



of course

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WINTER 2005

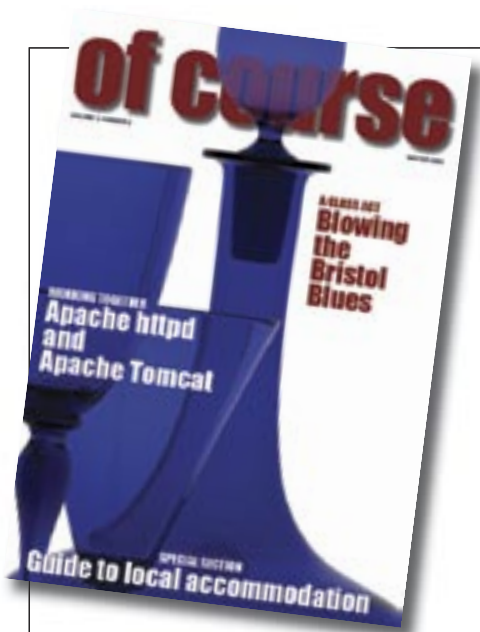
A GLASS ACT
**Blowing
the
Bristol
Blues**

WORKING TOGETHER

**Apache httpd
and
Apache Tomcat**

SPECIAL SECTION

Guide to local accommodation



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He who dares, forums

It's traditional ... at the end of your training course, the last you ever see of your tutor is the tail lights of his car as he turns the corner out of your office.

I admit it. I was frightened.

Here was Lisa suggesting that we provide a feedback page where people, where *anyone*, can ask questions about the subjects we teach, about the examples we provide, and about us. A page where people can come after their course and ask, "I tried this but can you give me a further explanation?" or "Why isn't this working?" or "Can you suggest an easier way?"

It hadn't been tried before. Oh, there are now plenty of forums on the Internet, but when Opentalk was launched there were far fewer. And there remain very few open forums operated by training companies. Yet Lisa had it exactly right; we've now got more than 600 registered users and it *does* give our customers another way besides emails to get back to us after the course, and to stay in touch, continuing to learn long after the course has ended.

It is quite a task answering the questions that come up every day. And I've been doing it now for a couple of years. So what's in it for me? Why do I do it?

It helps me know what questions are being asked at the moment so that courses can be updated to reflect current requirements. It keeps adding question-and-answer content to our web site so that people using the search engines get directed to us more and more. And it keeps us in contact with our customer base so that ... if ... they need more training in the future, or have a colleague who asks about learning the same skills, then they'll remember us and refer that colleague through.

But most importantly, at the end of your course, you don't see the last of your tutor.



Melksham Marketplace in the town centre is only a mile from our training centre

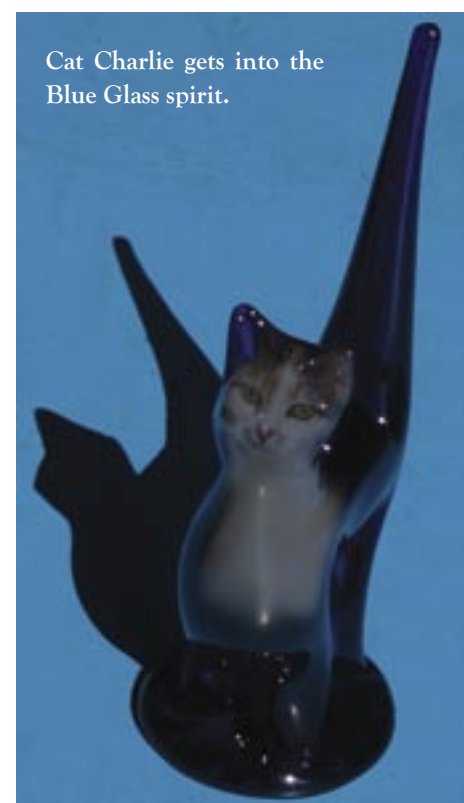
Is it the place to be?

"Is Melksham the right place to have our training centre?"

A question we ask ourselves from time to time, and we come up with a resounding, "Yes, it is!"

The town's well connected - it's just 90 minutes by train from London and about 20 minutes off the M4. Our training centre is purpose-fitted for the Open Source courses we run, in a quiet and historic building, and yet with the best of facilities, ranging from the "best coffee in the West" through to a library of more than 600 books, and 10Mbit Internet right to your training system.

