# Group Strengths and Weaknesses

James’ Strengths: Programming, Logical Circuits, problem solving, critical thinking

James’ Weaknesses: Reading, communication

Pauls strengths: Circuitry, CADD, problem solving, attention to detail

Pauls weaknesses: Programming, scheduling

Nathans Strengths: biceps, CADD, semiconductors

Nathans Weaknesses: Programming

# SMART goal

S – Our group wants to create a 14 button 2 analog stick controller that will work on PC though USB or Bluetooth. Our primary focus is build quality. We will be using wood as a chassis, and mechanical key switches for buttons (cherry mx, Zealios, Gateron, etc). Along with the controller we want software that will make the buttons programmable to keyboard/mouse/controller inputs.

M – This project will be finished when we have a controller that’s sturdy, feels good to hold and press buttons, connects to a computer and functions in games/desktop.

A – yes we agree

R – We need to find a microcontroller that will let us send controller/keyboard inputs to the computer. We’ll need a lot of research and development on creating the chassis.

Creating companion software might be hard depending on the chip in the controller. It might also cause input lag or computer slowdown if not done right so a lot of time will have to be put into it

T – A Functioning controller as well as a way to present all the research and knowledge we discovered along the way by be present for April 4th

# Roles

Scrum Master - James

Companion software programmer – James

Micro controller researching - All

Chassis modeler (physical and CADD) - Nathan

Key switch wiring (physical and CADD) - Paul

Note taking/ video making – everyone should document everything they do

# Expectation and Consequences

**Attendance/ Participation:** If you can’t show up or your late (when working on a physical competent) You will need to make up that time somehow (staying late, working at home, coming in early) Failure on this will cause deadline problems so your share of the group mark will be reduced or eventual removal from the group.

**Copyright:** copyrights issues will take down the whole project and our academic careers, everything must be triple checked and properly sited any sources of information used \*IMPORTANT\*

**Readjusting the workload:** If a task is difficult or we are hung up on a task. We can break the scrum task into smaller pieces so that more people can work on it.

**Decision making/conflict resolution:** First a compromise should be attempted. If a compromise would not be ideal (lowers the quality) The person whose role most closely relates to the conflict has more weight on their say. If it’s still undecided a third party will learn about both sides and choose.

# Useful Resources

[Chassis prototyping and design](https://www.youtube.com/watch?v=OTGtbLhldPc)

[Arduino, small USB controller](https://www.instructables.com/id/Making-a-USB-Game-Controller/)

[Same as above but different casing](https://www.instructables.com/id/Lets-make-a-game-controller/)

[Fallback board](https://www.pjrc.com/teensy/index.html)

Wood carving technique forum.vectric.com/viewtopic.php?f=2&t=25047

[Modeling Clay for prototype](https://canada.michaels.com/on/demandware.store/Sites-MichaelsCanada-Site/en_CA/Search-AdvancedSearch?cgid=Categories&q=oven%20bake%20clay&simplesearch=Search)

[Tools for modeling clay](https://www.amazon.com/Darice-97803-11-Piece-Clay-Cleaning/dp/B001ED3JMS/ref=pd_lpo_vtph_201_lp_img_3?_encoding=UTF8&psc=1&refRID=N7Y9XTYF3XRG6134RGZZ)

[General mechanical key switches](https://mechanicalkeyboards.com/switches/index.php?brand=&stem=&feel=&sort=Force+%28lightest%29)

Gateron Brown switches