MDP Group 1 Message Scheme

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From** | **To** | **Message** | **Description** | **Req** |

**Hardware**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algo | Arduino | C | Callibrate |  |

**Movement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Android /Algo | Arduino | W | Move Forward | C3 |
| A | Turn Left |
| D | Turn Right |

**Statuses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ~~AMD~~ | ~~Android~~ | S:FP | Fastest Path / Exploring In Progress | C4 |
| S:EX |
| S:F | Manual Movement |
| S:TL |
| S:TR |
| Arduino | Android /Algo | Y | Done - Ack of manual movement message |
| Arduino | Algo | F | Done with EX |
| Algo | Android | S:DONE <- change this? | Done <with FP/EX> |

**Algorithm**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Android | Algo | WP:<x>,<y> | Set Waypoint | C5 |
| START:<x>,<y> | Set Start Point |
| BEGINFP | Begin Fastest Path | Algo |
| BEGINEX | Begin Exploration |

\*manual mode will be implemented through suppressing the update of the map – data will still be automatically pushed

\* x and y are 0-based

**Display**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| AMD | Android | ROBOTPOSITION:<x>,<y>,<heading> | Robot Position  Heading = NSEW | C6, C7 |
| GRID:<map\_descriptor> | Current Grid Status [for AMD] *Format: all cells, 1=obstacle* |
| Algo | DATA:<explored>,<obstacles>,  <x>,<y>,<heading> | Current Grid Status [as per map descriptor format – P1&P2] + Robot Position |
| Algo/  RPi? | BLOCK:<x>,<y>,<id> | Display Number ID Blocks  For future implementation | C10 |

**String**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Android | AMD | <as is> | Send String Command | C8 |