ECE180DB : Lab 7 Report

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Tasks Planned

- help team with pyqt integration of any further developed features
  - possibly adding more keystroke actions for allowing better debugging not dependent on audio quality
- complete SVM classifier
  - run sampler on existing data base
  - modify data-base to include more gestures or remake if the live results are not what we expect
  - validate results on generated data base
- film video of state of project as presented on thursday for the ta's

Tasks Completed

- MQTT Server/Integration
  - helping with implementation of server to eliminate bugs in sending messages between users
- Gesture detection
  - installed pyqt on raspberry pi as it is a new dependency of our communicaitons link. Fun fact, this takes anywhere between 6 and 9 hours!
    - further code refactoring to divide functionality and eliminate cvxpy dependency for our controller script
    - enforce a given sampling rate, including forcing specific loop timers on the low pass, median, and kalman filtering process
    - added extra features to each sample to hopefully provide better resolution
- Integration
  - final run through of all capabililties of the chat application
  - debugging final issues
  - created demo video showcasing stable use of the chat

Future Tasks

- complete SVM classifier
  - record data base using new objects
  - modify data-base to include more gestures or remake if the live results are not what we expect
  - validate results on generated data base
  - real time validation
- user friendly
  - setup script for dependency both controller and application
  - can do powershell and `*.sh`
  - command line arguments for screen size, user name, and other currently hard coded paramaters
- possible performance boost
  - as we have removed several daemon threads, could add another for the purpose of sending acknowledgements for our server