

PHP / MYSQL DATABASE PROJECT – “TOP APPS”

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PROJECT OVERVIEW

Having been asked countless times by many people about what software I use and recommend, I used this idea as the theme of my project. The database webpage shows a list of software that I use, providing relevant information (software publisher, a description of it, and a link to its product website page) about the application.

If the user clicks on an application listing, they will be brought to a page with more details about that application.

The user is able to search for a specific item, as well as filter the search results.

They are also able to add and modify the application details

WEBSITE FEATURES

Sorting

By clicking on either the **Product Name**, **Publisher**, or **Category** table headers, the webpage will show a sorted list of items, going either ascending or descending in name.

HOME

VIEW ALL

VIEW RANDOM

ADD APP

Product Name	Publisher	Description
@iconsushi	Towofu	@Icon sushi is a 32bit/Windows
7-Zip	Igor Pavlov	7-Zip uses its own printing options from a command
astroGREP	Theodore L. Ward & Curtis Beard	AstroGrep is a file printing options

Sort by Product Name, A to Z

HOMEVIEW ALLVIEW RANDOMADD APP

Product Name	Publisher	Description
Workstation	VMware	Discover the true power of VMware Workstation. Reduce hardware costs by 50%.
WinOFF	AMPsoft	AMP WinOFF is an utility that can be used to remove files and folders from a system and fully configurable.
WinDirStat	WinDirStat	WinDirStat is a disk usage analyzer for Windows.

Sort by Product Name, Z to A

Search Filtering

Application listings can be filtered by name or category. This can be done respectively by typing in the Search bar, or selecting a category from the rightmost table column.

HOME

VIEW ALL

VIEW RANDOM

ADD APP

Google

Product Name	Publisher	Description
Chrome	Google Inc.	A free web browser developed by Google from the open source Chromium project. Chrome offers fast start-up and web page loading, sports a multi-tab interface, and has a built-in ad blocker.
Google Drive	Google Inc.	Google Drive is a file storage and synchronization service which allows users to store, sync, and share files and folders across devices.

Searching for “Google”

HOME	VIEW ALL	VIEW RANDOM	ADD APP
Viewing applications in OS & Utilities			
<input type="text" value="Search"/>			
Product Name	Publisher	Description	Product Website
ColorMunki	ColorMunki	ColorMunki is a useful utility that gives the user the power to view and transform a number of different color formats. You can use the built-in wizard to convert your color...	colormunki.com/usage.php
DoD Capture	DoD Capture	DoD Capture offers products and solutions ensuring excellence in digital imaging.	dodcapture.com/photography.php
Illustrator	Adobe	Design quickly and confidently with Adobe Illustrator software. Sophisticated tools for drawing and typography, along with advanced color controls and creative effects, provide a comprehensive vecto...	adobe.com/products/illustrator
Offload	Red Giant Software	Offload is a copy utility for media card files. Get your footage and stills off your camera safely and quickly with complete trust.	redgiant.com/products/offload
PHOTO NET	PHOTO NET LLC	PHOTO NET is a free image and photo editing software. It features an intuitive and innovative user interface with support for layers, unlimited undo, special effects, and a wide variety of outputs and...	photo-net.net
Photoshop	Adobe	Photoshop was created in 1988 by Thomas and John Knoll. Since then, it has become the de facto industry standard in raster graphics editing, such as the visual "language" of no business web as in "to...	adobe.com/products/photoshop
Vector Magic	Vector Magic, Inc.	Vector Magic automatically converts bitmaps (images like JPEGs, GIFs and PNGs) to the crisp, clean, scalable vector art of EPS, SVG and PDF.	vector-magic.com
WinDirStat	WinDirStat	Single Image Super Resolution for Aerial, Space and High-Resolution Satellite Networks. And it supports photo...	win.dirstat.jp

Filtering by category “OS & Utilities”

| Application Information Page

By clicking on an application’s table row, the user will be directed to that application’s page, where more information of the application is shown. Application details can be edited by clicking on the **[Edit Information]** link following the application description.

