

TITA

equipment and components used/specified for initial
prototype(s) and construction materials - DRAFT IN
PROGRESS
5/1/16

DIGG Lab and VIS Group / Duke University

WARNING: USE THIS INFORMATION AT YOUR OWN RISK

	equipment	#	unit price	\$USD	notes	prototype	source	misc
pc	Zotac Z-Box - EN760 w/ 8gb ram, 128GB SSD (i5 2-core mini-gaming pc, 2 display outputs)	1	670.00	670.00	slightly underpowered to accommodate computer vision tasks and game engine, should be great if using capacitance tracking, or optical tracking via other device, would like more display outputs though	#1	New Egg	
	or Gigabyte Brix GB-BXi7G3-760 w/ 8gb ram, 128GB SSD (i7 4-core mini-gaming pc, 3 display outputs)	1	910.00	910.00	nice computer for this application	#2	Amazon	
projector	Portable DLP projector (Optoma W304M WXGA 3100 Lumen Full 3D with HDMI - regular throw 1.5:1)	1	780.00	780.00	tough to fold image adequately to get required projection size, nice size	#1	Adorama	
	or DLP projector (BenQ MW632ST WXGA 3200 Lumen Full 3d with HDMI - short throw 0.72:1)	1	630.00	630.00	works pretty well, tight fit in prototype #2 cabinet, wish it were slightly smaller and full HD	#2	Projector People	
				sub-total	1500.00 +/-			
electronic parts / components / software								
computer vision	PS3 Eye Camera for Camera Tracking	1	10.00	10.00	these still work well, wonder how long they will be available and whether there is an inexpensive HD IR camera w/low latency	#1, #2	Ebay	
	850 nm M12 infrared filter for PS3 camera / M12 Lens Pack and mount	1	70.00	70.00		#1, #2	Peau Productions	
	Infrared 850 nm 5050 LED Strip Light, 60/m 10mm wide, 3' length and 12V power supply	1	100.00	100.00		#1, #2	Environmental Lights.com	
	LED dimmer (optional)	1	N/A	N/A				
	Code Laboratories CL PS3 Eye Multicam SDK/Driver	1	5.00	5.00			Code Laboratories	
lighting (only necessary if illuminating tangible trays and/or signage and lettering)	Neutral White 3014 Side View LED Strip Lighting (for tray side lighting and illuminated lettering, 6'/2M)(optional)	1	72.00	72.00	internally mounted in trays to edge light acrylic, used scrap piece to backlight lettering	#2	Environmental Lights.com	
	LED Strip Light Connector-2 Conductor 8 mm Ribbon to Cable (optional)	6	2.00	12.00		#2	Environmental Lights.com	
	12V power supply to accommodate wattage of lighting	1	40.00	40.00		#2	Environmental Lights.com	
	LED dimmer (optional)	1	N/A	N/A			Environmental Lights.com	
cooling	50mm brushless fans for cabinet cooling, premium bearings, silent (possible larger fans to be specified)	3	15.00	45.00	should measure temperature inside cabinet during operation to confirm adequate cooling, w/in specs of equipment, or impliment thermal fan control	#2	Amazon	
	12V power supply to accommodate wattage of potentiometer /variable resistor to control speed of fan (confirm adequate size to handle current)	1 1	30.00 N/A	30.00 N/A		#2 #2	Amazon	

misc	wire, solder, heat shrink, connectors, desired switches, surge suppressor, etc.	1	N/A	N/A			
				sub-total	384.00 +/-		
lumber / raw materials / hardware							
lumber	1/2" (12mm) baltic birch plywood (4'x8' sheet)(if interior grade (for lasercutter) needed, might only find in 5'x5' sheets)	2	50.00	100.00		#1, #2	local hardware store
	1/4" (6mm) baltic birch plywood (4'x8' sheet)(if interior grade (for lasercutter) needed, might only find in 5'x5' sheets)	3	30.00	90.00		#1, #2	local hardware store
	3/16" (5mm) round wood dowels (est.)(comes in 3'/1M length, cut to 3/4-1"/18-24mm pieces)	6	1.00	6.00		#1, #2	local hardware store
hardware / metal goods	3/8" (9mm) zinc threaded rods (3'/1m long)	4	3.00	12.00	cut to desired length	#1, #2	local hardware store
	3/8" (9mm) washers and nuts (3x25pc bags of each)	6	3.00	18.00	bolts/washers for threaded rods	#1, #2	local hardware store
	1/4" (6mm) machine screws (1 1/2"/40mm long), washers and hex or wing nuts (box of 100)	3	6.00	18.00	all shelf/mounting bolts and protractor brackets	#1, #2	local hardware store
	#8 (4mm) x 3/4" (18mm) flat phillips wood screws (box of 100)	1	5.00	5.00	exterior panel screws	#1, #2	local hardware store
	3/4" (18mm) aluminum U-channel (for LED light strips mounting bars, cut length as desired)(can 3d print mounting brackets)	1	8.00	8.00		#1, #2	local hardware store
misc	touch/tangible surface -> ACRYLITE Satin Ice OD010 (currently in testing)(replacing discontinued 7D006RP - dark grey)	1	60.00	60.00	need to find new touch/tangible surface material or composite assy	#1 (used 7D006RP - worked great), #2 (used Satin Ice - OD010 - not as great)	Acrylite Shop (discontinued :() Acrylite Optical rear projection Grey 7D006 - high quality rear projection surface (material that Microsoft used in the original Microsoft Surface (2008), used 0.197" thick sheet)
	thin protective clear surface - tbd (optional)	1	N/A	N/A	to protect touch/tangible surface while not affecting tracking		tbd
	misc acrylic for signage/trays (clear mar-resistant and endligheten)(optional)	1	80.00	80.00	LED edge light Endlighten acrylic pieces - laser etch mar-resistant acrylic for lettering on top surface	#2	Acrylite Shop
	front (first) surface mirror (12" x 16", cut to desired size)	1	30.00	30.00	cut piece into two equal halves for prototypes	#1, #2	Delphi Glass
	fan guards or architectural-grade metal mesh	1	N/A	N/A		#1, #2	tbd
	wood glue	1	N/A	N/A		#1, #2	local hardware store
	ABS/PLA for 3d printer for camera housing, brackets, and tangibles	1	N/A	N/A		#1, #2	variable depending on printer
	paints and/or stains as required for desired finish	1	N/A	N/A		#1, #2	local hardware store
				sub-total	427.00 +/-		
				TOTAL	2311.00 +/- estimate		
				range	\$2000 - 2500		