**Robot Servers protocol**

1. **Description**

This protocol will handle the communication between robot and sensors.

This protocol includes two types of messages are RS and SR.

* RS is the message from Robot to Server. This message will include the environmental data and drop-off information
* SR is the message from Server to Robot. This message will include the action and the movement that the user wants the robot to do.

1. **Protocol**
   1. **RS design:**
      1. **Format:**

JSON format:  
{

temperature: “good/acceptable/bad” (string),/  
humidity : “good/acceptable/bad”(string),  
drop-off : “fix/dynamic/not”(string)  
}

* + 1. Condition:  
       The robot will send RS message after it reaches a point in map.
  1. **SR design**:
     1. Format:

JSON format

{

list\_action : [(int), (int), …, (int)]

default : “on/off”  
}

* list\_action is list of sequential actions for robot.
* Default value is the action status. if this value is “*on”*, robot will move until it meet the target. If this value is “*off”,* robot will take action in 2 seconds.
* Action code:

*1:* forward

*2:* backward

*3:* left

*4:* right

*5:* down

*6:* up

* + 1. Condition:  
       The server will send SR message after client send the control signal.