XMRemoteRobot - Version 02

Change Log

|  |  |
| --- | --- |
| 20180818 Sat | Change from HTTP to Websockets-SignalR is so extensive that this starts again as a new document. |

Protocol

Message from device - commander or robot - to server is a WebSockets-SignalR transmission   
with all of the message in json format

Example Message info from commanding laptop

|  |  |
| --- | --- |
| Field | Example |
| categoryid | 1 (CommandSend) |
| commanderid | 14 |
| robotid | 114 |
| accesskey | demo-access-key (Change this!) |
| islog | 0 (optional, todo implement) |
| xdata | {"vx1x1": 80, "vx1x2": 100} |

Command examples - JSON always has keywords in lower case

Human Commander requests registration

{  
"categoryid\":4,"commanderid":0,"robotid":0  
,"accesskey":"demo-access-key"  
}

Server responds with a commanderid

{  
"categoryid":4,"commanderid":14,"robotid":114  
,"response":"Success: SignalR server registration"  
}

The Commander now has its commanderid of 14  
The web page in demo mode writes this into the robot page.  
With a real device, we need to enter this code into the web page showing on the device screen to get the robot to register:

{  
"categoryid":6,"commanderid":14,"robotid":114  
,"accesskey":"demo-access-key"  
}

Case: Successful Robot Registration: The Server responds to the Robot

{  
"categoryid":6,"commanderid":14,"robotid":114   
,"response":\"Success: SignalR server registration"  
}

Connection now established.  
Example commands from Human Commander to Robot:

{   
"categoryid":1,"commanderid":14,"robotid":114  
,"accesskey":"demo-access-key","islog":0  
,"xdata":{"color": "cyan"}  
}

{  
"categoryid":1,"commanderid":14,"robotid":114  
,"accesskey":"demo-access-key","islog:0  
,"xdata":{ "sx1x1":92, "sx1x2":83, "sx2x1":0, "sx2x2":0}  
}

Example Response from Robot

{  
"categoryid":2,"commanderid":14,"robotid":114  
,"xdata":{"latitude":-36.9939706,"longitude":174.874962  
 ,"timestamp": "Sat Aug 18 2018 19:45:45 GMT+1200"}  
}

categoryid  
See implementation code in "RobotHub.cs"

|  |  |  |
| --- | --- | --- |
| Code | Notes |  |
| 1 | Human Commander sends command to robot |  |
| 2 | Robot sends response back to Human Commander | May send latitude, longtitude etc |
| (3) | (Planned, not yet implemented) Device Telemetry | May need to add a database to server app |
| 4 | Register a demo Human Commander |  |
| 5 | Register a production Human Commander |  |
| 6 | Register a Robot |  |