# Background

From studying Battlebot competitions, a few architypes become evident among the serious competitors. One such architype is to have a bot with a fast spinning blade to try and shred the opponent. Another common design uses a mechanism such as a claw to try and grab the other robot and move them into obstacles. Some successful bots utilize a studded roller on the front of the bot that spins at high speed and charges the opponent to try and flip them. “Spatula” style flipping bots are also common, which slip an arm or mechanism under the opposing bot and use that to flip them. Robots that hammer the opponent with a large weapon arm often do well and can reap a lot of damage. These archetypes provide not only a starting point for deciding what our robot will do, but a point of reference for what our robot may have to face.

For the electronic control systems on the project, Arduino based microcontrollers are an attractive option. Many of these microcontrollers are inexpensive and Arduino is widely used by hobbyists, so resources are abundant. Arduinos also come in many shapes and sizes with different features, inputs and outputs. Keeping the electronics cheap and modular will be an important aspect to pay attention too.

Another option for the control system would be to take apart a second-hand remote-controlled vehicle and use its receiver and components. A remote-controlled plane might be a good option as they have more control surfaces and servos than a car.