Sprint 1 Progress Report
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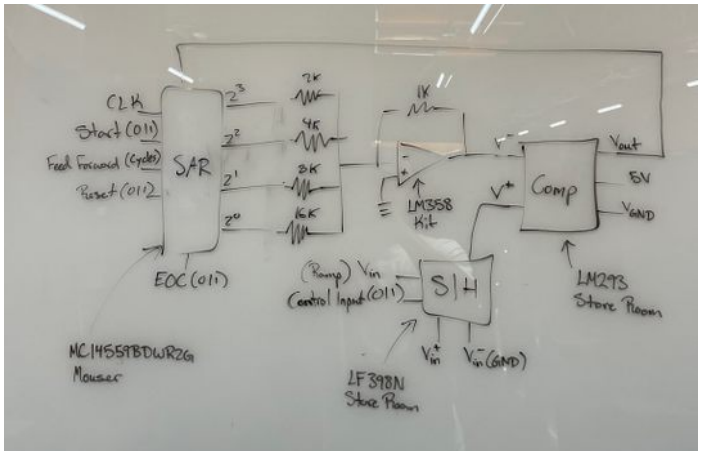
During this sprint, we aimed to accomplish three main objectives: Assign roles and organized communication, create an initial design for the SAR A/D converter, and compile a parts list for our circuit design. We successfully completed all of these objectives by the end of the sprint, with the details explained below, and created a new list of objectives for sprint 2.

For our roles, Jasmine serves as Point of Contact, Scot serves as Scrum Master, Zac serves as Hardware Manager, and Mason serves as Scribe. For communication, we created a GroupMe and plan to arrange meetings through there.

Our initial design is comprised of three main chips, the successive approximation register (SAR), the sample and hold circuit (S/H), the comparator, and a digital to analog converter (DAC) designed by us. This circuit should take in an analog voltage of less than five volts which is held by the S/H circuit and then loop through the SAR and comparator until a 4 bit digital output is ready, which should match the analog input within a certain error percentage. This design should successfully complete all of the project guidelines, but simulation testing will be needed in following sprints to verify that it meets guidelines.



Finally, we compiled a parts list for parts that we need to order or do not already have one hand:

- SAR - MC14559B (Order)
- Chipquik adapter - PA0006C-N (Order)
- Analog Comparator - LM293 (OSU supply)
- Sample and Hold - LF398N (OSU supply)
- Raspberry Pi

During this sprint, it was mentioned in class that we should create backup plans for our all-in-one chips, such as the SAR and S/H circuit. Although we plan on ordering the chips from our original design, we will design and test back up circuits for the SAR, S/H, and comparator chips in case of shipping delays or implementation failures.

For our next sprint, we plan on accomplishing the following tasks:

- Create backup circuit designs for the SAR, S/H circuit, and the comparator
- Independently verify, and then combine backup circuits for additional testing
- Compile a parts list for newly created backup circuits
- Create schematic for our original chip based design, and then verify it in simulation