HOMEVIEW ALLVIEW RANDOMADD APP

Everything

Publisher: Voidtools

Product Link: voidtools.com

Category: Office & Productivity

"Everything" is an administrative tool that locates files and folders by filename instantly for Windows. Unlike Windows search "Everything" initially displays every file and folder on local or removable NTFS volumes on your computer then the name "Everything", and on mapped network drives with ETP server and an everything installation too. You type in search filter to limit what files and folders are displayed. 19 languages supported.

[\[Edit Information\]](#)

Application Information Page

HOMEVIEW ALLVIEW RANDOMADD APP

Product Name

Everything

Publisher

Voidtools

Category

Office & Productivity

Website

http://www.voidtools.com/

Description

"Everything" is an administrative tool that locates files and folders by filename instantly for Windows. Unlike Windows search "Everything" initial computer (hence the name "Everything"), and on mapped network drives with ETP server and an everything installation too. You type in a search filter to limit what files and folders are displayed. 19 languages supported.

Edit

Application Information Editing Page

| Random Application

By clicking on the **View Random** link the user will be directed to a random application information page.

| Adding Applications

By clicking on the **Add App** link the user will be able to add in new application details into the database.

HOMEVIEW ALLVIEW RANDOMADD APP

Product Name

Cool Application

Category

- select a category -

Website

http://coolsite.com/coolapplication

Description

Cool application description. This app does cool stuff

Submit

| Scroll To Top

A ‘back to top’ function is included to scroll to the top of the page (hint: turn on sound!)



DATABASE STRUCTURE

| Database Table Overview

My database consists of two tables, `applicationdb` and `categorydb`. The former table contains records about each application in the database (name, publisher, description, website link, *categoryid*). The latter contains a list of category names, associated to a unique ID (referred to as *categoryid*).

| Data Dictionary

Table: `applicationdb`

Name	Data Type	Description
AID	Integer (primary key)	ID number of application entry
Product Name	String	Name of the application
Publisher	String	Application publisher
Description	String	Information about the application
Product Link	String	Website to the product page
CategoryID	Integer	Category ID associated to the product

Table: categorydb

Name	Data Type	Description
CategoryID	Integer (primary key)	ID number of category entry
CategoryName	String	Name of the category

| Data Redundancy & Linking Tables

Data redundancy was reduced by creating a category table, and associating each application with an ID linked to a category. Effectively, this would reduce the size of the database (as the actual name of the category is only stored once, compared to being stored in each record), and also allowed for easier searching and filtering functions. I decided against also doing the same with the Publisher field, as there were more distinct entries than repeated ones for this number of listings, however this would be advisable for a larger database.

INSPECTING THE DATABASE SOURCE CODE (KEY SECTIONS)

| Initialising Database Connections: ./lib/dbconnect.php

```
<?php

$db_server = "localhost"; // Connect to server at localhost:3306
$db_username = "andreww"; // Login as user "andreww"
$db_password = "andrew"; // Authenticate with password "andrew"
$db_database = "andreww"; // Open database "andreww"

$db = mysql_connect($db_server, $db_username, $db_password);
mysql_select_db($db_database)

?>
```

This php file connects to the MySQL server, and opens the database for the other functions to use.

| Editing and Adding Application Details: ./manage.php

```
include_once "lib/dbconnect.php";

/* Handle form submits by adding or editing the data in the SQL database */
if ($_SERVER['REQUEST_METHOD'] === 'POST') {
    ...

    if ($aid) {
        // if $aid is present, then the data is for an application edit
        $sql = "UPDATE `applicationdb` SET `Product Name` = '$inputName', `Publisher` = '$inputPublisher', `Description` = '$inputDescription',
`Product Link` = '$inputWebsite', `Category` = $inputCategory WHERE `aid` = $aid";
    } else {
        // if $aid doesn't exist, then the data is for a new application
        $aid = mysql_num_rows(mysql_query("SELECT * FROM `applicationdb`", $db)) + 1; // Get next application ID
        $sql = "INSERT INTO `applicationdb` (`AID`, `Product Name`, `Publisher`, `Description`, `Product Link`, `Category`) VALUES ($aid,
'$inputName', '$inputPublisher', '$inputDescription', '$inputWebsite', $inputCategory)";
    }

    $s = mysql_query($sql, $db); // Execute query
    header("Location: query.php?aid=$aid"); // Redirect to application page
}
```

```
"UPDATE `applicationdb` SET `Product Name` = '$inputName', ... WHERE `aid` = $aid";
```

