

	Risk Management Plan (using Risk Analysis Matrix for determining the level) (Note: ID #1-8 were obtained from CDR)			
	ID #	Risk Identification	Level	Risk Mitigation (proactive = blue, reactive = red)
	1	No previous experience in designing air distribution systems	2	<ul style="list-style-type: none"> • Members spend 1-hour consuming new information • Ask technical mentor/subject matter expert
	2	Insufficient funding to complete the project	4	<ul style="list-style-type: none"> • Organize and run a fundraiser • Seek sponsorship • Acquire information about student discount
	3	Unable to meet consistently with our technical mentor	2	<ul style="list-style-type: none"> • Plan Ahead • Schedule meeting and email Technical Mentor immediately
	4	Air does not flow to end-user devices	2	<ul style="list-style-type: none"> • Research about the different pipe sizes that are suitable for an air distribution system • Prepare and ask questions to technical mentors
	5	Equipment does not arrive on time for assembly	2	<ul style="list-style-type: none"> • Plan ahead and look at the schedule • Check what stores accept PO's
	6	System design does not abide by OSHA regulations and ASME building codes	2	<ul style="list-style-type: none"> • Research OSHA regulations and ASME building codes • Look at ISA standards and acquire requirements

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	7	Unable to fully power the operating air distribution system	2	<ul style="list-style-type: none"> • Obtain power consumption values for all devices in the system • Identify maximum and minimum range for power • Perform routine tests on systems
	8	Unable to design communications systems that incorporate supervisory control and data acquisition (SCADA) and distributed control system (DCS)	3	<ul style="list-style-type: none"> • Meet with subject matter expert • Research all possible industrial communications • Collaborate with EDH, EH, and Mech leads to mitigate interfacing and integration issues
	9	Unable to solder parts such as pipes due to lack of training (@LCC)	4	<ul style="list-style-type: none"> • Schedule appointment with Technical Mentor (Bill) to get soldering experience
	10	Skin exposure to hot lead when soldering	4	<ul style="list-style-type: none"> • Wear PPE's • Work in a well-ventilated area • Read Safety Data Sheets (SDS)
	11	Unable to assemble parts for the project	4	<ul style="list-style-type: none"> • Get Red-level training at UH Manoa • Find a workplace for project
	12	Unable to acquire parts due to PO orders	2	<ul style="list-style-type: none"> • Buying items using personal funds • Delay in procurement

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	13	Having to buy items using personal funds which leads to a long, tedious reimbursement process	2	• Check up with Trimble and Shayna on PO orders daily
	14	Loose wiring due to vibrations	4	• Take model and make it go through many vibrations
	15	Inexperience in programming	2	• Spend several days to learn to program • Have program finish prior to acquiring the sensors
	16	Delay in obtaining parts due to issues and errors for PO forms	2	• Double-check the forms and numbers with Trimble and Shayna • Email/ contact the person in charge of PO orders ASAP to ensure a faster process in making checks to KP
	17	Unable to continue and meet goal in creating pneumatic system due to COVID-19	4	• Get familiar in creating models in Automation Studio • Continue research into potential flow sensor alternative • Continue analysis for distribution loop
	18	Inexperience in Automation Studio	2	• Get familiar with program for couple days • Do tutorials found on Youtube to get familiarized with program