**ROS Project Proposal**

Overview

* Stop is base orientation, robot stops and execution, default position for instruments, any command can be executed from this state
* Robot should execute command based on verbal command or verbal stating number
* Three tish
* ers of commands: beginner, intermediate, advanced with goal being to execute all of beginner and most of intermediate, testing waters with advanced

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| --- | --- | --- | --- | --- | --- |
| **#** | **Audio Command** | **Audio Response** | **Camera** | **Arm Response** | **Robot Movement** |
| 0 | Stop | “Shut off” | Stop all computing | Stop moving. | Stop moving |
| 1 | Home | “Stopping…” | Move to default position, Look for faces | Move to default position | Stop moving |
| 2 | Wave | “Hello” | Output coordinates to closest face | Wave (generic arm movement) | Turn to face user |
| 3 | Point | “Pointing…” | Output coordinates to closest face | Point at user | Turn to face user |
| 4 | Greeting | “What is your name?”  “Hello <name>” | Output coordinates to closest face |  | Turn to face user |
| 5 | Knuckles | “Knuckles | Output coordinates to closest face | Orient for knuckles | Turn to face user |
| 6 | High five | “High five” | Output coordinates to closest face | Orient for high five | Turn to face user |
| 7 | Turn Left | “Turning left” |  |  | Turn 90 degrees left |
| 8 | Turn Right | “Turning right” |  |  | Turn 90 degrees right |
| 9 | Look Left | “Camera turned left” | Hard code turn to angle on left side |  |  |
| 10 | Look Right | “Camera turned right” | Hard code turn to angle on right side |  |  |
| 11 | Handshake | “Shake my hand” | Align robot to user | Handshake, slight grip, up and down movement | Turn to face user |
| 12 | Come to me | “Here” | Tracks where user is |  | Turn to face user, move to user, stop in front of user |
| 13 | Follow me | “Following…” | Tracks where user is | Point at user that we’re following | Follows user, continuously turning to face them |
| 14 | Hand me something | “Give it to me”  “Thanks” | Align robot to user | Extend open arm, grasp object | Turn to face user |
| 15 | Come take this | “Coming…”  “Give it to me”  “Thanks” | Track where user is, align robot to user | Extend open arm, grasp | Turn to face user, move to user, stop in front of user |
| 16 | Find Color(“R/G/B”) | “Searching for color <RGB>”  “Pointing…” | Find Color, align robot to color | Point Arm | Turn to face color |
| 17 | Pick something up?(spooky hard one) \*ya this one would be an end goal, requires a lot of precision and alignment, not to mention judging size, distance, etc... |  | Find object, orient robot to put object in position | Pick up object |  |

\*Not all boxes in the table are filled in