

Meeting Notes

User Interface / Artificial Intelligence

- Display and speech capabilities working
 - Was able to ask questions using the controller to use mic and it responded using the speaker and displayed text on the screen.
- Bluetooth capability working

Motion

- System was set up and working last night, but the linear actuator broke
- Potentially 3D print something that connects the linear actuator to the servo motor
- Linear actuator controlled by H-bridge
- Servo motor controlled by PWM (standard)
- Worried about trying to instantaneously change the current in the linear actuator producing large voltage spikes
 - When you open the current in the coil, you need somewhere for it to dissipate
- Could not resolder on wires to the linear actuator
- Schafer suggests thinking about strain relief on the wires so that this doesn't break again before the demo.
- Looking at other options for linear actuators (perhaps more expensive ones)
- Concerned about linear actuators not moving the same distance even if they are turned on at the same time
 - Two identical things may not behave identically
- Schafer would prefer if you had something at the limit, so that you know when you are at max actuation
 - If you have them bottom out, you know where they are when you start the next step

Power

- Crimp a pin on the battery wires that connects into something
 - Be very careful doing it
 - .1 inch space connector (molex)
 - Molex crimp pins

PCB Design

- Make sure power and ground are correct. Hard to fix if you mess it up.
- 4 signal control on H-bridge recommended to make sure they are off before we switch
- 2 signal lines for servo motors
- Change 0402 resistors to 0603 or 0805
- Change battery connector to the one way connector
 - JST-XH might work (.1 in spacing)

- Amazon might have connector kit, equivalent of the other option but ideally the charger connector is the same as the one here
- Put 7.4V on H-bridge
 - Instead of diodes, put jumper cables