Environments and Peripherals

All the other stuff that wasn't important until now.

Shelves, boxes, floor maps, base plates, fittings and fixings. If you have been working with the same peripheral and environmental items for 3 months then chances are that some of these items will be looking a bit worse for wear

Improvements to the look and sturdiness/reliability and functionality of all the items that your system interacts with and the area that your system works within.

First impressions do count, so it is worth making the effort to make sure that everything in your demo and demo area look good, and yes that means helping tidy the demo rooms in general.

Floor plan options:-

MDF Sheets - 6mm thick for floor plans. Can be painted matt white or matt black - cost = £8 per board (1220mm x 2440mm) plus £2 and half an hour of technician time for painting.

Black Plastic Sheets - £10

A0 Printouts - via Printing Services at the Library (£18 for matt finish)- keep receipts (including screenshots from your printing quota usage page)- one set for testing - one set for the final day

Pen/pencil and tape markings on the floor - Please try to keep these as minimal as possible, especially under the ceiling cameras in the Arena and Workshop rooms and if using tape on the floor please be aware that this may cause issues for the groups that are using turtlebots.

Please be aware that 3 other teams will be working and testing in your demo area so treat their peripherals and environments with the same care and attention as you would your own. You may also want to consider the possibilities of trying to create a shared, communal floor plan with the other groups working in the same demo space as yourself.

Construction material:-

Peg board - for lighter weight shelves and arena walls

RSPro Metal Struts - for larger heavier stronger builds

MDF Sheets - 9mm, 12mm and upwards for base boards and walls and ceilings for more solid constructions.

Metals and Plastics - Variety of sizes, shapes and lengths of both metal and plastic sheets, rods, struts are available for all sorts of constructions. All of which can be cut and drilled to your specifications. Please provide detailed drawing and cutting plans along with your group name and contact name and email address for submitting work to the workshop.

Please note that we suggest when possible to consider how much of the design and construction you could potentially do yourself. The more detailed the plan, the quicker the job can go into the workshop job queue. If the request is for cutting and drilling alone and you are happy to down your own construction you will save money on workshop technician time. It is possible and in certain cases advisable to consider 3D design and printing of certain fittings and fixings to save on manufacturing time and costs.

Please note that we are currently estimating a weeks turnaround time for larger or more complex workshop requests and a day's turnaround for simple cutting and drilling requests. These times are from submission of detailed drawings and cutting plans and are subject to change as we get busier in the run up to the end of the project.

Peripherals:-

Real Life Peripherals - If appropriate then use real life props and peripherals.

Card - tech card (like peg board, comes in sheets, angles and girders can be fixed with double sided tape), coloured card and paper.

3D Printing - Our largest 3D printer, the Ultimaker S5 has a maximum print size of 330 x 240 x 300mm for square box's. Cura is the free software that we use with the machine and you can download and preview your stl files in it to get a note of print times and weights of your designs.

3D printing jobs go into the queue upon submission of stl files and are done in order of submission. Please see the 3D printing guide on the wiki for more details.

CNC Mill - Has a build volume of - 400 x 305 x 130mm - Materials include wood, plastic, wax, modelling board and engraving plastics. Not metal - metal work needs to be done in our mechanical workshop.

General Demo 2 Technical Feedback

Test in your demo room - especially those of you who are using any form of visual sensing
Close the blackout curtains - 3.11, 3.01 arena
The tables room (AT-3.05) is being under used by the groups that have been allocated to it for their demos. It is block booked for SDP, so please make use of this space.

Drop the blinds
Cable management - check lengths, and cable routes, use cable ties, elastic bands
Fix electronics and batteries securely into or onto system
Use gears - to slow down - especially if reliant on visual information for direction
Brace wheels - || - /\ - \/
Centre of balance and structural stability
Start thinking about how you want the final environment and peripherals will look - real life props
Check the budget and pricing documentation on the wiki and update your budget documentation accordingly for what you have used including raw material costs.
Add times and costs for misc parts - probably £10 a group on average and 3D printing costs where appropriate - £5 for time - 5p per gram for material
Submit 3D printing and mechanical workshop requests asap and or follow up on your original enquiries as some jobs have stalled due to lack of update on your initial request.

F.A.Q's

We will pick up all the manufacturing requests from where we left off as soon as staff are allowed back into Appleton Tower, please continue to submit work requests as per normal.

Datasheets - Most common datasheets can be found by either googling for the part number or by searching on either onecall, RS or Active Robots web pages.
If time allows, I'll try to start adding some to the wiki as time allows.

The Wiki is updated frequently and we also welcome contributions of example test code and how to guides and the likes from you.

New documents on the wiki include:- 3D printing guide, how to run apt-get from a pi on SDProbots and how to run multiple motor and encoder boards on the I2C bus.

Printed Circuit Boards can be manufactured for custom built designs and can normally be manufactured with a day's turnaround. We recommend using Target or Eagle PCB software for creating your board layouts and submitting us the complete project file rather individual production files.

Questions?

Suggestions?