



BRIGHAM YOUNG UNIVERSITY  
AUVSI CAPSTONE TEAM (TEAM 45)

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## Last Year's Performance

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## Introduction

As our objective statement states, our objective is to improve upon last year's design. Therefore, an important metric in developing out requirements and key success measures is the performance of last years team. Analysis of this performance will show the areas most in need of improvement as well as the areas where our UAS's performance is already optimized.

## Last Year's Performance

*Table 1: The results from last year's mission tabulated. Each subsection's points are given as a percentage of it's section. Last year's results are shown on the same scale as it's corresponding section (i.e. a perfect performance would mean that the percentage of points obtained exactly matches the percentage of points assigned to that section).*

Category	Category Score	Last Year's Results
<b>Timeline</b>	<b>10%</b>	<b>2%</b>
Mission Time	80%	2%
Timeout	20%	0%
<b>Autonomous Flight</b>	<b>20%</b>	<b>16%</b>
Autonomous Flight	40%	36%
Waypoint Capture	10%	10%
Waypoint Accuracy	50%	42%
<b>Obstacle Avoidance</b>	<b>20%</b>	<b>10%</b>
<b>Object Classification</b>	<b>20%</b>	<b>4%</b>
Characteristics	20%	6%
Geolocation	30%	0%
Actionable	30%	15%
Autonomy	20%	0%
<b>Air Drop</b>	<b>20%</b>	<b>0%</b>
<b>Operation Excellence</b>	<b>10%</b>	<b>8%</b>
<b>Total</b>	<b>100%</b>	<b>40%</b>

## Discussion

As can be seen in Table 1 last year's team performed very well in the Autonomous flight section and the Operational Excellence section. However, they were lacking in the timeline, obstacle avoidance, the object classification, and the air drop sections. This year, we have assigned teams to focus on the air drop and the object classification as these are the two areas in need of the largest improvement. Because object detection issues was the primary reason for the teams ability to do well in the timeline section, improving upon the object detection would also allow us to improve on the timeline section.