This SQL statement edits a record in the database

```
"INSERT INTO `applicationdb` (`AID`, ...) VALUES ($aid, ...)";
```

This SQL statement adds a new record into the database

```
/* Get existing information for information editing */
if (isset($_GET['aid'])) {
    ...

    $sql = "SELECT `Product Name`, `Publisher`, `Description`, `Product Link`, `CategoryID`, `CategoryName` FROM `applicationdb`, `categorydb`
where applicationdb.Category = categorydb.categoryid AND applicationdb.aid = $aid";

    $s = mysql_query($sql, $db);

    if (!mysql_num_rows($s)) header("Location: query.php"); // Check that the application id exists, else redirect to the entire listing
    $record = mysql_fetch_array($s);
```

```
...
$sql = "SELECT `categoryid`, `categoryname` FROM `categorydb`;
$s = mysql_query($sql, $db);
while ($record = @mysql_fetch_array($s)) {
    echo "\n          <option value='{${record['categoryid']}'}" . (@$appcati == $record['categoryid'] ? " selected" : "") .
">{${record['categoryname']}}

```

This SQL statement queries for a specific application entry in the database

Retrieving Application Details: ./query.php

```
...
$order = " ORDER BY `${sortsubject}` `${sortdirection}`";

...
$sql_category = isset($_GET['cat']) ? " AND applicationdb.Category = " . $_GET['cat'] : ""; // Set category filter if present

$sql = "SELECT `AID`, `Product Name`, `Publisher`, `Description`, `Product Link`, `CategoryID`, `CategoryName` FROM `applicationdb`,
`categorydb` where applicationdb.Category = categorydb.categoryid" . $sql_category . $order;
$s = mysql_query($sql, $db);

...
while ($record = @mysql_fetch_array($s)) {
...
    echo "          <tr onclick='window.location.search=\"aid=${appid}\"'><td class='searchName'>${appname}</td><td
class='searchPublisher'>${apppubl}</td><td>${appdesc}</td><td><a href='${appsite}'>${appsite}</a></td>" . (!isset($_GET['cat'])) ? "<td
class='searchCategory'><a href='query.php?cat=${appcati}'>${appcate}</a></td>" : "" . "</tr>\n";
    }
    echo "          </tbody>\n          </table>\n          <script src='js/site.js'></script>\n";
} else {
    /* Specific application */
    $sql = "SELECT `Product Name`, `Publisher`, `Description`, `Product Link`, `CategoryID`, `CategoryName` FROM `applicationdb`, `categorydb`
where applicationdb.Category = categorydb.categoryid AND applicationdb.aid = $aid";

    $s = mysql_query($sql, $db);
    $record = mysql_fetch_array($s);

    ...
    echo "          <h1>${appname}</h1>\n          <h5>Publisher: ${apppubl}</br>\n          Product Link: <a href='${appsite}'>" .
preg_replace('/.*?:\//(?:(www.)?(.+))\//?$/','${1}', $appsite) . "</a></br>\n          Category: <a
href='./query.php?cat=${appcati}'>${appcate}</a></h5>\n          ${appdesc}</br>\n          </br>\n          <i><a href='./manage.php?aid=${aid}'>[Edit
Information]</a></i>\n";
}

$order = " ORDER BY `${sortsubject}` `${sortdirection}`";
```

This SQL statement snippet modifies the order of the database query results

```
$sql_category = isset($_GET['cat']) ? " AND applicationdb.Category = " . $_GET['cat'] : "";
```

