

QuiltShow 1.0

Quilt Registration Program

Installation and Use

Overview

This package consists of an SQL database with 5 tables plus a single view that combines 2 of these tables. There are 4 program files, written in php, that control access to this database. There are another 8 (or so) help files, written with just HTML, that are simple pop-up help screens. There are 16 files, written in PHP and using the FPDF library to generate PDF files of all of the forms and necessary to run the quilt show. These PDF scripts are all called by routines in the primary 4 application files. Finally there are a couple of PHP files that generate Comma-Separated-Value (.csv) files for import into a spreadsheet for further processing.

The SQL database is the heart of the package – this is where all of the information is stored. The 5 tables in this data base are:

- **Categories** – This contains the name of the categories used for the show, including information on how many quilts an individual may be enter in that category, and whether or not a fee is charged for quilts in that category;
- **Showdata** – This contains the basic information about a particular show – Show year, show name, open and close registration dates, etc.;
- **Entrants** - This table has all of the information about entrants in the show: name, address, phone, username, password, etc.;
- **Quilts** – This is the table with information on the quilts: name, color, size, category, etc. as well as a link back to the entrants table for the quilt maker;
- **Receipts** - This is a simple table with a listing of registration fees received, to make it easier to verify payment of all of these fees.

The single view in the database (combined_tables) is a combination of the Entries and Quilts tables, making it easier to access that information on some of the forms. It is not strictly necessary, but is useful (makes SQL select statements simpler by eliminating complex union statements) and would provide an easy mechanism to go back to the older method of printing all of the forms through mail-merge type technology. (This should not be considered a viable option – rather a desperation move.)

Design Work Flow

This package is designed around the procedures used by the Brazos Bluebonnet Quilt Guild. This seems to be a logical, well-organized process the will probably be very similar to other shows. The time-line flow of what normally happens for the quilt show:

- The organizing committee decides the basics for the show – show name, opening and closing dates, categories, entrance fees, maximum number of quilts to hang, etc. The system administrator goes into the admin portion of the program and creates the new show definition with this information.

- If this is not the first time the guild is using this package and there is already a list of entrants in the database, a CSV file can be generated with names, email addresses, usernames and passwords so that an e-mail merge can be created to notify these people of opening/closing registration dates and also remind them of their username/password. Hopefully this will reduce the workload of looking that info up individually for former entrants/guild members. At this time too, new members/entrants can create their userid/login information.
- Once the date passes for entering quilts, the database will be available with write permission so that entrants can enter their quilt information. Email will be sent to the registration chair to advise him/her that a quilt has been entered. Entrants will be free to edit their submission information, if necessary, and notifications of this will be emailed as well.
- Periodically, the registration chair examines the quilt entries, looking for problems or issues. Common are problems with the right category, original design, advertising in the artist's statement, etc. The registration chair has a 'mini-editor' button available to edit some of this information as necessary.
- Once the date passes for entering quilts, the quilts database is locked (users don't have write permission) so that the committee is not dealing with changing information. At this point, the committee members coordinate to assemble everything needed.
 - There is provision for splitting the Traditional Pieced category into Traditional Pieced –Large and Traditional Pieced –Small, only because this has often been a large category and it is sometimes desirable to split it. The registration chair can do this, based on either widths or area, undo, repeat until satisfied.
 - Once the quilt category assignments are fixed, the hanging chair downloads a CSV file of the quilts, sorted by category and size. The task here is to determine what the hanging order will be and to assign gallery numbers so that the quilts will hang in the same order as the program lists them. One option here is to use 'centuries' for the categories: 100-199 is appliqué, 200-299 is Miniatures, etc. Once these gallery numbers are determined, they are entered back into the spreadsheet, exported as CSV file, and that is uploaded back to the hanging portion of the program where it updates the quilts table.
 - The database is now complete, and the other groups (intake, judging, release) can print off their forms as PDF files. Of note is the use of a 4-part card for intake. This is card (Avery numbers 5689, 8387, 8577 or equivalent), is 8.5 x 11 and perforated in quarters. The file copy quarter is stapled to the registration form. The three remaining parts of the card go to the entrant as a claim check, on the back of the quilt for tracking/ID, and on the quilt back to facilitate reuniting for release. The other forms should be self-explanatory.
- If there are not as many entries as expected, you can change the closing registration date to allow more time. There is also a provision for penalty fees after a specified date to encourage early registration.

