



SCHOOL OF ADVANCED TECHNOLOGY

ICT - Applications & Programming
Computer Engineering Technology – Computing Science



A31

Game C/S Model – Collaboration Diagram

Team:

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Battleship Proposal

This template is suggested (not mandatory) to answer A31 Specification.

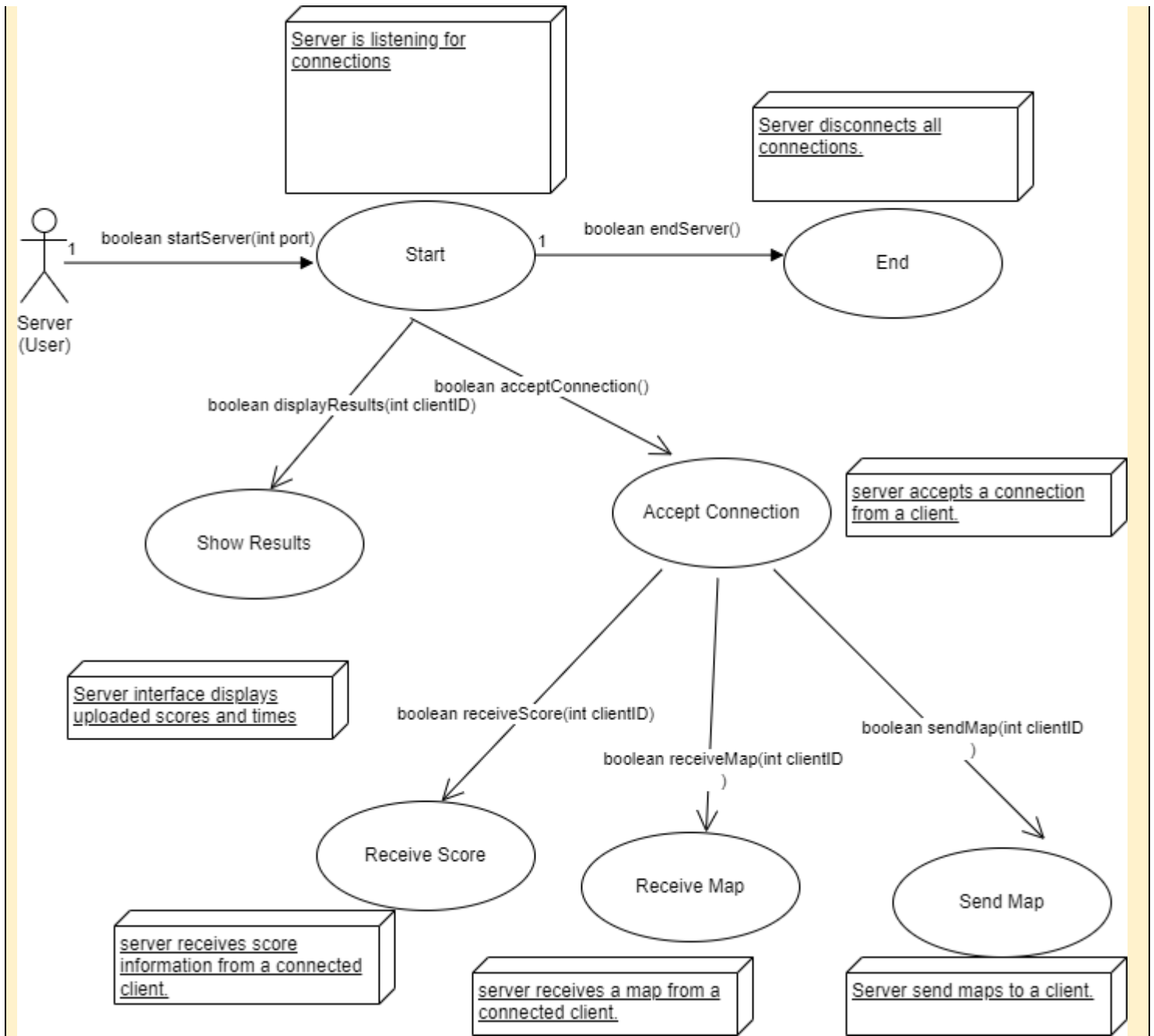
Part

1

C/S Architecture

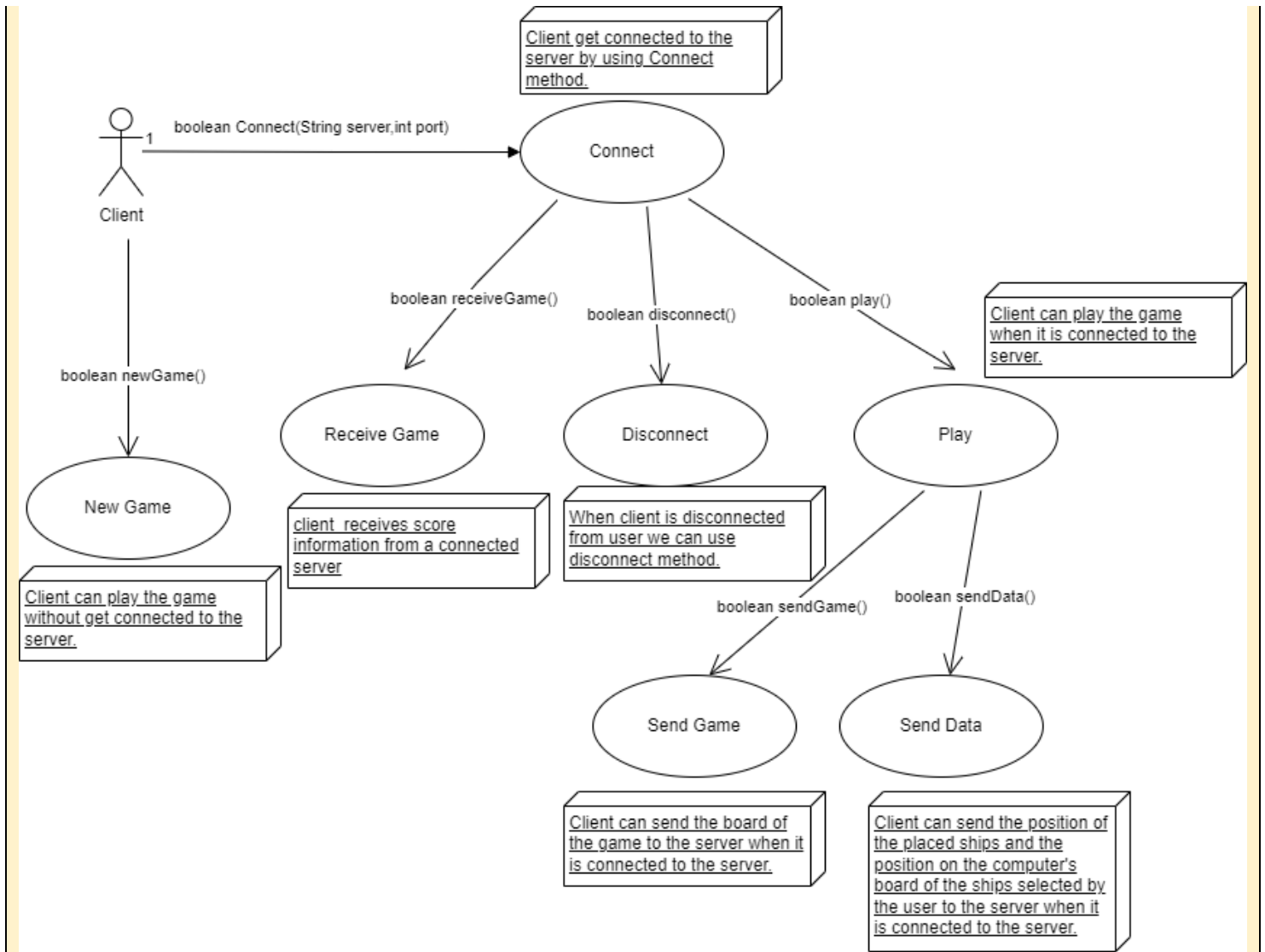
1.1. Server Model (UML Collaboration Diagram)

Collaboration Diagram (Server)



1.2. Client Model (UML Collaboration Diagram)

Collaboration Diagram (Client)



2. Protocol Proposal

Example (using the string definition mentioned in the A21 specification)

- Protocol 0 (P0): When client is connecting with the server.

UserConnect#<userName>

- Protocol 1 (P1): When client is sending a game configuration to server.

Game#<clientID>#<configuration>

- Protocol 2 (P2): When server is replying P1.

GameReceived#<clientID>

- Protocol 3 (P3): When client is sending game data (username, points and time) to the server.

GameScore#<clientID>#<userName>#<points>#<time>

Ex: P0 – Starting server, P1 – Starting client,

CONFIGURATION STRING:

dimensionSeparator: Q

boardSeparator: W

ship: *

emptySpace: _

Example:

4Q_ * _ * _ W _ ** _ W _ *** _ W _ * _ W _ *** _ W _ * _ * _ * _ W _ ** _ W _ **** _ W

3. Database Integration (Bonus)

- *Considering this proposal for 3-tier architecture using Databases, define:*

- *What to persist.*

user name, score, time

dimension, board's data

- *What is the DB datatype to be used.*

PostgreSQL

- *How frequently to update.*

Whenever a message received from a client.

References

[Include eventual references used here]

<https://sparxsystems.com/resources/tutorials/uml2/communication-diagram.html>

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