

# Game Analysis

Action	Criteria	Match Points		
		Auto	TeleOp	Endgame
Navigating	Robot under 12 inches to go under the truss (10 inches)  (Check the documentation)  Robot has to be under the truss height	Pre-load one with one purple pixel, one yellow pixel, and one drone.		
Deliver Pixels	We can get more points with team prop.	Time: 30 seconds	Time: 2 minutes	Time: Last 30 seconds of TeleOp.
Purple Pixels	10 of them	Place in Spike Marker with Team Prop:  With Team Prop - 20 points  Alternate options: White Pixel - 10 points	Make mosaic ( 3 same non-white pixels or 3 different non-white pixels) - +10 Points  Set points - +10 Points	
Yellow Pixels	10 of them	Place in Backdrop with Team Prop lined:  With Team Prop - 20 points  Alternate options: White Pixel - 10 points		
Green Pixels	10 of them	N/A		
White Pixels	64 of them	Additional time after placing Purple and Yellow  1) try to park for 5 points,		

		2) place in backdrop or backstage 3) pushing multiple white pixel to backstage		
Drone		N/A	N/A	Try the drones in the endgame instead of pixels.
Robot		Parking - 5 Points	N/A	Hang from rigging - 20 Points  Alternative: Parking - 5 Points

Mechanism	Priority	Criteria
Intake	Must Have	<ul style="list-style-type: none"> <li>Able to intake pixels at different angles (fast rotating compliant wheels)</li> </ul>

	Nice to Have	<ul style="list-style-type: none"> <li>• A quick intake to outtake transfer (possibly when robot is moving)</li> <li>•</li> </ul>
	Explore	<ul style="list-style-type: none"> <li>• Using encoders to detect pixel angle and adjust based on that</li> <li>• Make the intake and outtake in one mechanism instead of two separate mechanisms</li> </ul>
Outtake	Must Have	<ul style="list-style-type: none"> <li>• Grip/release pixels</li> </ul>
	Nice to Have	<ul style="list-style-type: none"> <li>• Extensions to stack higher</li> </ul>
	Explore	<ul style="list-style-type: none"> <li>• Being able to rotate the outtake when at different positions</li> </ul>
	Must Have	
	Nice to Have	<ul style="list-style-type: none"> <li>•</li> </ul>
	Explore	<ul style="list-style-type: none"> <li>•</li> </ul>
	Must Have	<ul style="list-style-type: none"> <li>•</li> </ul>
	Nice to Have	<ul style="list-style-type: none"> <li>•</li> </ul>
	Explore	<ul style="list-style-type: none"> <li>•</li> </ul>

Engineering Specification	Description	Value	Unit	Other Considerations
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1	Width		mm	The width and length dimensions should be much less than the given
2	Height		mm	Top must be sufficiently lower than the
3	Length		mm	
4	Weight		kg	
5	Cost		USD	
6	Collection Rate		sec/pixel	
7	Driving Speed		sec/pixel	
8	Vertical Reach		mm	
9			mm	

1. EasyOpenCV - Ajay
2. Odometry/Roadrunner - Harsh
3. Drivetrains - Dhruv
4. Power Transmission - Kayan
5. Intake/Outtake - Kavin
6. Arms/Transfers - Srilakshminath