Installation

The first thing that needs to be done is to get the database installed and working on the host web server. This will hopefully and ideally be done through the phpMyAdmin tool in cpanel on the server host. There is an SQL file, QuiltShow-DB-min.sql, in the distribution files that has all of the SQL commands to create a minimum data base, with all the tables and views, and basic data. There is a sample showdata table entry, that will provide a template for creating an entry for a new show as well as the entrant information for a system administrator (login sysadmin, password sysadmin) – this will let you set access permissions for other users. The categories table is also populated in the sql file.

After creating the database, it is necessary to create 2 user accounts on the server to provide access to the database. One account is the administrative type account and should include most or all permissions, but especially write access so that data can be added and removed from the database. The second account should have minimal read-only type access – this account is used for user access after registrations have closed, so that users can still see their registered quilt information, but cannot modify it. In the cpanel database tool, enable only Create Temp Table, Create View, Execute, Index, Select, and Show View. This account is also used for all of the scripts that generate the PDF files, since they never need write access to the database. This login information (login name and password) should be entered in the utilities.php script file. This file has a variety generic utility routines including opendir() to open the database for read/write access and opendir_RO() which uses the readonly account login to open the database as readonly. The mysqli_connect() function calls require a host name (normally localhost), the login account name, the account password as plain text, and the database name. In principle it should be possible open a database on a remote host, but I see no advantage or benefit to attempting this.

The details are likely to vary, but the normal steps should be something like this:

1. Select “MySQL Databases from the menu screen;
2. Select a name for your database and create it;
3. Add 2 new MySQL Users in the next section;
4. Add those users to the database created in step 1. When you add those users, you will have an opportunity to control which privileges that user will have. The **create, delete, alter, drop, insert, and update** privileges should not be present for the readonly account. The only permissions that may be necessary are **index, select, execute, and perhaps create view and show view**;
5. At this point, you can go back to the cpanel and select phpMyAdmin. Select your new database and use the import tab to read the BBQG sql file from your computer. This should define your tables and populate some of them;

Once the database has been created and is working properly, copy all of the distribution program files (*.php and *.html) to whatever directory you want to use for the registrations. This should be separate from the main content of your website. Also copy the images and FPDF18 folders to that same directory. Locating them elsewhere will require modifying path names within the php files. The images in the images folder are simply some icons that are displayed on the quilt entry page as well as the banner across the top of the page. Within the images folder there needs to be a subfolder with the showyear (e.g. quilts2017) – This is used to

store the pictures of registered quilts. This should be done automatically when a new showyear is defined and made the active show year. Manually creating it does not cause any problems, however. Edit the username and password information in the utilities.php file so that the two opendir function will work properly.

The other things that may need to be edited in the utilities.php file are the nine (9) URL variables toward the top of the file – the first three point to the Show Rules, Go Texan Rules, and Category information help documents. Historically these have been PDF files on the Guild server. These variables should contain a URL where each of these documents can be found, whether a local file (./filename) or a network name on another server (http://BBQG.org/showdata/.....). The files can be anything that can be displayed in a browser window: php, html, shtml, or pdf. These are all accessed by the quilt registration form in the user.php file. The next three are used to personalize the web site to your guild. The \$Banner is a graphic to display across the top of the main page, \$Guild is the full guild name, and \$Gld is the abbreviated name. The last three are pointers to the 3 demonstration videos – they don't need to be changed unless you want to move them somewhere else.

