfLeaderSlot2
        Boolean leader1Active;
        Boolean leader2Active;
        Int newCoinsQuantity
        Int newStonesQuantity
        Int newShieldsQuantity
        Int newServantsQuantity
        Int newCurrentPlayer
        Int leaderCardsDrawn[] = new int[4]
        Int lastActionCardUsedCode;
        String targetResources[] = new String[2]
}
```

SOLO PER IL SETUP INIZIALE SONO I THREAD SEL SERVER A COMANDARE L'EVOLUZINE DEI MESSAGGI

INITIAL SETUP: (if the input isn't correct the server simply asks again the same thing)

(only if game == null) Cmd = defineNumberOfPlayers

Resp = null or custom message

<———————————————————————————

numOfPlayers

———————————————————————————>

Cmd = insertUsername
resp = null or "username already exists"

<———————————————————————————

username

———————————————————————————>

Cmd = sorryGameAlreadyFull

resp = custom message

<———————————————————————————

Close connection on server and stop the client

cmd = leaderDistribution
leaderCardsDrawn[]

<———————————————————————————

ChosenLeader1
ChosenLeader2

———————————————————————————>

cmd = giveInitialResources
numOfInitialResources

<———————————————————————————

ChosenResource1
ChosenResource2

———————————————————————————>

A fine del setup di tutti i giocatori: (solo il thread collegato giocatore con turn order 1 manda gli update a tutti)

Cmd = setupUpdate
Cmd = faithTrackUpdate
Poi 1 cmd = storageUpdate per ogni player del game
Poi 1 cmd = leaderCardsUpdate per ogni player del game

<———————————————————————————

gameStart

<———————————————————————————————

… Poi i thread del server si mettono in attesa di comandi del client a cui rispondere
A questo punto i thread del server sono tutti passivi alle azioni dei client

ALL MACROACTIONS:

cmd = buyFromMarket
activateProduction
buyDevCard
activateLeader
discardLeader
placeResourceInSlot
discardResource
moveOneResourc
switchResourceSlots
endPlacing
chosenResourcesToPay
chosenSlotNumberForDevCard
endTurn

———————————————————————————————>

MORE IN DETAIL:

BUY FROM MARKET

Cmd = buyFromMarket
MarketPosition

———————————————————————————————>

commandWasCorrect
jolly
coins
stones
shields
servants
targetResources (solo se jolly != 0)

<———————————————————————————————

cmd = marketUpdate
cmd = faithTrackUpdate (only if faith bought)

<———————————————————————————————

Cmd = chosenResourcesToBuy
Coins
Stones
Shields
Servants

———————————————————————————————>

commandWasCorrect
coins

stones
shields
servants
(jolly only if bad request)
<————————————————————————————————

Cmd = placeResourceInSlot
ResourceType
SlotNumber
————————————————————————————————>

commandWasCorrect
coins
stones
shields
servants
<————————————————————————————————

cmd = storageUpdate
<————————————————————————————————

Cmd = discardResource
ResourceType
————————————————————————————————>

commandWasCorrect
coins
stones
shields
servants
<————————————————————————————————

cmd = faithTrackUpdate
<————————————————————————————————

Cmd =moveOneResource
fromSlotNumber
toSlotNumber
————————————————————————————————>

commandWasCorrect
coins
stones
shields
servants
<————————————————————————————————

cmd = storageUpdate
<————————————————————————————————

Cmd =switchResourceSlots
fromSlotNumber

toSlotNumber
——————————————————————————>

commandWasCorrect
coins
stones
shields
servants
<——————————————————————————

cmd = storageUpdate
<——————————————————————————

Cmd = endPlacing
——————————————————————————>

commandWasCorrect
<——————————————————————————

cmd = faithTrackUpdate
<——————————————————————————

ACTIVATE PRODUCTION

Cmd = activateProduction
Slot1Activation
Slot2Activation
Slot3Activation
BaseProductionActivation
BaseInputResource1
BaseInputResource2
