

Assignment 10: Brainstorming and 3 Potential Solutions

Student Names

Due Date

1 Brainstorming

First Image Below we put all the sticky notes with our ideas on the wall and took a picture.

2 Three Best Ideas

List your three best ideas. They should be ideas from your brainstorming session, or an idea could be a combination of multiple ideas from your brainstorming session. Sketch the ideas out to the best of your ability, using words and label as needed. Insert the sketches here with captions explaining the idea further.

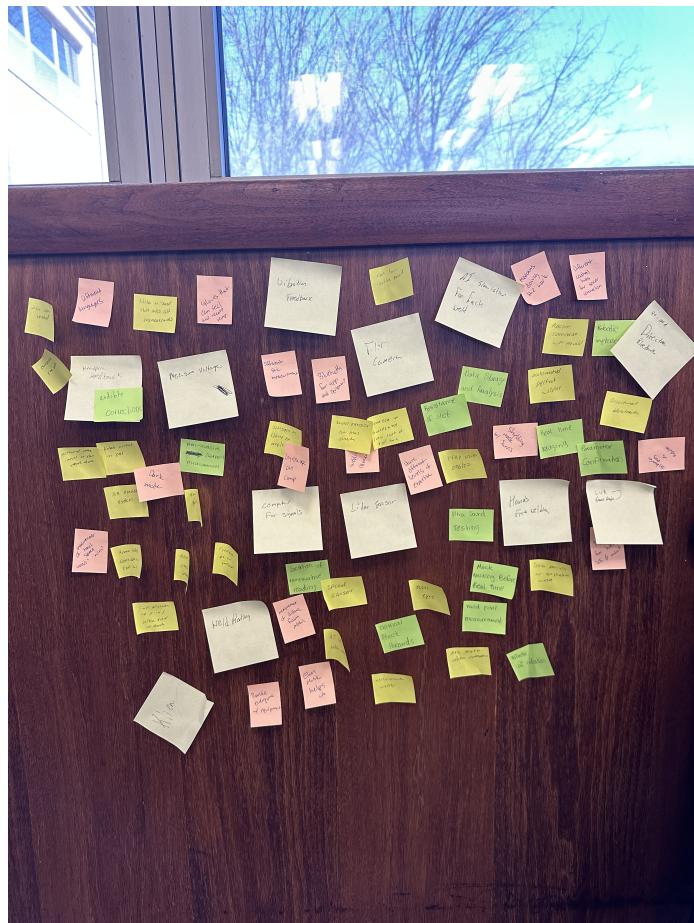


Figure 1: Brainstorming ideas

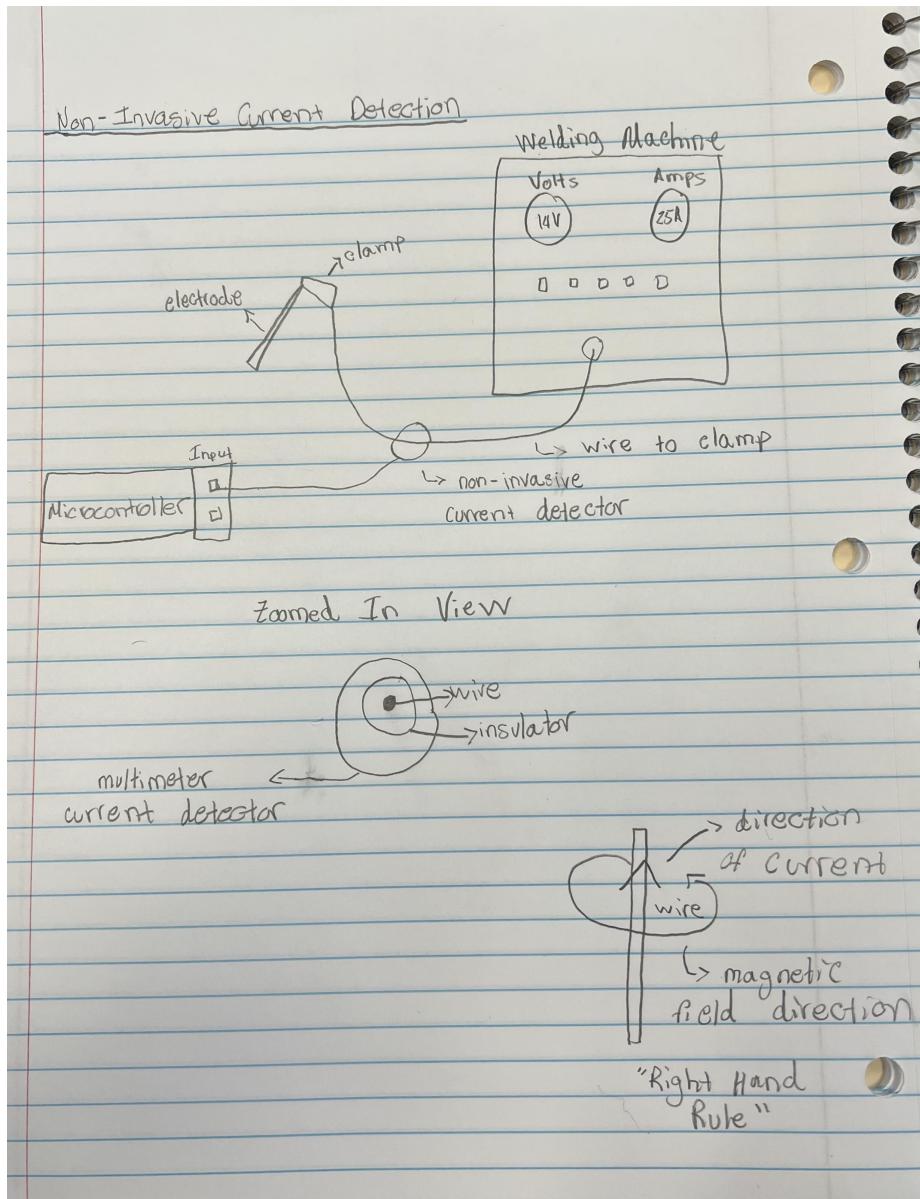


Figure 2: This photo shows how we will implement current detection on existing welding machines. Using the direction of the current, we can determine the direction of the magnetic field. Then we can place a multi-meter sensor over the wire to determine the current. This allows our design to be implemented on existing machines without alterations.

