**什么是Dashboard Server功能**

**编辑：**朱超

**机器人软件适用版本：**Polyscope 1.4及以上

**适用机器人**：UR3、UR5、UR10

**编辑时间：**2015/6/8

上位机可以通过TCP/IP协议，与机器人建立socket通讯，并且发送给机器人一些优傲机器人规定的字符串，这种功能我们成为Dashboard。此时机器人作为Server，监听端口29999，上位机作为Client。注意上位机给机器人发送的信息必须以’/n’结尾。

下表即是Dashboard表

| **Command** | **Return value** | **Description** | **Supported from** | **CB1** | **CB2** | **CB3** |
| --- | --- | --- | --- | --- | --- | --- |
| load <program.urp> | "Loading program: <program.urp>" OR "File not found: <program.urp>" | Loads the specified program | v1.4 | x | x | x |
| play | "Starting program" | Starts program, if any program is loaded and robot is ready | v1.4 | x | x | x |
| stop | "Stopped" | Stops running program | v1.4 | x | x | x |
| pause | "Pausing program" | Pauses the running program | v1.4 | x | x | x |
| quit | "Disconnected" | Closes connection | v1.4 | x | x | x |
| shutdown | "Shutting down" | Shuts down and turns off robot and controller | v1.4 | x | x | x |
| running | "Robot running: True" OR "Robot running: False" | Execution state enquiry | v1.6 |  | x | x |
| robotmode | CB2: integer is returned   * NO\_CONTROLLER\_MODE = -1 * ROBOT\_RUNNING\_MODE = 0 (This is "normal" mode) * ROBOT\_FREEDRIVE\_MODE = 1 * ROBOT\_READY\_MODE = 2 * ROBOT\_INITIALIZING\_MODE = 3 * ROBOT\_SECURITY\_STOPPED\_MODE = 4 * ROBOT\_EMERGENCY\_STOPPED\_MODE = 5 * ROBOT\_FAULT\_MODE = 6 * ROBOT\_NO\_POWER\_MODE = 7 * ROBOT\_NOT\_CONNECTED\_MODE = 8 * ROBOT\_SHUTDOWN\_MODE = 9   CB3: text is returned "Robotmode: <mode>", where <mode> is   * NO\_CONTROLLER * DISCONNECTED * CONFIRM\_SAFETY * BOOTING * POWER\_OFF * POWER\_ON * IDLE * BACKDRIVE * RUNNING | Robot mode enquiry | v1.6 |  | x | x |
| get loaded program | "Program loaded: <path to loaded program file>" OR "No program loaded" | Which program is loaded | v1.6 |  | x | x |
| popup <popup-text> | "showing popup" | The popup-text will be translated to the selected language, if the text exists in the language file | v1.6 |  | x | x |
| close popup | "closing popup" | Closes the popup | v1.6 |  | x | x |
| addToLog <log-message> | "Added log message" Or "No log message to add" | Adds log-message to the Log history | v1.8.11657 |  | x | x |
| setUserRole <role> | "Setting user role: <role>" OR "Failed setting user role: <role>" | Simple control of user privileges: controls the available options on the Welcome screen | v1.8.11657 |  | x | x |
| isProgramSaved | "True" OR "False" | Returns the save state of the active program | v1.8.11997 |  | x | x |
| programState | "STOPPED" if no program is running OR "PLAYING" if program is running | Returns the state of the active program, or STOPPED if no program is loaded | v1.8.11997 |  | x | x |
| polyscopeVersion | version number, like "3.0.15547" | Returns the version of the Polyscope software | v1.8.14035 |  | x | x |
| setUserRole <role>, where <role> is   * programmer * operator * none * locked | "Setting user role: <role>" OR "Failed setting user role: <role>"   * programmer = "SETUP Robot" button is disabled, "Expert Mode" is available (if correct password is supplied) * operator = Only "RUN Program" and "SHUTDOWN Robot" buttons are enabled, "Expert Mode" cannot be activated * none ( or send setUserRole) = All buttons enabled, "Expert Mode" is available (if correct password is supplied) * locked = All buttons disabled and "Expert Mode" cannot be activated | Control of user privileges: controls the available options on the Welcome screen.  Note: If the Welcome screen is not active when the command is sent, the user privileges defined by the new user role will not be effective until the user switches to the Welcome screen. | v1.8.14035 |  | x | x |
| power on | "Powering on" | Powers on the robot arm | v3.0 |  |  | x |
| power off | "Powering off" | Powers off the robot arm | v3.0 |  |  | x |
| brake release | "Brake releasing" | Releases the brakes | v3.0 |  |  | x |
| safetymode | "safety mode: <mode>", where <mode> is   * NORMAL * REDUCED * PROTECTIVE\_STOP * RECOVERY * SAFEGUARD\_STOP * SYSTEM\_EMERGENCY\_STOP * ROBOT\_EMERGENCY\_STOP * VIOLATION * FAULT | Safety mode enquiry | v3.0 |  |  | x |
| unlock protective stop | "Protective stop releasing" | Closes the current popup and unlocks protective stop | v3.1 |  |  | x |
| close safety popup | "closing safety popup" | Closes a safety popup | v3.1 |  |  | x |
| setUserRole <role> extended with new role:   * restricted | "Restricted" works like "operator" but does not give access to the move tab. |  | v3.1.17136 |  |  | x |

现在使用第三方软件SocketTest来测试Dashboard功能。

设置电脑IP: 192.168.3.1 机器人IP: 192.168.3.3  
先在机器人上运行任意一个程序，在SocketTest发送“play”，机器人就会运行程序，发送“pause”机器人就会暂停程序。

