What I've done:

- Attempted to run the Docker Image build of Concerto
  - Ruby and rbenv installation
  - Docker Desktop installation.
  - Reached out to Brian Michalski about why these instructions don't work.
    - Still waiting for a response.
  - Combed through the closed and open issues on the main branch to find a fix.
    - Found some issues that may relate to the Docker Image installation issue and discussed these issues with Jonathan.
- Ran Concerto via local host/LAN and learned how to create/showcase screens.
  - Testing out the weather, video, and image display functions.

Instructions:

- How to install rbenv and Ruby 2.6:
  - https://github.com/rbenv/rbenv?tab=readme-ov-file#basic-git-checkout
    - *git clone https://github.com/rbenv/rbenv.git ~/.rbenv*
    - *~/.rbenv/bin/rbenv init*
    - *rbenv install 2.6.0*
    - Run *ruby -v* to make sure that the right version was installed.
    - One of these:
      - Set default Ruby version for this machine:
        - *rbenv global 2.6.0*
      - Set default Ruby version for this directory:
        - *rbenv global 2.6.0*
    - *gem install bundler*

- How to run the Docker Image:
    - Dependences:
        - Ruby 2.6
        - Rubygems
        - Imagemagick, GhostScript, Poppler-Utils
        - LibreOffice
        - Webserver (Apache/Unicorn/Thin/Nginx)
        - Rack interface to the webserver (Passenger, FastCGI)
        - ActiveRecord-compatible database (Mysql, SQLite, Postgres)
        - Nodejs as the javascript engine (as of version 2.4.0)
    - Download Docker Desktop:
        - https://www.docker.com/products/docker-desktop/
        - If needed, here's the link to the Concerto base image:
            - https://hub.docker.com/r/concerto/concerto-base

- Now follow the instructions listed in the README:
  - https://github.com/concerto/concerto
    - *git clone http://github.com/concerto/concerto*
    - Edit your bash file to include:
      - *export PATH="$HOME/.rbenv/bin:$PATH"*
eval "$(rbenv init -)"
    - *cd concerto*
      - Comment out the following line from docker-compose.yml since there's a authentication bug.
        - *command: --authentication-policy=mysql_native_password --character-set-server=utf8mb4 --collation-server=utf8mb4_general_ci*
    - *docker build -t concerto .*
    - *docker-compose up*

- How to create a local/LAN instance of Concerto:
  - https://github.com/concerto/concerto/wiki/Installing-Concerto-2

    -
      ```
      sudo apt-get install -y build-essential apt-transport-https libapache2-mod-passenger ruby-full ruby-dev libruby imagemagick ruby-rmagick libmagickcore-dev libmagickwand-dev libssl-dev zlib1g-dev libsqlite3-dev default-mysql-server libpq-dev default-mysql-client ruby-mysql2 default-libmysqlclient-dev apache2 libxslt1-dev nodejs git
      ```

    -
      ```
      gem install bundler
      ```

    -
      ```
      sudo add-apt-repository ppa:libreoffice/ppa
      ```

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      ```
      sudo apt-get update
      ```

    -
      ```
      sudo apt install -y libreoffice ghostscript libgs-dev gsfonts poppler-utils
      ```

    -
      ```
      git clone https://github.com/concerto/concerto.git
      ```

    -
      ```
      cd concerto
      ```

    -
      ```
      bundle install --path vendor/bundle
      ```

    -
      ```
      bundle exec rake db:migrate
      ```

    -
      ```
      bundle exec rake db:seed
      ```

- LocalHost:
    - *RAILS_ENV=production bundle exec rake assets:precompile*
- LAN:
    - Docker installation for concerto doesn't work. There seems to be a ruby bug that we just could not narrow down. A Githib user ran into the same issue and create an issue which still remains open.
        - /usr/local/rvm/rubies/ruby-2.6.10/lib/ruby/2.6.0/bundler/spec_set.rb:91:in `block in materialize': Could not find date-3.3.4 in any of the sources (Bundler::GemNotFound)
        - https://github.com/concerto/concerto/issues/1593
    - This led to us deciding to run Concerto locally at first, which allowed us to familiarize ourselves with the management of the signage system.
    - Our main goal now is to test Concerto on a Raspberry Pi since multiple users have said that Pi 2s struggle to run YouTube videos.

Roadmap for the future:

- Test Concerto on a Raspberry Pi and sync a screen to our custom feed.
    - Make sure that YouTube/video streaming works.
    - If our testing is successful, set up a time to showcase what we've done to Dr. Turner.
- Implement the Duo 2FA API so that Concerto meets RPI's security standards.
- Discuss if there's any other features that need to be implemented.
- Check for bugs.
- Document the work we've done.
- Work on our final presentation.