At this point your installation should be complete – you should be able to go to your new target directory with a web browser and see the initial index page for the site. Login with the default system admin account (username: sysadmin, password: sysadmin) and edit the profile for that account to match yourself. You can also change the password to something you like better. If you have trouble with the default admin account, you can go to the entrants table in the database, through phpMyAdmin, and manually edit an entry to become a sysadmin entry – just change the access field to 63, giving the account all permissions. Everything else can be edited in the profile editor.

Once the database is set up and the files are installed and working properly, very little remains to be done to get the system ready for a show. First, as the admin, got to the Show Admin tab and select the show information button. There must be at least one show defined – it is used as a template to create new show entries. A new entry is created by editing an existing entry and changing the ShowYear. Pay particular attention to the date format for registration dates – SQL is rather picky. Note that you specify both the date and time the registration opens and closes. There is also provision here for a late registration penalty – a date/time when it kicks in, and explicit fees for late registrations. The fees, late or otherwise, do not apply to those categories where no fee is charged for registration. Note too that there is provision for usernames for you, as the technical administrator, and quilt administrator for whoever is overseeing the quilt entries and fees as they come in. This could be the same person but does not need to be. Once you enter the new show information and year, you can go back and make that year the active year for the database.

The other thing that should be looked at before quilt registrations open is the Show Categories list. This list will be used to populate the pull-down list of categories on the registration form, calculate fees, and determine whether someone has too many entries in a category. This should be set before registration opens – changes here are not retroactive, except for the maximum entries that is checked every time a user logs in. Fees are never recalculated, and if a category disappears from the list, that category will still be in the database for any quilts already entered in that category. Finally, as is noted in the help file, entries 1 and 2 must be the Non-judged Display and Block of the Month categories. They may be renamed, but functionally

they must be the same since kit quilts can only be entered in those 2 categories, and the scripts check for it.

Once the various show committee chairs (hanging, judging, etc.) have created login accounts, you can go to the entrants list in the 'Show Admin' section, select their name, and set their administrative access to their particular area. They will then be able to access the necessary forms when they are ready.

Once registration closes, there are several things that need to happen sequentially:

1. The Registration chair verifies all category assignments, moving quilts between categories if necessary, and possibly splits traditional pieced into two smaller categories. The verification can occur while quilts are coming in – splitting will only happen after the registrations are closed;
2. Someone (probably registration chair) needs to verify that all fees have been paid. Any unpaid registrations should be removed before the hanging order is established;
3. Once this is done, the hanging committee chair can download the quilt category and size information (as a CSV file) and determine how the show will be hung. This may take a couple of days. She will assign the gallery numbers and then upload the Gallery Number information back to the database;
4. Once gallery numbers are assigned the database is effectively complete and closed. The various committee chairs can download the PDF documents that they need for their part of the operation and print them at their leisure. Another option is for one person to download them all and take them to a printer for printing.
5. The program section of the administration page has provision for downloading a CSV file with information for the quilt program. This can be imported into Excel or some other spreadsheet and used as a DB for a mailmerge type document to get program information.

Once the show is over, most of the data can be deleted from the database through the phpMyAdmin tool. Leave the entrants table, categories table, and Showdata table. Receipts and quilts can be cleaned out.

There are several files that are called through a javascript pop-up routine. Most of these are tied to the 'Help' button on the various screens. Four are used as part of the registration form itself. The OriginalDesign.html simply discusses briefly what is necessary for a quilt to be considered original design. The other three are not present in this distribution but are needed – they are the PDF files with the show rules, category descriptions and the Go-Texan rules. These files have historically resided on the Guild server. As noted above, the utilities.php file contains variables that should point to the URL of these files.

All of the *pdf.php files are scripts that write out PDF files for the various forms – there is no hypertext here at all. All of the coding is in the FPDF command set. The website www.fpdf.org has a manual describing the use of the library. When the PDF is generated, it is automatically sent for download on the local computer – the user is usually asked by their system whether to save the file or open it directly. These files are always generated on the fly, not stored and archived on the server. If a change is made in the database, it will be reflected in any subsequent PDF downloads – nothing explicit need be done to generate files with the changes.