This SQL statement snippet specifies the categoryid to filter from the database if necessary

```
"SELECT ... FROM `applicationdb`, `categorydb` where applicationdb.Category = categorydb.categoryid" .
$sql_category . $order;
```

This SQL statement queries for all application entries in the database optionally filtered by category, and optionally returned in a sorted order

Viewing a Random Application: ./random.php

```
<?php
include_once "lib/dbconnect.php";

$sql = "SELECT * FROM `applicationdb`;
$s = mysql_query($sql, $db);
$num_rows = mysql_num_rows($s);
header("Location: query.php?aid=" . mt_rand(1, $num_rows));
?>
```

This php file opens the applicationdb table, and counts the number of rows (that is, the number of application entries) in the database, and redirects the user to a random application page

CREATING A MYSQL DATABASE WITH PHPMYADMIN

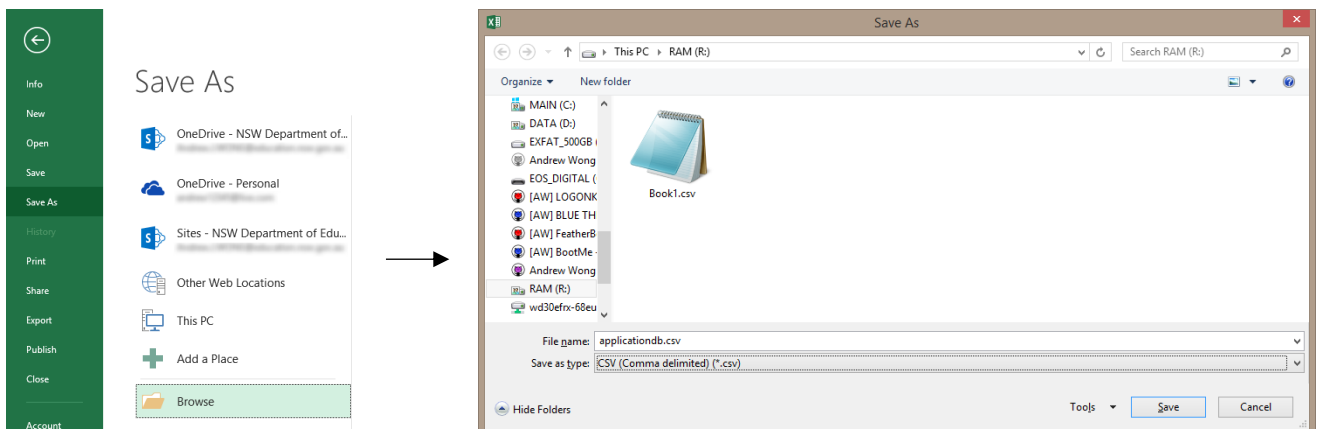
phpMyAdmin is an interactive website tool to help assist in the administration of MySQL databases

Designing and populating a database can all be done internally inside phpMyAdmin, however for simplicity we will be using Microsoft Excel to enter in data, which can then later be imported into the database

1) Create an excel spreadsheet with your data (optionally including headers)

	A	B	C	D	E	F
1	AID	Product Name	Publisher	Description	Product Link	Category
2	1	@icon sushi	Towofu's SOFT	@icon sushi is an image t	http://www.towofu.net/soft/e-aicon.php	9
3	2	7-Zip	Igor Pavlov	7-Zip uses its own 7z arch	http://7-zip.org/	8
4	3	astroGREP	Theodore L. Ward & Curtis Beard	AstroGrep is A Microsoft	http://astrogrep.sourceforge.net/	8
5	4	Audacity	The Audacity Team	Audacity is free, open sou	http://audacityteam.org/	1
6	5	Blender	Blender Foundation	Blender is the free open	http://www.blender.org/	1
7	6	Chrome	Google Inc.	A free web browser	https://www.google.com/chrome	11
8	7	ClickMonitorDDC	mapini	ClickMonitorDDC can	http://clickmonitorddc.bplaced.net/	8
9	8	ColorPix	ColorSchemer	ColorPix is a useful little	http://www.colorschemer.com/colorpix_info.php	9
10	9	Dropbox	Dropbox Inc	Put your files into your Dr	https://www.dropbox.com/	3
11	10	Duet Display	Duet Inc	Duet makes your iPad	http://www.duetdisplay.com/	8
12	11	DxO OpticsPro	DxO Labs	DxO Labs offers products	http://www.dxo.com/us/photography/photo-software/dxo-opticspro	9
13	12	Everything	Voidtools	"Everything" is an admini	http://www.voidtools.com/	8
14	13	f.lux	f.lux Software LLC	Ever notice how people	https://justgetflux.com/	8
15	14	FeedDemon	Nick Bradbury	FeedDemon is a popular f	http://www.feeddemon.com/	6
16	15	Fences	Stardock	Fences is a one-of-a-kind	http://www.stardock.com/products/fences/	8
17	16	Fiddler	Telerik	Fiddler is a Web Debuggir	http://www.telerik.com/fiddler	5
18	17	FileZilla	FileZilla Project	FileZilla is a powerful FTP	http://filezilla-project.org/	5

