

Spaceteam Game

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Spaceteam Game:

- Multiplayer co-operative game
- Infinite increasingly difficult levels
- Randomized control panel
- Play executing timed orders
- Game loss for incorrect orders



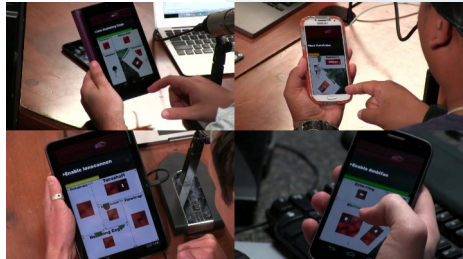
Original Game:

- 2 to 8 players
- Everyone has orders
- Bluetooth and WiFi



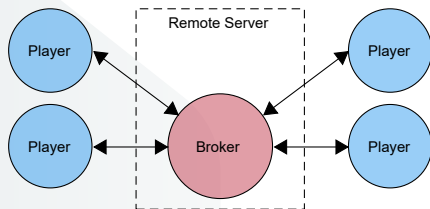
This project:

- 1 to N
- Captains and Crew Members
- MQTT protocol



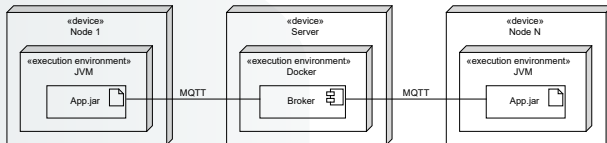
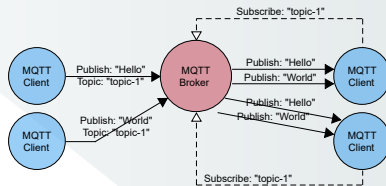
General architecture:

- Peer-to-peer → application logic on all nodes, no single point of failure
- Publish-subscribe model → simplify communication, eliminate polling
- Remote broker → no network configurations for clients



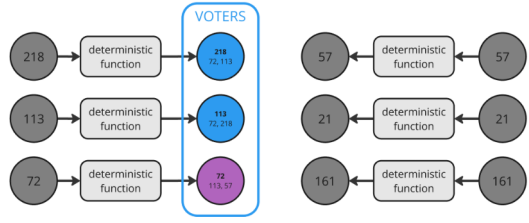
The MQTT protocol:

- Lightweight publish-subscribe protocol
- Low latency (1~5 milliseconds)
- Clusters with 100M+ connections each
- 5M+ MQTT messages per second
- Self hosted or Cloud



MQTT features in this project:

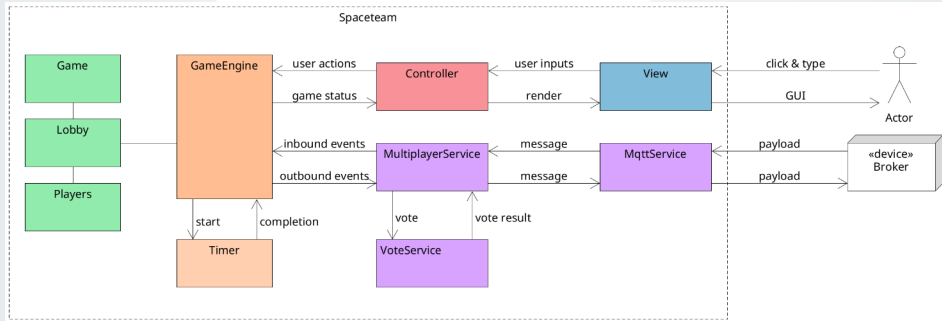
- Quality of Service (QoS) levels
- Wildcard subscriptions
- Retained messages
- Last will messages

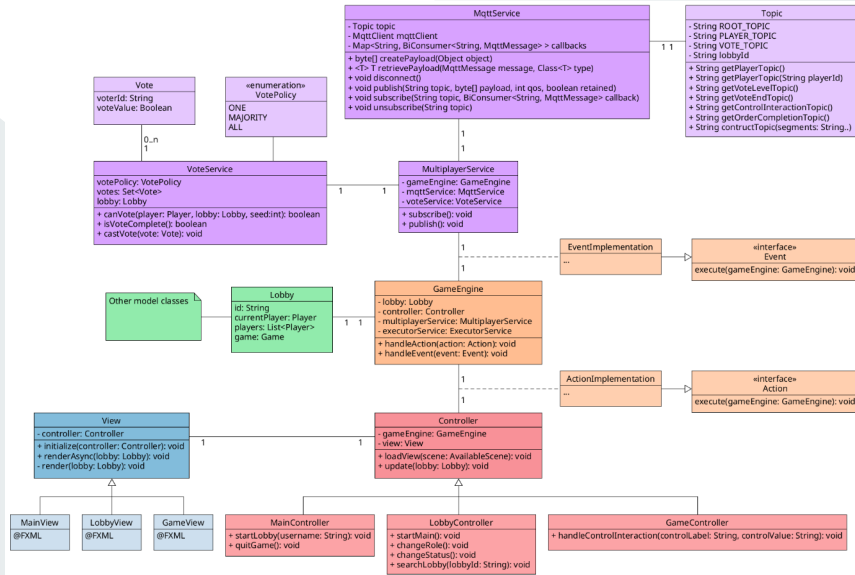


<code>spaceteam/lobby/X1A67GH/player/#</code>	<code>{ "playerId": "c1d8dda1", "username": "player 1", "role": "CAPTAIN", ... }</code>
<code>spaceteam/lobby/X1A67GH/vote/level/#</code>	<code>{ "voterId": "c1d8dda1", "voteValue": true }</code>
<code>spaceteam/lobby/X1A67GH/vote/end</code>	<code>{ "voterId": "c1d8dda1", "voteValue": true }</code>
<code>spaceteam/lobby/X1A67GH/control/#</code>	<code>{ "playerId": "c1d8dda1", "controlLabel": "BUTTON", "controlValue": "PUSH" }</code>
<code>spaceteam/lobby/X1A67GH/order/#</code>	<code>true / false</code>

Application Game architecture:

- MVC inspired
- Distributed components





MQTT