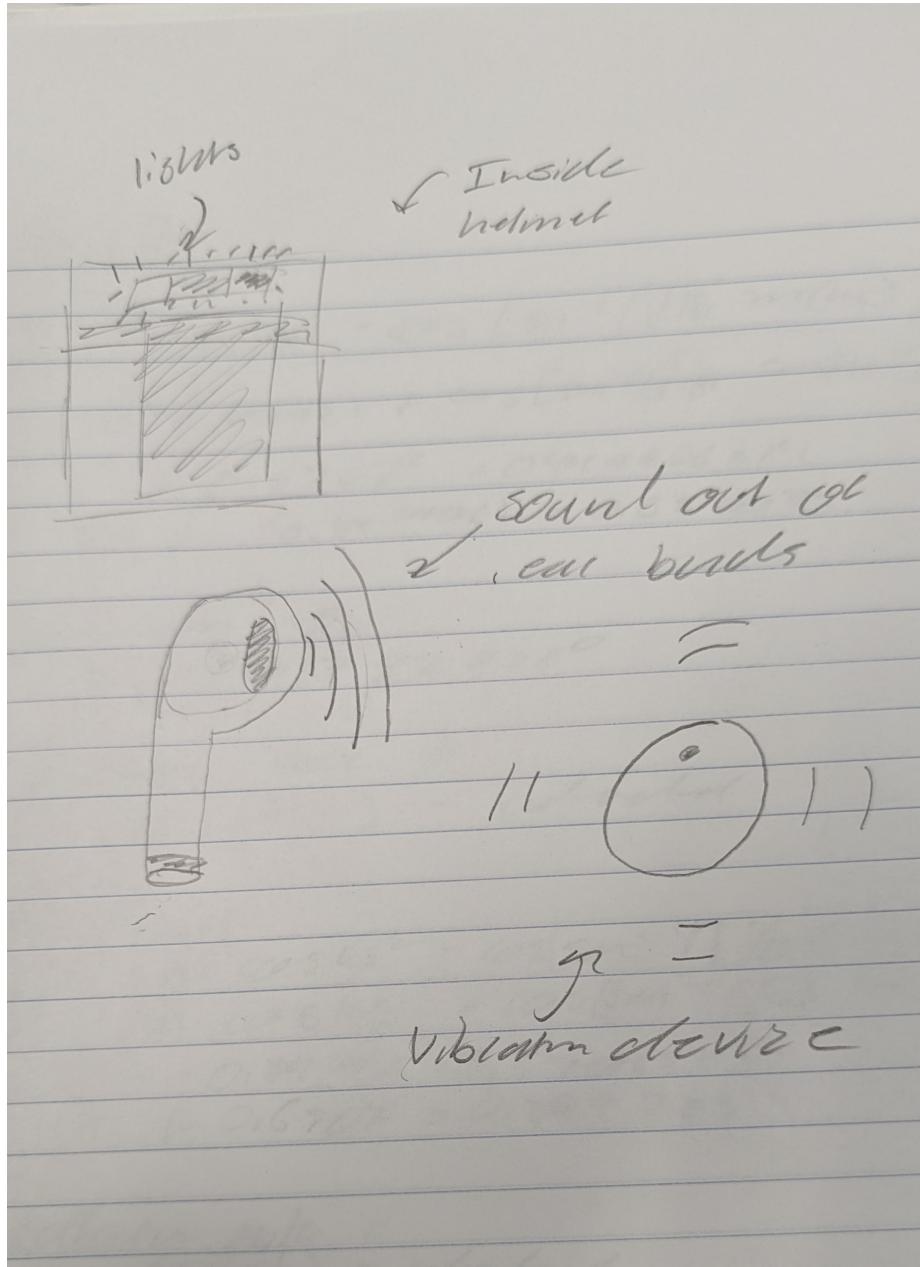


Figure 3: This image shows different ways to implement a way to give a feedback response to the welder while they are welding without them being too distracted from welding. This can be seen with the top left image of us putting in different light to determine different meaning such as red being to stop, or green to go faster. The other image in the middle is an earbud which is to represent the option of sound to give the feedback. With the different tones or spatial sounds such a left ear sound meaning something different than