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OO Final Project

My final project was written in Ruby. You can run a command line user interface to the program by executing the 'UserInterface.rb' file. In order to run the program you will need to have several Ruby gems, command line tools, and a specified SoundFont file installed. The list of the dependencies are below, with links to their download pages.

Dependencies
- Gems
  - [RMagick](#)
  - [flickraw](#)
  - [Midilib](#)
- Command line tools (if you have a mac I would just use [homebrew](#))
  - [soX](#)
  - [LAME mp3 encoder](#)
  - [fluidsynth](#)
- Other
  - acoustic grand piano SoundFont file
    i. You can download the file here:
       http://freepats.zenvoid.org/sf2/acoustic_grand_piano_ydp_20080910.sf2
    ii. After downloading, make sure to place the the .sf2 file in this directory: '/usr/share/sounds/sf2/'. So the path to the .sf2 file should be: '/usr/share/sounds/sf2/acoustic_grand_piano_ydp_20080910.sf2

Below is an index of my classes and a summary of the patterns used:

Summary of Patterns/Architectures
- Layers and Facade
- Pipes and Filters
- Singleton
- Strategy

Index of Classes (going from highest layer to lowest)
- UserInterface
- ControlCenter
- ImageControl
  - DataFetcher
  - Image Pipe
  - ImageFilter (base class)
    - BlurFilter, EmbossFilter, OilPaintFilter, PosterizeFilter, RotateFilter,

SepiaFilter
- AudioControl (AudioControl and ImageControl are at the same level)
  - Algorithm (base class for Algorithm subtypes, AND context object in the strategy pattern)
    - TwelveToneAlgorithm
    - TonalAlgorithm
    - QuarterToneAlgorithm