In the evenings, there are places to go, places to eat, and there's plenty of places to stay. As we updated our accommodation list for this issue, we wrote to more than 50 separate establishments within a few miles. You'll find that our new list includes many old favourites, with a fresh sprinkling of new blood.



Cat Charlie gets into the Blue Glass spirit.

Geekmas back by popular demand

We're celebrating Geekmas again this year on the 26th and 27th of November at our training centre at 404, The Spa, Melksham. Join us for two days of informal discussions and lecturettes with enthusiasts who want to get together with other enthusiasts. See <http://www.wellho.net/net/geekmas.html>.

The free seminar starts late morning on Saturday, 26th November 2005. Snacks are provided at lunchtime, and the seminar continues to early evening, when we'll adjourn

to the local Indian restaurant (going dutch there!). The seminar picks back up Sunday morning and carries on until lunchtime. See our accommodation list in this issue if you want to stay overnight, and please let us know if you'll be coming.

Last year's Geekmas was a fun gathering of around a dozen techie friends and I managed to persuade some to give a short talk. I'm hoping to get at least half the people who come to do a 10-minute turn this year!

Wiki Watch

Since I wrote the last edition of “Of Course”, we seem to have been busier than ever, and I took the opportunity as I travelled to courses, to meetings, and on holiday to put together a picture album of my travels using a demonstration piece of wiki software written in PHP, and with code taken from the mapping application described on pages 16 and 17 to let you see just where the pictures were taken.



<http://www.wellho.net/share/bath.html>



<http://www.wellho.net/share/bowood.html>

Start off your exploration of our area at:
<http://www.wellho.net/share/melksham.html>

What is a wiki?

It's a content management system where a user can click on a button that says “I want to edit this page” and easily change the content. No fuss, no hassle. It's a Web Page for Dummies, so to speak. Extra pages can be easily added. We've chosen to add new pages by simply (mis-)typing a word, starting with capital letter and including a capital letter in the middle too. For instance, typing “NonSense” anywhere in a paragraph of text will not only identify this word as being clickable, but it will create a referring web page, too.

A WORD FROM GRAHAM ELLIS

A glass act

This has been yet another record-breaking year for Well House Consultants. We've had to schedule extra courses in such popular topics as Apache httpd and Tomcat deployment, and increased the frequency of this and of other courses, such as Python Programming. Private course bookings are being made well ahead, although we can usually find short term availability if you need to get a group trained urgently and you're flexible.

An obscure cul-de-sac in a little market town in Wiltshire seems a strange location for a successful high tech training centre such as ours. How do we do it? By providing a thumping good service so that our customers become our friends and our ambassadors. By networking and giving technical assistance and advice above and beyond what's expected to our customers, and indeed to any enquirer we can reasonably help. And by making sure that our services are known about by blowing our own trumpet (or blue glass) in “The Horse's Mouth”, via our Opentalk forum, and via this newsletter, “Of Course”.

We bring business to Melksham. The majority of our trainees travel some distance and stay locally during the course, eating at local hotels and restaurants. In



Graham learns the art of blowing glass from Ben Taylor of Bristol Blue Glass, who learned from Graham some skills for their web site (see pages 9 through 13 for more).

this edition, we've updated our accommodation list (pages 16 and 17). Recently we've got much more involved in other aspects of the Melksham community too. Many of our customers arrive by train, but under the new franchise arrangement the services they use are being slashed out of existence. Our campaigning web site at <http://www.savethetrain.org.uk>, covered in more detail on pages 20 and 21, is informing people who live around here, and decision makers too, as to how vital the service is for us and the community, and we're hoping to get the decision amended.

The X-Y-Z's of knowing when to share

If you write a simple web application, you'll be taking the user's form input and other data you can glean (such as his IP address and previous page [referrer]), and performing actions that give a result. These results can be calculations, database lookups or a combination thereof. When you've sent the result back out to the user, the connection is completed and the server's resources are released.