2) Export your data as a CSV file.



3) Navigate to phpMyAdmin with your web browser

4) Create a new database



5) Import the CSV files into the new database

Importing into the database "newdatabase"

File to import:

File may be compressed (gzip, bzip2, zip) or uncompressed.

A compressed file's name must end in `[format].[compression]`. Example: `.sql.zip`

Browse your computer: No file chosen (Max: 2,048KiB)

You may also drag and drop a file on any page.

Character set of the file:

5.5) If the data was created with headers, select the following option

Format-specific options:

- ☒ The first line of the file contains the table column names (*if this is unchecked, the first line will become part of the data*)
- ☐ Do not abort on INSERT error

6) Rename the table

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 24 (61 total, Query took 0.0004 seconds.)

`SELECT * FROM `table 1``

1 > >> Show all Number of rows: 25 Filter rows: Search this table

+ Options

AID	Product Name	Publisher	Description	Product Link
1	@icon sushi	Towofu's SOFT	@icon sushi is an image to icon converter that sup...	http://www.towofu.net/soft/e-aicc
2	7-Zip	Igor Pavlov	7-Zip uses its own 7z archive format, but can read...	http://7-zip.org/
3	astroGREP	Theodore L. Ward & Curtis Beard	AstroGrep is A Microsoft Windows GUI File Searchin...	http://astrogrep.sourceforge.net/
4	Audacity	The Audacity Team	Audacity is free, open source software for recordi...	http://audacityteam.org/
5	Blender	Blender Foundation	Blender is the free open source 3D content creatio...	http://www.blender.org/
6	Chrome	Google Inc.	A free web browser developed by Google from the op...	https://www.google.com/chrome
7	ClickMonitorDDC	mapini	ClickMonitorDDC can adjust brightness and contrast...	http://clickmonitorddc.bplaced.net/
8	ColorPix	ColorSchemer	ColorPix is a useful little color picker that grab...	http://www.colorschemer.com/cc

Privileges Operations Tracking

Table options

Rename table to: applicationsdb

☒ Adjust privileges

Table comments:

Storage Engine: InnoDB

Collation: utf8_general_ci

☐ Change all column collations

ROW_FORMAT: COMPACT

Go

Done!

Showing rows 0 - 24 (61 total, Query took 0.0003 seconds.)

