

Server (typed)

Monday, March 2, 2020 7:14 PM

Δ implements serializable

ChildServer implements Runnable

```
(-) AbstractPlayer player
(-) ParentServer parent
(-) Connection playerConnection
(-) String turnMessage = ""
(-) boolean firstCall = true
(-) boolean firstTurnWithMoves = true
(-) boolean connectionFailed = false
(-) missedTurns = 0
(-) long startTime
(-) long maxTime
(-) Board clientBoard

(+) ChildServer(AbstractPlayer player, ParentServer parent)
(+) ChildServer(AbstractPlayer player, Connection
playerConnection, ParentServer parent)
(+) AbstractPlayer getPlayer()
(+) AbstractPlayer setPlayer()
(+) ParentServer getParentServer()
(+) void setParentServer(ParentServer parent)
(+) Connection getPlayerConnection()
(+) void setPlayerConnection(Connection playerConnection)
(+) void setTurnMessage(String turnMessage)
(+) boolean getFirstCall()
(+) firstTurnCall() throws IOException, SocketException,
ClassNotFoundException
(+) boolean performTurn()
(+) void run()
```

ServerProgram

```
(+) static void main(String[] args)
```

BoardGenerator

```
(-) Board board
```

```
(+) Board getBoard()
```

```
(+) void createBoard()
```

LoginServer extends Thread

```
(-) MasterServer masterServer
(-) Connection playerConnection
(-) String user
(-) int activeGameID
(-) static final Lock loginLock = new ReentrantLock()
(-) static final Lock registerLock = new ReentrantLock()

(+) LoginServer(MasterServer masterServer, Connection playerConnection)
(+) Connection getConnection()
(+) void setUser(String user)
(+) String getUser()
(+) int getActiveGameID()
(+) void loginProcess() throws IOException, ClassNotFoundException
(+) Sring buildGamesInfo(List<ParentServer> games)
(+) void sendJoinMessages() throws IOException
(+) void selectGame() throws IOException, ClassNotFoundException
(+) void run()
```

MasterServer

```
(-) ServerSocket serverSocket = null
(-) Map<String, Pair<String, String>> loginMap
(-) Map<String, LoginServer> activePlayers
(-) Map<Integer, ParentServer> parentServers
(-) int nextGameID = 1
(-) String loginFile

(+) MasterServer(String loginFile) throws IOException, ClassNotFoundException
(+) MasterServer(String loginFile, int port) throws IOException, ClassNotFoundException
(+) void setSocket(int port) throws IOException
(+) ServerSocket getServerSocket()
(+) Map<String, Pair<String, String>> getLoginMap()
(+) Map<Integer, ParentServer> getParentServers()
(+) ParentServer getParentServer(int gameID)
(+) synchronized boolean addLogin(String user, Pair<String, String> hashPasswordAndSalt)
(+) String getSalt(String use)
(+) boolean addPlayer(LoginServer ls)
(+) void removePlayer(String username, int gameID)
(+) void removePlayer(LoginServer ls)
(+) synchronized int createNewParentServer(String user, Connection playerConnection) throws
IOException
(+) void addParentServer(ParentServer ps)
(+) synchronized void saveMap()
(+) boolean checkLogin(String user, String hashPassword)
(+) List<ParentServer> getGamesIn(String user)
(+) List<ParentServer> getOpenGames(String user)
(+) void waitingForConnections() throws IOException
(+) void run() throws IOException
```

ParentServer implements Runnable

```
(-) List<ChildServer> children
(-) List<String> players
(-) Board board
(-) Map<String, List<OrderInterface>> orderMap
(-) ExecutorService threads = Executors.newFixedThreadPool(Constants.MAX_PLAYERS)
(-) int MAX_PLAYERS = Constants.MAX_PLAYERS
(-) double TURN_WAIT_MINUTES = Constants.TURN_WAIT_MINUTES
(-) double START_TURN_MINUTES = Constants.START_WAIT_MINUTES
(-) boolean FOG_OF_WAR = Constants.FOG_OF_WAR
(-) int MAX_MISSED = Constants.MAX_MISSED
(-) boolean notStarted = true
(-) int gameID
(-) StringBuilder turnResults
(-) int turnNumber = 1
(-) MasterServer masterServer
(-) long gameStart

(+) ParentServer()
(+) ParentServer(int gameID, MasterServer masterServer)
(+) List<ChildServer> getChildren()
(+) void addPlayer(ChildServer c)
(+) synchronized void addPlayer(String username, Connection playerConnection)
(+) void removePlayer(String username)
(+) Board getBoard()
(+) void setBoard(Board board)
(+) Map<String, List<OrderInterface>> getOrderMap()
(+) void setMAX_PLAYERS(int MAX_PLAYERS)
(+) double getTURN_WAIT_MINUTES()
(+) void setTURN_WAIT_MINUTES(double TURN_WAIT_MINUTES)
(+) void setSTART_WAIT_MINUTES(double START_WAIT_MINUTES)
(+) boolean getFOG_OF_WAR()
(+) void setFOG_OF_WAR(boolean FOG_OF_WAR)
(+) void setMAX_MISSED(int MAX_MISSED)
(+) int getMAX_MISSED()
(+) void setNotStarted(boolean notStarted)
(+) int getGameID()
(+) MasterServer getMasterServer()
(+) void closeAll()
(+) boolean waitingPlayers()
(+) boolean hasPlayer(String palyer)
(+) String getGameString()
(+) boolean getFirstCall(String user)
(+) void waitingForPlayers()
(+) synchronized boolean tryJoin(String username, Connection playerConnection) throws IOException
(+) boolean tryJoin(LoginServer ls) throws IOException
(+) void createStartingGroupsHelper(char groupName, int iStart, int iEnd, List<Region> regionList)
(+) void createStartingGroups()
(+) synchronized boolean assignGroups(String groupName, AbstractPlayer player)
(+) Set<AbstractPlayer> playersLeft()
(+) boolean playerHasARegions(AbstractPlayer player)
(+) synchronized void addOrdersToMap(List<OrderInterface> orders)
(+) void applyOrders()
(+) void applyOrderList(List<OrderInterface> order)
(+) void callThreads() throws InterruptedException
(+) void growUnits()
(+) void updatePlayersInChildServer()
(+) void playGame()
(+) void run()
```