ENGR141 Grade Report: Proj3 PoC Spec Iteration 1

		Total Points Earned	0
Team	59	Total Points Possibl	6
Grader	Casey Schilling	Percentage Earned	.0%
Grading System Message(s)			

Are specifications sufficiently describing	Pass	Part.	Fail
Incomplete header / wrong file name: PoC#_Spec_TeamXX.pdf	**0**	NA	-1
Task 1 - Mobility Demonstration	1	NA	**0**
Task 2 - Line Follow	1	NA	**0**
Task 3 - Obstacle Traversal	1	NA	**0**
Task 4 - Bin Drop-Off Location	1	NA	**0**
Task 5 - Lift, Transport, and Drop Bin	1	NA	**0**
Task 6 - Bin Identification	1	NA	**0**

Subtotal	- of	6

Total	**0 of 6**

Grader Comments

For your overall organization, consider breaking up your list of customer needs into sub-headings and categories. Obviously they will build on one another and some could (or should) fall uner both, but it will be an easier way to think through if you have hit all aspects of one task before looking at the others.
Move Straight Task: For your velocity requirement your technical need states that the average velocity of your robot should meet minimum Harris requirements. However than your technical requirements and target value (etc.) does not talk about what type of velocity this is or that it should be an average. Remember that your technical needs should be carried through the requirement and targets. In addition, consider how you will calculate over the robot's life the average velocity. How will you show that it meets the average you want it too? For your other needs to "move straight," because you want your robot to move in a continuous loop doing its required task, "move far" isn't really a customer need. There may be a minimum distance you can define for this task, but just something to keep in mind. You're customer does need a robot that can move straight, however you are missing key elements for this to be fully measurable. Consider things like if your robot is moving at different velocities how accurate is the measurement of 1 minute? How better could you measure this (e.g. deviation over a distance moving at max velocity)? What is meant by "straight"?

Line-Following Task: This was a really good first try at a good customer need, technical need, etc. for your "follow a line" need. I like how you indicate the center to center measurement that removes the need to worry about the dimensions (thickness) of the line itself. However, same point here about how the measurement of 1 minute can change depending on what the robot is doing and how the velocity is changing. Also, think about how this line curves - Can your robot move around any corner? Are there limitations or requirements from the robot or from the customer?

Obstacle Traversal Task: While I know what you are trying to say, right now your technical requirement and target have one major flaws. You say your robot should be able to overcome obstacles > 0.5in - However, what about shorter objects? How does it handle those? In addition, could there be other reasons for your robot not to be able to go over an obstacles (i.e. what if it is squishy? Or has a weird shape?). Again watch how you are using velocities - is it average? Is that the minimum speed it should have over obstacles? Can this be covered in previous customer needs? Just things to think about.

Locate Drop-Off Point Task: Ensure that you are including all customer needs for the certain PoC task (like beeping thrice when the drop-off location is sensed). While your technical requirement is actually pretty good, additionl things to improve it would be how you are defining the drop-off location better (e.g. is it a physical point that you can measure your deviation from?) and what it is to stop at a point.

Lift, Transport, and Drop Bin Task: With actual numbers, the lifting the bins requirement is good (twice the weight of the biggest bin). For your requirement of velocity while transporting the bin, is it average? Is that the minimum speed it should have? Can this be covered in previous customer needs? For transporting the bin, what is the minimum distance that you think the robot should be able to move? On the final, it will be moving around an undefined track, but you should be able to estimate what an appropriate distance could be for this movement. Remember that it is only a minimum distance. For your prevent spillage, is this feasible based on what you know of bin or is this a given? However, there still are certain drop-off limitations on the orientation of the bin, so the customer does care some how the bin is transported. You technical requirement for the need to drop off the bin doesn't make sense. You have already defined the drop-off location and assuming your robot meets that standard it should place the bin correctly. Here, think more about what defines "dropping the bin off"? Does it need to disengage? If so, what type of measurable will be used to check for this lask of engagement?

Distinguishing Bin Type Task: It almost feels like you have some implicit definitions here, like what it means to correctly identify the bin type? What does it mean to distinguish between them? What is the range you would accept for different bins? A true accuracy doesn't really address how it is needed or accomplished by the robot - Ideally, we'd want your robot to do things 100% of the time correctly, however while it is reliably doing this, how do you measure that it is doing that? Also remember all customer's needs like displaying which bin it is.