Project Name: Glove Com
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- Motivation
    - As part of my senior design project, my team and I are developing a form of nonverbal and nonvisual communication for warfighters to discreetly communicate with each other in combat scenarios. Warfighters often find themselves in situations where traditional communication methods are difficult dangerous, or impossible. For example, hand signals do not work when warfighters lose line of sight with each other. Radio communication fails when trying to maintain stealth in close-quarters combat. Glove Com will allow warfighters to move their fingers in a specific pattern and communicate a preset message to their squad mates, enabling stealthy communication without hindering warfighters and allowing them to focus on their surroundings.
- Operation Background
    - To send a message with Glove Com, the user will bend their fingers in a specific pattern. The glove will be on the user's non-dominate hand (for the purpose of this design, the left hand). For the rest of this description, the fingers on the hand (thumb, index, middle, ring, pinky) will be referred to as L1, L2, L3, L4, and L5 respectively. Each finger has two states, triggered (bent finger) and untriggered (unbent finger).
    - L1 activates Glove Com. While L1 is triggered, then Glove Com will be ready to take input from the other triggers.
        - Because warfighters are constantly performing many tasks with their non-dominant hand, (grabbing something, reloading, mantling, punching) Glove Com will not always be activated. This will prevent warfighters from accidentally sending messages when performing a normal task that requires the bending of the fingers.
    - With L2-5, there are many different messages that can be sent by utilizing combinations and sequences of triggers. An example of utilizing combinations of triggers is triggering L2 and L3 simultaneously to send a different message than triggering L3-5 simultaneously. An example of utilizing sequences of triggers is triggering L2, then L3 to send a different message than triggering L2 and L3 simultaneously.
    - For now, I will focus on different communicating different messages by utilizing combinations of triggers. It is important to note that because of human anatomy, certain combinations of triggers are uncomfortable or impossible (try bending your pinky and middle finger, without bending your ring finger).

- Operation
    - All possible combinations of L2-5
        - L2
            - L3
                - L4

                - L5
            - L5
        - L4
            - L5
        - L5
    - L3
        - L4
            - L5
        - L5
    - L4
        - L5
    - L5
- Combinations that are not feasible, due to human anatomy
    - L2
        - L3
            - L4
                - L5
            - ~~L5~~
        - ~~L4~~
            - L5
        - ~~L5~~
    - L3
        - L4
            - L5
        - ~~L5~~
    - L4
        - L5
    - ~~L5~~
- The final list of combinations
    - L2
    - L23
    - L234
    - L2345
    - L245
    - L3
    - L34
    - L345
    - L4
    - L45
- I am left with ten unique combinations of triggers. I will program 10 commands to match each of these trigger combinations.