As applications get more complex, the user inputs will be made in a series of pages that need to be linked together into a session and, most commonly, cookies will be used to provide the string to tie together the requests from User X and keep them apart from the requests of User Y. Such segregation is vital. User X, booking a ticket to Newark, really doesn't want his booking mixed up with Y, who is planning

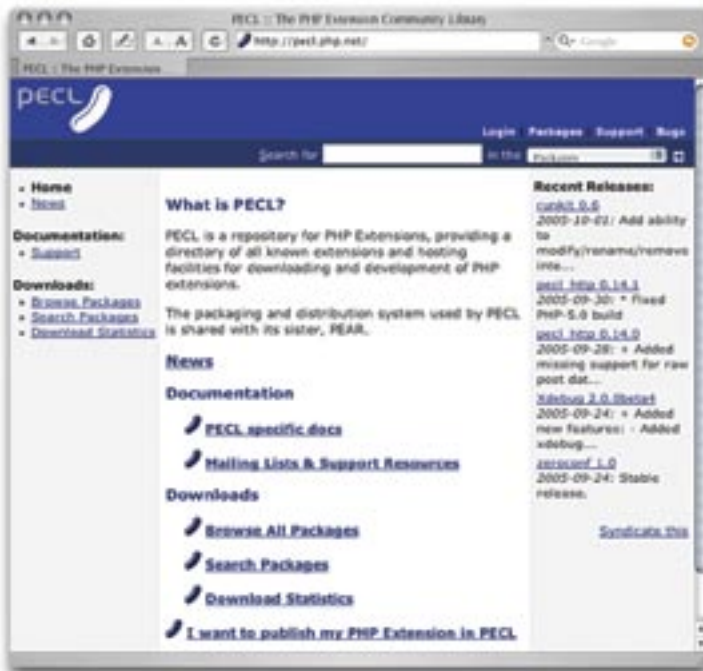
a journey to Dover.

There are times, though, that inputs from different users must be shared. Any system that's selling a product with a limited stock level needs to take account of the number of each product already spoken for, and a sale of the very last copy of a book to User W means that the site must tell User Z that you're sold right out.

There are three levels (or persistences) of information in web applications. There is transient data used within a single request, session data used within a series of requests from a single user, and application-wide data that's shared between all users of the application. It's vital for the application designer to be aware of all three categories, and to be able to identify which data should be given which globallity and persistence.



Function Convention



"There's a function to do that."

So I say on every PHP course. Because there's a function to do almost anything standard that you want.

That's why I can take a morning to code something for a web site in PHP that would take me a week in C.

Of course, the devil is in the detail. Note I wrote that there's a function to do ALMOST anything STANDARD ...

Some standard facilities that you'll want in PHP don't lend themselves to handling through a single function. Take sessions, for example. Sessions occur when a user wants to visit a series of pages, making selections on the way through, and has his information and context remembered for when he's completed his use of the site. But he certainly doesn't want his information mixed

up with other user's data! PHP provides a built-in solution through the `$_SESSION` superglobal array, and a series of functions such as `session_start`. And a lovely solution it is too.

You want something nonstandard? Well, there just might be a function to help on the PECL or PEAR (that's the PHP Extension Community Library and the PHP Extension and Application Repository), or

you can write your own function.

With your own function, the world is your oyster. Write it once, save it in an included file, and you have your own PHP extension. We have a single included file for almost every page of our site.

Here's a call from our "Save the train" site that we use to return a string that contains the HTML to tell the user when the next train to Chippenham and Swindon leaves:

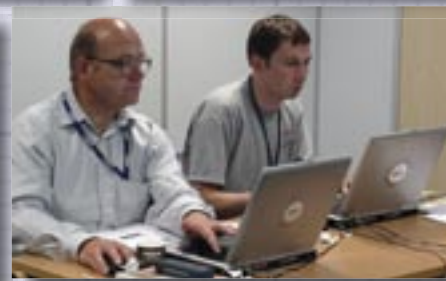
```
$mtof = array("05,52,t","07,45,o","13,35,t","17,02,t","21,33,o");
$stat = array("08,01,t","13,35,t","17,00,t","21,50,t");
$sun = array("12,44,t","16,43,t","21,03,t");
if ($engworks) {
    $stat = array("08,20,b","13,50,b","17,15,b","22,10,b");
    $sun = array("12,59,b","17,00,b","21,04,b");
}
$swindon = nexttrain("Chippenham and Swindon",$mtof,$stat,$sun);
```



Brag Blog

Ah, it's a hard life, but someone's got to do it.

We have a lot to brag about! Students on courses ... we're proud to have trained a wide variety of students on public and private (single company) courses, at our training centre and at their offices throughout the British Isles and be-



Expect for Windows

A sizable minority of trainees on Tcl courses are Tcl mainly because of its Expect extension, which allows the programmer to automate a series of command line actions, starting them with a “spawn” command, sending text via the “send” command, and checking the response via “expect”.

