# Proposal Submission

1. List of Group Members:

   Clint Wilkinson, Nathan Donaldson, Stefan Kapetanovic

2. High-level description of application:

   Our application will use the gyroscopic peripheral as an input to manipulate a physical plane to navigate a sphere through a two dimensional maze. The x and y axes of the gyroscope will raise and lower the edges of the platform to use the force of gravity to cause the sphere to traverse through the maze. To accomplish this, multiple peripherals and protocols will be utilized.

3. Functional block diagram:

Mini Project Diagram
ECE 5780
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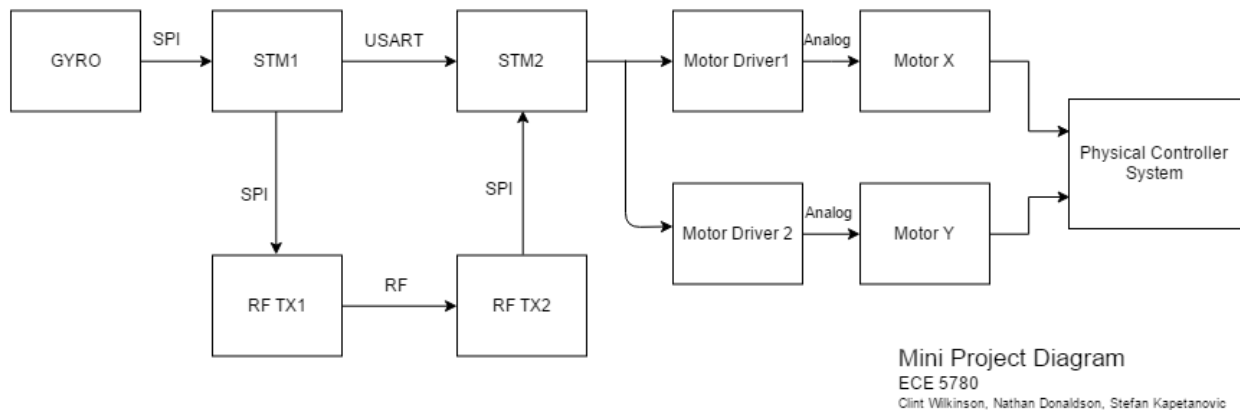
4. List of 4 implementations milestones:
   i. Learn and implement Serial Peripheral Interface (SPI) functionality as a serial synchronous communication tool along short distances between systems
   ii. Board communication protocols
   iii. Operate motors. Stepper motors, DC motors, etc. are all options at this point. Synchronizing the rotational speed to correlate with the output of the gyroscope will be intrinsic (debug).
   iv. Full Implementation/Testing
      a. Stretch goal: Use wifi which is known to be notoriously difficult to debug as a system. We would use this to communicate between the gyroscope peripheral outputs to the boards and motors.
      b. Stretch goal: Implement motor drivers for stepper motors.