`SELECT * FROM `applicationsdb``

[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

1 > >> Show all Number of rows: 25 Filter rows: Search this table

Sort by key: None

+ Options

	AID	Product Name	Publisher	Description	Product Link	Category
<input type="checkbox"/> Edit Copy Delete	1	@icon sushi	Towofu's SOFT	@icon sushi is an image to icon converter that sup...	http://www.towofu.net/soft/e-aicon.php	9
<input type="checkbox"/> Edit Copy Delete	2	7-Zip	Igor Pavlov	7-Zip uses its own 7z archive format, but can read...	http://7-zip.org/	8
<input type="checkbox"/> Edit Copy Delete	3	astroGREP	Theodore L. Ward & Curtis Beard	AstroGrep is A Microsoft Windows GUI File Searchin...	http://astrogrep.sourceforge.net/	8
<input type="checkbox"/> Edit Copy Delete	4	Audacity	The Audacity Team	Audacity is free, open source software for recordi...	http://audacityteam.org/	1
<input type="checkbox"/> Edit Copy Delete	5	Blender	Blender Foundation	Blender is the free open source 3D content creatio...	http://www.blender.org/	1
<input type="checkbox"/> Edit Copy Delete	6	Chrome	Google Inc.	A free web browser developed by Google from the op...	https://www.google.com/chrome	11
<input type="checkbox"/> Edit Copy Delete	7	ClickMonitorDDC	mapini	ClickMonitorDDC can adjust brightness and contrast...	http://clickmonitorddc.bplaced.net/	8
<input type="checkbox"/> Edit Copy Delete	8	ColorPix	ColorSchemer	ColorPix is a useful little color picker that grab...	http://www.colorschemer.com/colorpix_info.php	9

MORE SOURCE INSPECTION (WEBSITE SPECIFICS)

| Header, Footer, Includes: ./globals/header.php & ./globals/footer.php

```
// START OPTIONS
```

```
$pageElevator = false;
$pageNavigation = true;
$pageTitle = "TopApps";
```

```
// END OPTIONS
```

All php webpages in this project include a variation of the above. These variables set options for the header.php file.

```
include_once 'globals/header.php';
```

This line executes the header.php file located in the globals directory

```
include_once 'globals/footer.php';
```

This line executes the footer.php file located in the globals directory

File: header.php

```
if (@$pageElevator) {echo "<script src='js/elevator.min.js'></script>\n";}
```

If the \$pageElevator variable is set to true, insert the Elevator JS page scrolling JavaScript library

```
echo "<title>$pageTitle</title>\n";
```

Insert the HTML page title tag

```
if (@$pageNavigation) { echo "..."
```

If the \$pageNavigation variable is set to true, show the navigation bar at the top of the page

File: footer.php

```
if (@$pageElevator) { echo "..."
```

If the \$pageElevator variable is set to true, insert the HTML page elements to use the page scrolling function

| URL Hash <-> Search Box Synchronisation: ./js/site.js

```
var elemSearchFilter = document.getElementById("searchFilter");
elemSearchFilter.value = window.location.hash.substr(1);
elemSearchFilter.oninput = function () {window.location.hash = this.value;}
window.onhashchange = function () {
    filterSearch.search(hash = window.location.hash.substr(1));
    elemSearchFilter.value = hash;
}
```

This code synchronises the value of the URL hash with the value of the search box.

The URL hash is the string after the # sign in a URI (ie VALUE in query.php#VALUE)

WORK DIARY

9/10 - Decide to make a database about my top used software / applications
10/10 - Create main page (query.php)
12/10 – Begin populating database content in Excel
17/10 – Finish populating database content
18/10 – Export spreadsheet in Excel to MySQL through phpMyAdmin
23/10 – Create database connection PHP file (dbconnect.php)
25/10 – Implement category filtering
2/11 – Create HTML/PHP landing page (index.php)
3/11 – Create random application function (random.php)
5/11 – Fix category notifier
8/11 – Create new entry function (manage.php)
9/11 – Add images into landing page
10/11 – Implement entry editing functionality
13/11 – Code refactoring and directory structure housekeeping
15/11 – Modify PHP echo outputs to follow HTML code formatting indentations
16/11 – Implement detailed application view
18/11 – Modify CSS to look nice (site.css)
23/11 – Fixed line breaks (\n) not appearing as web page line breaks (</br>)
28/11 – Fixed manage.php database functions when quotations marks are present in the data of the variables
29/11 – Implement search functionality into webpage
1/12 – Implement search ability through the URL hash
2/12 – Fix search box <-> hash synchronisation
3/12 – Fix query output to show first record (was accidentally discarding the first entry)
8/12 – Write project report
9/12 – Finish project report
10/12 – Revise project report
10/12 – Project complete