

Image processing in PHP to create a front-end designer tool

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Navraj is a senior web architect at Comnez. His vision for robust technical solutions has helped us solve many complex computing scenarios. Here is one of his recent case studies.

The Challenges

We were presented with a challenge to build an online uniform builder for company that designs and prints sports uniforms. The requirement was to create a web user interface that would allow its users to design their sports uniforms by using the various tools provided by the uniform builder. These tools included uniform shapes, colors, mascots, text & numbers etc. It was also important to show a 3 dimensional view of a model wearing the dynamically designed uniform. The final design of the uniform was required to be submitted via an online ordering system to the t-shirt manufacturer.

After evaluating the requirements carefully we decided to build the entire uniform builder using a combination of Java Script/AJAX and PHP. The choice was made to provide universal compatibility and fast loading time which were some of the limitations using other technologies like Flash and Java Applets. We also had certain limitations in terms of the available resources and time allocated for this project.

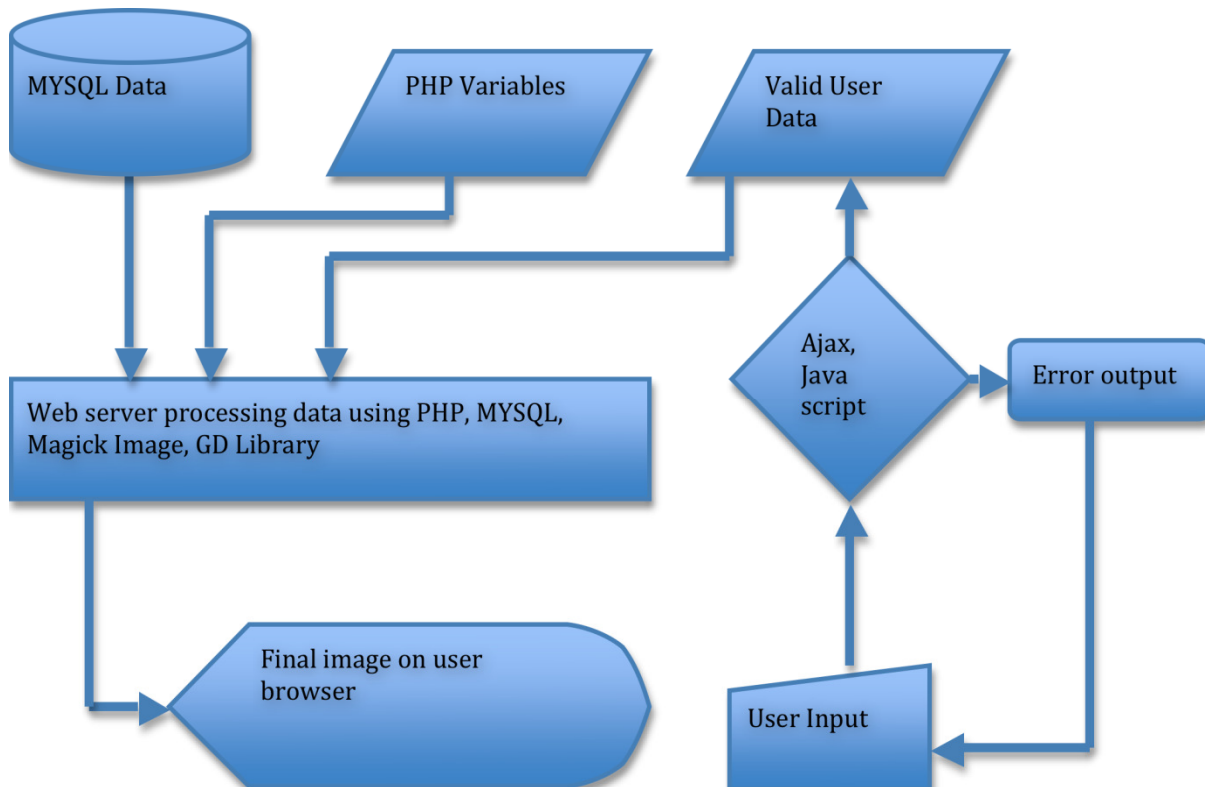
Our Approach

We thoroughly examined all the information provided to us by the client. We had already realized that processing images in real time to produce a 3 dimensional image effect would be the greatest challenge on this project. We quickly devised a strategy and started working on a prototype to test the most challenging areas of this project.

Soon we came up with complex algorithms and methods to handle the image processing using the architecture described in the following section.

Our Architecture

After evaluating available resources and several solutions it became clear that PHP, MYSQL, Magick Image, GD Library, AJAX, JavaScript would allow us to developed Custom Uniform Web Application without Flash.



As you can see, from above diagram that PHP, MYSQL, Magick Image and GD Library has been used on server side to process images and AJAX and Java script are used to validate the user parameters and show the final image on the browser.

Technical Implementation

The implementation of the architecture described in the previous section required us to install Image Magick on the server. Image Magick is free software that runs on all the major operating systems. It supports about 100 different image formats and can perform impressive operations such as creating images from scratch; changing colors; stretching, rotating, and overlaying images; and overlaying text on images.

The most challenging technical implementation for this project involved the dynamic text generation with different shape, font and size on uniform builder.

Results

We combined GD Library and Magick Image to show the final Custom Uniform Builder. The solution was fast and cost-effective as we used the limited available resources to meet the client's requirements.