Finally, the database includes a column for the date/time that a quilt was entered. This info is used only to calculate, or recalculate fees, when there is a penalty fee for registrations after a specified date. That date is specified in the Show Info table. The date is also displayed when an administrator looks at one entrants entries – it may be useful when there is a ‘discussion’ about when a quilt was entered. Also, the quilt idx numbers are sequential which gives information about the order in which quilts were entered.

Notes for the design of the quilt registration package

The following notes describe some of the design choices that went into coding the registration package. These will (may?) help if it becomes necessary to rewrite a portion of the code to add new features or change existing features. This information should not be necessary for normal, routine operation of the software package.

1. PHP session variables (\$_SESSION['var_name']) persist for a given browser session, and can be used to remember info for reentrant code. \$_SESSION['user_id'] will be used to keep track of a valid user login username. \$_SESSION['user_id'] will be used to keep track of a valid master user login, simply by being the master user name (sysadmin). For data entry purposes, it will be necessary to know the logged in user's id number, since this is used to link (and find) entered quilts. If \$_SESSION['user_id'] is defined, the user id number will be looked up as soon as the database is opened and stored in \$_SESSION['eid']. For convenience, two additional Session variables are defined at the same time: \$_SESSION['submitter'], the entrants name (Jane Doe) rather than username, and \$_SESSION['member'] entrants membership status, primarily for the fee calculation routine. \$_SESSION['firstname'] and \$_SESSION['lastname'] are also set as a convenience for filling in a quilt entry form, letting the Quilter and Quilt Maker default to the Entrant name. These are all effectively unset by clearing the base \$_SESSION['userid'] variable in the logout routine. *{Note on this note: The original idea of having a master sysadmin account proved to be unnecessary and is not implemented. All that is necessary is to set the permission mode of the main administrative user to 127 – sum of all administrative modes shown in admin.php lines 120-126. This is simply using 7 bits to flag 7 admin levels.}*

2. Pages are set with meta data in the header (<meta http-equiv="pragma" content="no-cache">) to prevent caching. This forces database information to be reread and refreshed every time navigation returns to a page - prevents display of stale information.

3. Navigation menus will change, depending on who, if anyone is logged in, and in the administration pages, by what administrative access they have. The system is pseudo 'state machine', where 2 variables are used to store the state of the system when jumping between functions. This is a pseudo system since the state variables are not really persistent (on the server) but are passed back and forth between the server and the client through web forms and the global \$_GET, \$_POST and \$_REQUEST arrays. The 'state' parameter is used to track the section of the admin package that is being used - admin, registration, etc. This is used in a case statement to do initial jumping to the proper part of the program the 'func' parameter (function) is then used to select the particular function within the scope of a particular section - list quilts, edit program info, etc. The necessary values are passed back to the server as either hidden input fields in a form (passed through \$_POST and \$_REQUEST) or as explicit command line arguments (admin.php?state=Admin) using the \$_GET, and \$_REQUEST arrays. Since both forms are used, the \$_REQUEST array is always used to get the value since it is common to both mechanisms. This is used primarily and heavily in the admin.php code, although user.php uses it as well.

4. Quilt Categories are stored in a table in the database. This is primarily a mechanism to keep track of the category names and making it easy to change categories in one place while avoiding issues with name comparisons in other places. That database table has 5 columns: an index, the category name, and a flag (yes/no) to indicate whether or not a fee is charged for entering a quilt in the category, a flag to indicate whether or not the category is judged, and a column to indicate the maximum number of entries a user is permitted for that category. Right now, Non-Judged Display and Challenge quilts are the only two that are flagged as free. The first two locations in the list, index 1 & 2, are special. Index 1 should be the Non-judged display category, and Index 2 should be the Kit/Block of the Month category. These two names are singled out when the category table is loaded, and passed to the javascripts that force Block of the Month and kit quilts into one of those two categories. Since the names are passed from the database table, the code does not have to be rewritten if it is desired to modify the name of the category. The Wearable category should not be renamed - this category name is used to determine whether to print a quilt judging form or a garment judging form.