BaseOutputResource
LeaderSlot1Activation
Leader1Code
Leader1ConvertedResource
LeaderSlot2Activation
Leader2Code
leader2ConvertedResource
——————————————————————————>

commandWasCorrect
coins
stones
shields
servants
<——————————————————————————

Cmd = chosenResourcesToPayForProduction
ChestCoins
ChestStones
ChestShields
ChestServants
StorageCoins
StorageStones
StorageShields
StorageServants
——————————————————————————>

commandWasCorrect
coins //only if the command was wrong
stones
shields
servants
<——————————————————————————

cmd = faithTrackUpdate
cmd = storageUpdate
cmd = chestUpdate
<——————————————————————————

BUY DEV CARD

Cmd = buyDevCard
DevCardColour
DevCardLevel
——————————————————————————>

commandWasCorrect coins
stones
shields
servants
<——————————————————————————

Cmd = chosenResourcesToPayForDevCard
ChestCoins
ChestStones
ChestShields
ChestServants
StorageCoins
StorageStones
StorageShields
StorageServants
——————————————————————————>

commandWasCorrect
coins //if something wrong
stones
shields
servants
<——————————————————————————

cmd = chestUpdate
cmd = storageUpdate
<——————————————————————————

Cmd = chosenSlotNumberForDevCard
SlotNumber
——————————————————————————>

CommandWasCorrect
<——————————————————————————

cmd = devCardsSpaceUpdate
Cmd = personalDevCardSlotUpdate
<——————————————————————————

ACTIVATE LEADER

Cmd = activateLeader
leaderCode
——————————————————————————>
commandWasCorrect
<——————————————————————————
Cmd = leaderCardsUpdate
<——————————————————————————

DISCARD LEADER

Cmd = discardLeader
leaderCode
——————————————————————————>
commandWasCorrect
<——————————————————————————
Cmd = leaderCardsUpdate
<——————————————————————————

END TURN

Cmd = endTurn
——————————————————————————>
commandWasCorrect
<——————————————————————————
Cmd = lozenzoActionUpdate
Cmd = faithTrackUpdate
Cmd = devCardSpaceUpdate (these 3 only if single player)
Cmd = endTurnUpdate
<——————————————————————————

LIST OF UPDATES

Cmd= setupUpdate
PlayerUsernames[]
<——————————————————————————

Cmd = leaderCardsUpdate
PlayerUsername
Leader1Code; //if == 0 vuol dire che è stato scartato Leader1Active;
Leader1Active;
Leader2code; //if == 0 vuol dire che è stato scartato Leader2Active;
Leader2Active;
<——————————————————————————

Cmd = totalvictorypointsUpdate
newTotalVictoryPoints
<——————————————————————————

Cmd = fathTrackUpdate
newPlayersPositions[]

newBlackCrossPosition
newActiveFirstPapalFavourCard[]
newActiveSecondPapalFavourCard[]
newActiveThirdPapalFavourCard[]
<———————————————————————————————

cmd = devCardSpaceUpdate NewGreen1
NewGreen2
NewGreen3
NewPurple1
NewPurple2
NewPurple3
NewBlue1
NewBlue2
NewBlue3
NewYellow1
NewYellow2
NewYellow3
<———————————————————————————————

Cmd = marketUpdate
NewFirstMarketRow[]
NewSecondMarketRow[]
NewThirdMarketRow[]
NewExtraMarble
<———————————————————————————————

Cmd = StorageUpdate
playerUsername
NewResourceTypeOfSLot1
NewResourceTypeOfSlot2
NewResourceTypeOfSlot3
NewQuantityOfSlot1
NewQuantityOfSlot2
NewQuantityOfSlot3
NewResourceTypeOfLeaderSlot1
NewResourceTypeOfLeaderSlot2
NewQuantityOfLeaderSlot1
NewQuantityOfLeaderSlot2
<———————————————————————————————

Cmd = chestUpdate
playerUsername
NewCoinsQuantity
NewStonesQuantity
NewShieldsQuantity
NewServantsQuantity
<———————————————————————————————

Cmd = personalDevCardSlotUpdate
playerUsername
newDevCardCode
stackSlotNumberToPlace
<———————————————————————————————

Cmd = lorenzoActionUpdate
lastActionCardUsedCode
<———————————————————————————————

Cmd = endTurnUpdate
newCurrentPlayer
<———————————————————————————————

Cmd = printOutUpdateMessage {this is an extra message we can use to print something to all players screens}
Resp
<———————————————————————————————