Expect runs the process(es) you spawn in parallel to your expect script, and it can also support multiple simultaneous processes; this has made it difficult to port to operating systems which don't have a Unix-type base (i.e. to Microsoft Windows); past releases have been old and flaky with the exception of Active State's release which was a licensable product.

I'm delighted to report that ActiveState's Expect is now freely distributed and I've just downloaded a copy and had a “play”. Worked very nicely in my limited test.

```
# Expect for Windows - ping a host and guess its distance from you
# tested on ActiveState release 8.4.11

source expect.tcl
log_user 0
spawn ping $argv

expect -re {[<=]([0-9]+)ms} {
    puts "alive - $expect_out(1,string) ms trip time"
    if {$expect_out(1,string) > 250} {
        puts "Server is very distant (e.g. Australia)"
    } elseif {$expect_out(1,string) > 100} {
        puts "server is distant (e.g. USA)"
    } elseif {$expect_out(1,string) > 3} {
        puts "server in in Europe"
    } else {
        puts "Server is Local"
    }
} timeout {puts "No response from server"}
```

Above is a script that pings a server and - rather than reporting back a page of stats - just guesses how far away the server is. Running that and testing all possible pieces of code, we get:

```
C:\Tcl\lib\expect>tclsh plet www.wellho.net
alive - 173 ms trip time
server is distant (e.g. USA)
```

```
C:\Tcl\lib\expect>tclsh plet www.savethetrain.org.uk
alive - 26 ms trip time
server in in Europe
```

```
C:\Tcl\lib\expect>tclsh plet 192.168.200.66
alive - 1 ms trip time
Server is Local
```

```
C:\Tcl\lib\expect>tclsh plet 192.168.200.69
No response from server
```

```
C:\Tcl\lib\expect>tclsh plet www.csu.edu.au
alive - 324 ms trip time
Server is very distant (e.g. Australia)
```

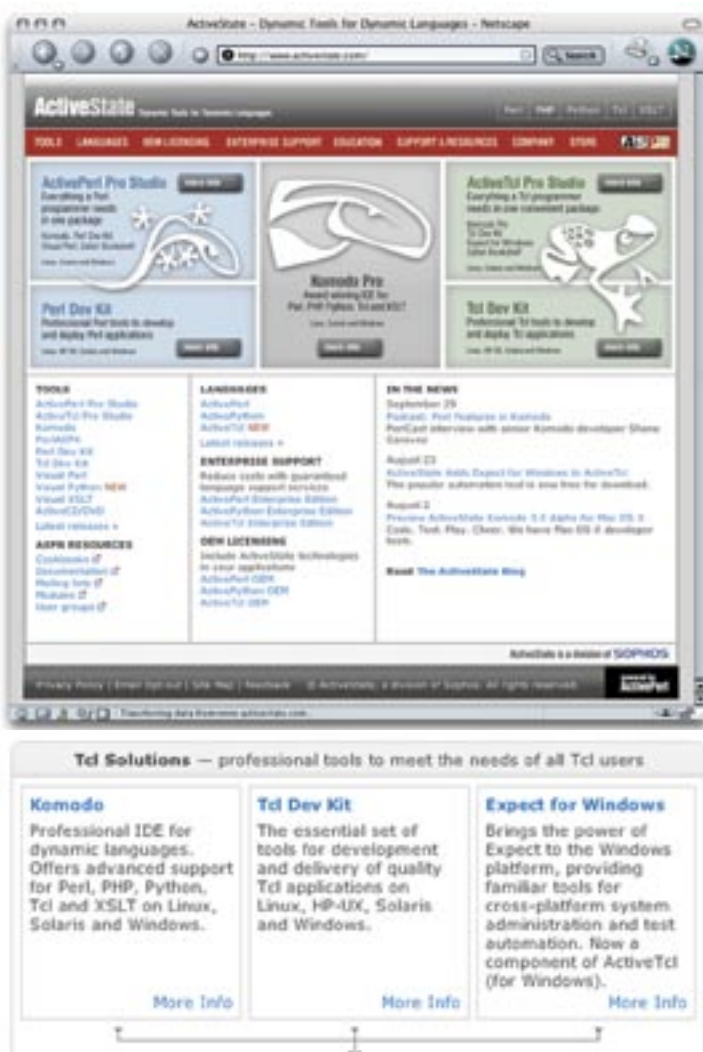
All of which look very much as I would have hoped!

