

PHP OO Test: Plugin Framework

Maximum amount of time allowed: 2 hours

Task: Imagine you work at a company that provides software on the web to manipulate images.

You are given the task of developing a PHP framework to:

- Allow handling of multiple images at once
- Allow multiple effects for each image
- Allow for an easy plugin system that introduces new effects
- Allow for effects to have settings that are effect-specific
 - For example, if you had a Resize effect, you could have two parameters: width and height

For example, we might want the following:

- Image#1: resize to 100x100 pixels, add blur 2 pixels size
- Image#2: resize to 100x300 pixels
- Image#3: resize to 150 pixels, add blur 5 pixels size, convert to grayscale

The code you will be writing should be a set of PHP classes (and some extra files, possibly) that implement the above feature set.

Note: You do not need to actually build a frontend for this test.

Requirements

- Use object oriented PHP5.3 for the implementation.
- Do not use any 3rd party framework. Start all code from scratch.
- Coding the actual image effects is not required. Your sample plugins/effects should implement something standard that can be called by the main classes.
- Ignore the presentation layer/frontend; the wireframe presented here is for better understanding of the problem. The only aspect important for your task is that an effect might have one parameter which can be of different kinds (a value slider/selector, numeric input box, etc), but it's optional.
- Supported image types, resolutions, etc are not important for this test.
- This test is an assessment of your personal skills; please do not ask for help.
- Simulate image data in order to test/show how the API works.

This task is designed to give us an idea of how you think when faced with a very limited amount of time to solve a task of significant complexity. We are also interested in how you structure your code so that it's easily extendable, complies with best OO practices, and is easy to modify/understand by others. We are also interested in seeing how well you architecture a specific application.

Wireframe

The wireframe depicts a web browser window with a light blue header bar. Inside the header, there are navigation icons (back, forward, home) and an address bar containing the text "http://www.example.com". The main content area of the browser contains three identical, vertically stacked panels. Each panel is a light blue rectangle with a thin dark border. Inside each panel, on the left, is a text input field followed by a "Browse" button. To the right of these is a vertical stack of three checkboxes, each followed by the text "Effect 1", "Effect 2", and "Effect 3" respectively. Further right is a "Radius" label followed by a horizontal slider control. Below the slider is a "Size" label followed by a text input field. At the bottom right of each panel is an "Apply" button. A vertical scrollbar is located on the right side of the browser window, showing the three panels are within the visible area.

Figure 1 Sample wireframe. Not to be implemented.