

# HobbyClub

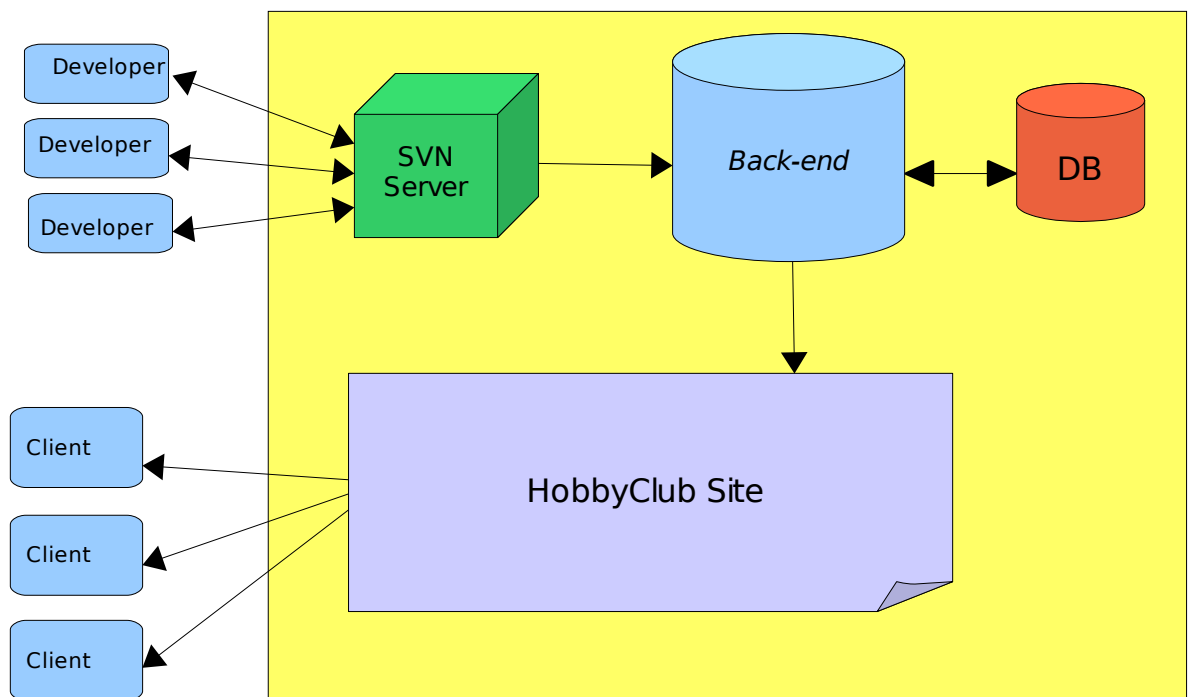
## *Technical Architecture*

### **The Architecture in brief**

*HobbyClub* is a simple web site, which is served as plain XHTML to the end-user. This site is hosted by a Debian GNU/Linux server, running Apache HTTP Server and offering multiple services such as PHP and MySQL database integration.

As mentioned above, the operating system is a Debian GNU/Linux running a 2.6.20 kernel. The team chose the 2.6.20 kernel since it performs much better than 2.4, thus offering the web pages faster and having a quicker access to the database.

Figure 1 shows the basic set up of the server and how it works:



**Figure 1.** *HobbyClub* server and interface with users and developers.

## Services and Developers

In the *HobbyClub* project, there are three well different parts, which are:

- 1) The developers interface
- 2) The server *back-end* interface
- 3) The server *front-end* interface, or “user interface”

In the developers interface, the team uses SVN (Subversion), which is a version control system, which keeps track of all the commits and patch submitted to the server.

For this purpose, the server uses typicall shell accounts, and hence they are authorized to use some services in the machine, like the SVN. When a developer makes a change in the source code on his/her personal computer, then he or she can upload the patch by using the program SVN. Then, when the patch has been uploaded to the server, the SVN server performs all the automated tasks which are supposed to be done:

- 1) Update the source code in the server
- 2) Send an email to all developers telling the changes made and who made them
- 3) Update the project version/revision

Thanks to SVN, developers only have to edit the source code in their personal computers and upload the changes. As opposite as it happens in other projects, here the developer only focuses on the coding part, improving the time-performance relation.

Besides the developers interface, the project beholds what it called a *back-end*. This is what the final user cannot see, but the most important part. The *back-end* connects what developers do with the web site interface. Apart from this, the server is also the responsible of creating an automatic backup every evening, taking all the source code, a dump from the database and the configuration of the developers interface.

Finally, there is the user interface or server *front-end*. This is the web site itself, where the end-user contents are stored. This part is well discussed in the next section: “Web Technology”.

## **Web Technology**

Also called user interface, our web technology uses a typical LAMP: Linux + Apache + MySQL + PHP. In this order, the Debian GNU/Linux server runs Apache as the web server, then Apache runs the pages containing PHP, which connects the user interface with the MySQL database.

Mainly, our web pages are made of standard XHTML Strict 1.0 in conjunction with CSS 2.0 Style sheets. As a matter of fact, they include the buttons to validate the code in the W3C XHTML and CSS validators.

Besides the XHTML, our pages contain PHP code, which performs many important functions, such as user registration and password grants, database reading/writing, searches, etcetera.

## **Technical Approach**

The PHP files include shared information from other files, such as *share.inc* and *end.inc*, which include the headers, the login form and the menu form, common to all pages. When some file is edited, the changes are automatically reflected in the new reload of the page, as PHP does the including work.

In consequence, the real PHP files contain only a few lines with the specific information for that section, but when they are loaded in by the server to send them to a client, they contain the main header and the main menu, as every page on the site.

Thanks to the PHP scripts and the database, the project is able to store registered users, recorded events, relations between clubs and users, enrolements, etcetera.

## **List of Software**

Linux kernel, 2.6.20

Debian Sid GNU/Linux, version 4.0

OpenSSH Server, version 4.3

Apache HTTP Server, version 1.3.34

PHP Scripting Language, version 4.4.4

MySQL Database Server, version 5.0.32

Subversion Control System, 1.4.2