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|  |  | |  | | --- | |  | | Manhattan Project Presentation | |  | |

# Overall Design statement

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|  | Launch one projectile with user defined vertical launch angle, launch force, and position. These inputs will then be analyzed by the program to calculate the launch of a second projectile that will result in a mid-air collision. A series of springs will launch the two projectiles through PVC pipe. Launcher settings output by the GUI will correspond with easily visible markings on the launchers. The two launchers will be fired in unison by group members. |

# The graphical user interface

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|  | Some basic assumptions were made to simplify the math: no friction, identical masses, simultaneous firing. |
|  | The effects of air resistance were approximated. |
|  | The coefficient of friction was approximated experimentally. |

# Presentation and quality of working project

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|  | Talk about how we came up with the math and why it works. (sorting for settings with best odds of collision) |
|  | Reasons for non-consistent results: human-timing, some friction in the barrel, angles are not exact (precision issues) |
|  | Size of launcher is approximately 2ft\*2ft\*2ft |
|  | Scope and Quality: Obviously, we took on quite an ambitious project goal with midair projectile collisions. Any errors we may have in the project functioning are a result of human error and our ability to manufacture the actual prototype. |