The quilt categories table includes the category name and whether or not it is free to enter (display only, challenge....) and the maximum number of entries a given entrant can have in the category. The category names are used to generate the Options list for selecting a category. This eliminates having to rewrite code if the category list changes. However there should not be any changes to the categories list once registrations have opened - additions perhaps, but probably not deletions - unless care is taken to manually move existing entries in the deleted category. There is also an auto-incremented index number on the categories table that is currently unused. It could be used to reference the category in the table, but this becomes probably less convenient and with no particular benefit. The FREE field is used in calculating the fees for entering quilts.

5. JavaScripts are used in a couple of places on the entry form to enforce entry constraints. The code is written such that all the event handlers are set in a Javascript function executed when the page loads, rather than hardwired directly in the form buttons that trigger the events. This makes it very easy to know what triggers are being used rather than having to find the imbedded function calls within the body of the program. There is also a peculiar construction used to pass 2 category names (see #4 above) to the javascripts. When the database categories are loaded, the indices are tested and the two special category names are placed into PHP variables. These are then incorporated into the Title elements of a couple of constructions that do nothing except make that title element available to the Javascripts through the DOM. Clearly, other parameters can be passed the same way. The issue is that of when and where things happen. PHP code is executed on the web server and generates a (static) page of HTML for the browser. Javascript executes in real time on the browser when something is pressed or clicked on the webpage. At this time the PHP variables that generated the HTML no longer exist, only existed on the web server in the first place, and never existed in the browser. Putting the parameter value in a dummy HTML element passes it to the browser where the javascripts can access it.

6. Several different scripts will be used for different parts of the data processing. This will help ease navigation, compared to trying to put everything in one script with convoluted, nested if..then..else statements. This will require explicit file names for internal navigation, versus simple self-reference - maybe list them in a comment in the common header file area to simplify. The files used for running this are the index.php, which does the primary direction, the createid.php file to create userid entries, the user.php file which provides all of the user interactions to create and edit quilt entries, and the admin.php file that provides all of the administrative access to the database.

Quilt images will be stored as ./images/quilts[ShowYear]/quilt_eid_idx.jpg, where eid is the entrant id number and idx is the quilt id number. This guarantees a unique name that is also (somewhat) meaningful if tracking through the data manually. However, the quilt idx number is not known until the quilt entry is inserted into the database - it is an auto-incremented field to guarantee uniqueness. Consequently, a temporary unique file name is generated, based on time and date and appears as a random string of characters. This is used to store the quilt entry into the database, and the entry is then searched, based on this unique file name, to get the idx value of the entry. The permanent file name is then generated, stored back into the database, and the actual picture file is renamed. By default, quilt images will be stored in images/quilts[showyear] - it is not necessary to create this directory, it is created by the system the first time it is needed. It might be necessary to explicitly make images and/or images/quilts[showyear] world writable (777 mode) if images are not getting written out properly. This should not be necessary.

7. Date handling requires special consideration and understanding. There is a fundamental difference in the representation of dates in the SQL database and the PHP program files. SQL timestamps are a simple 19 character text string and SQL tends to be rather picky about proper syntax. Dates are represented as, for example, "2017-01-31 15:20:00" interpreted as January 31, 2017 at 3:20:00 PM. All 19 characters must be present. PHP on the other hand tracks time as seconds elapsed since "1970-01-01 00:00:00", in unix parlance the epoch. PHP routines can then take this number and display a 'real' date in virtually any format desired. This format makes it trivial to compare two dates - "is the quilt entry date greater than or less than the close of registration date?" becomes a simple numerical comparison. The utilities.php file has 2 utility routines, php2sql() and sql2php(), to make these conversions. Dates are always stored in the database as SQL timestamps and are converted to PHP representation for use in the program files. Note too that the day starts at midnight "00:00:00" and ends as 11:59 PM (23:59:59). Be careful if you want registrations to end at midnight that you are not off by a day.