Download Expect for Windows from the ActiveTcl directories at:

<http://www.activestate.com>

Learn how to program in Tcl and Expect on our Tcl course; see:

<http://www.wellho.net/course/tbfull.html>

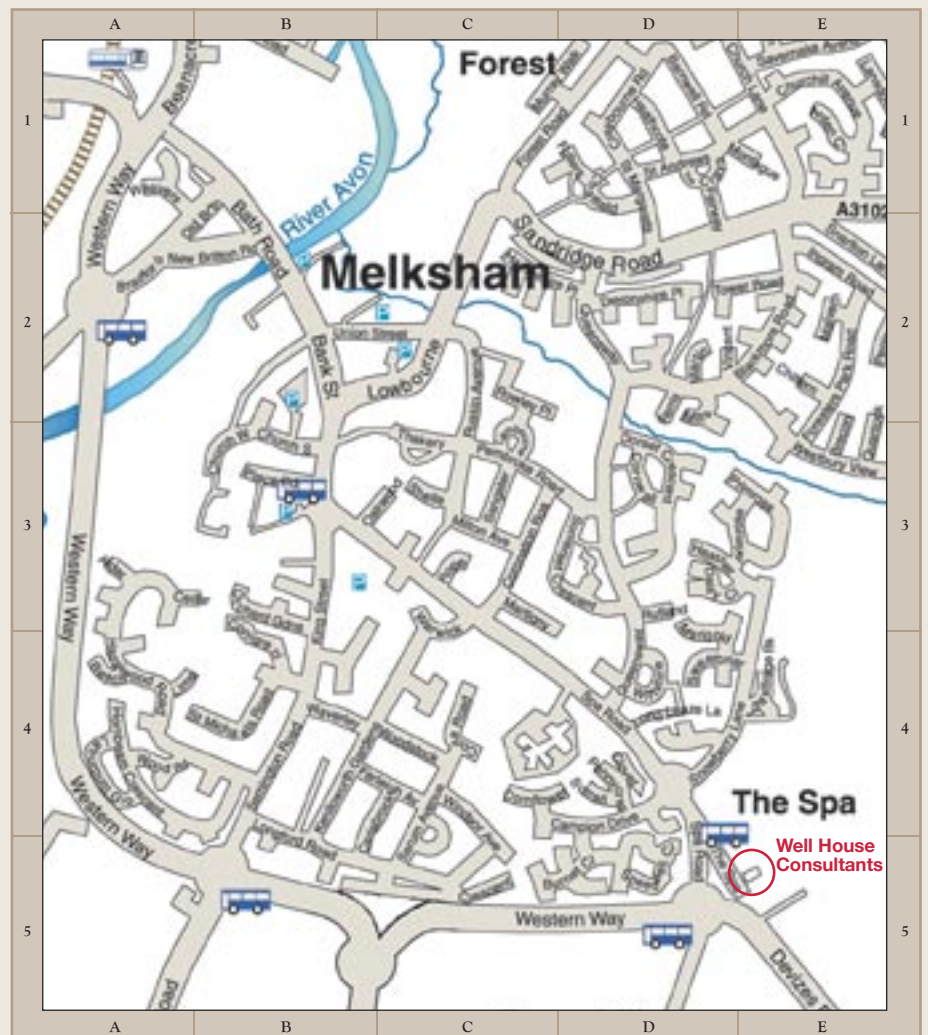


Getting to our training centre

DIRECTIONS FROM THE M4

1. Start out at M4 Jct 17 (A350/A429/B4122), Wilts
Follow signs for Chippenham on the A350
2. Malmesbury Road Roundabout
At roundabout take 2nd exit following the A350
3. A350 Badger
At roundabout continue forward
4. Brook
At roundabout continue forward
5. Bumpers Farm (Junction with A420)
At roundabout take 3rd exit
6. Chequers (Junction with A4)
At roundabout take 3rd exit (signposted Poole, Warminster)
7. A350 Lackham
At roundabout take 3rd exit
8. A350 Junction with A365
At traffic signals forward
9. A350 Junction with A3102/B3107
At roundabout take 2nd exit
10. Berryfields roundabout
At roundabout take 2nd exit (signposted Devizes)
11. A350/A365 Junction
At roundabout take 1st exit (signposted Devizes)
12. B3112
At roundabout take the 1st exit onto Spa Road - B3112
13. The Spa
Turn right into cul-de-sac
14. Well House Consultants Ltd
Turn left in last gated entry at 404, The Spa, Melksham (4-storey Georgian)

Estimated travel time: 20 minutes in non-adverse conditions



PHP: It takes all sorts



Put these numbers in order: 6, 1, 11.