the right ear. The last part at the bottom is a vibration device which could be on like the Welder's leg which would have different speeds to portray different information.

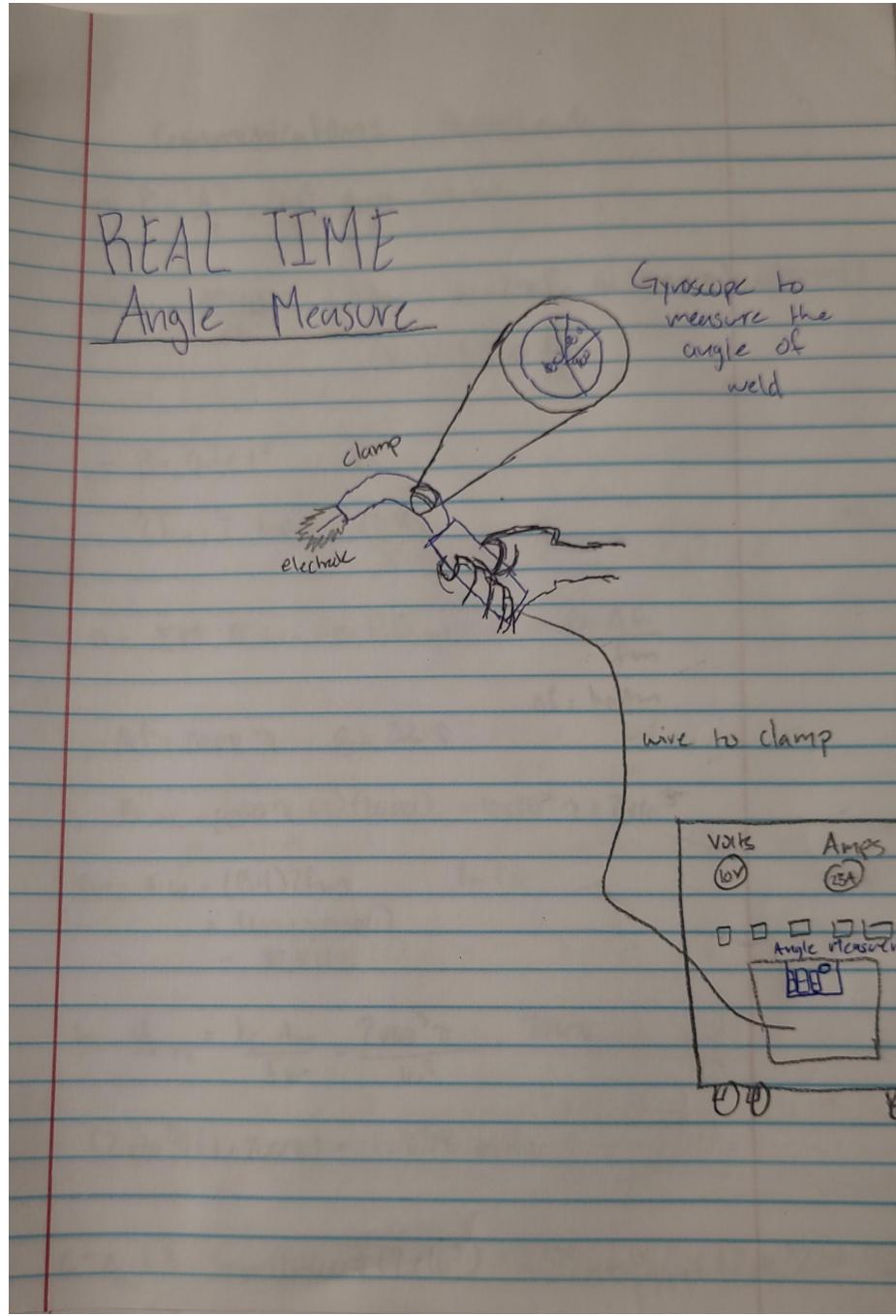


Figure 4: This photo demonstrates the implementation of a gyroscope on existing welding machines old clamp versions. These new clamps will be able to display the angle of the weld being done on a monitor in the front of the machine. The only component required for this is some sort of microchip that can read the data and transform it into a visible measurement.