You'll probably expect the answer "1-6-11" but in some languages, and with some sort routines, you'll get the answer back "1-11-6" instead. That's because sorting character by character, 1 has a lower value than 6, and 1 is the first character of the string 11.

Here's a test program in PHP that sorts two arrays. The first only contains numbers, and sorts numerically as you might expect and hope. The second contains strings with alphabetic characters and sorts ASCIIbetically, which is probably not the desired effect!

```
#!/usr/bin/php -q
A demonstration of sorting

<?php

$first = array(10,40,16,7,4,23);
$second = array(
    "bay 10","bay 40","bay 16","bay 7","bay 4","bay 23");

sort($first);
sort($second);

print (implode(" ", $first)."\n");
print (implode(" ", $second)."\n");

natsort($second);
print (implode(" ", $second)."\n");
?>
```

Our example concludes with a **natsort** call. This is PHP's extra sort routine that lets you sort strings, but uses a natural order for

```
e-w-f:~/autumn05 grahamellis$ ../sep05/sortway
```

A demonstration of sorting

```
4, 7, 10, 16, 23, 40
bay 10, bay 16, bay 23, bay 4, bay 40, bay 7
bay 4, bay 7, bay 10, bay 16, bay 23, bay 40
earth-wind-and-fire:~/autumn05 grahamellis$
```

numbers. It's clean, and provides you with what you want.

A wide variety of extra sort routines (**asort**, **ksort** and so on) allow the PHP programmer to sort an associative array, whilst maintaining the correct key with the correct value.

Sorting in Perl

Perl's **sort** defaults to a string (asciibetic) sort, but you can override that with just a few extra bytes of code. As usual with Perl, the extra code might be short but it's a bit hard to get your head around the first time ...

```
@inorder = sort {$a<=>$b} @original;
```

Perl hashes cannot be sorted. Sort a list of the keys of hash instead.

Sorting in Python

Python's sort routines use the **__cmp__** operator for the objects of the type that you're sorting, so that they'll sort numeric objects as numbers and string objects alphabetically. Nice and clean, as you would expect with Python.

Sorting in Tcl

Lists can be sorted using the **lsort** command. Options available include **-dictionary**, **-integer** and **-real**.

Bristol Blue Glass

a study in database normalisation



The Bristol Blue Glass name is more than 350 years old. Every glass object is free-blown and hand-made, resulting in each piece being unique and collectable. Products are available for online ordering, as well as from more conventional outlets such as the Bristol Blue Glass shop located in Bristol.

www.bristol-glass.co.uk

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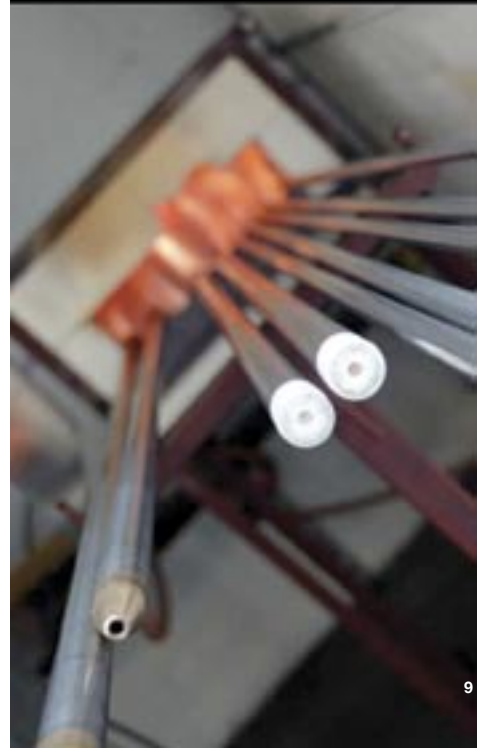


Figure 1: Possible data

prodcode	proddesc	prodprice	proddate	totalmade	firsts	seconds	makerseconds	breaks
BB035	15cm bowl	68	20050824	35	30	4	1	1
BB035	15cm bowl	68	20050825	15	12	1	1	1
BB035	15cm bowl	68	20050826	18	16	2	0	0
BB036	20.5cm bowl	80	20050825	10	10	0	0	0
BB036	20.5cm bowl	80	20050826	10	8	2	0	0

As with any business, Bristol Blue Glass are looking to produce their goods efficiently, and for this they need good management information that lets them enter and enquire about trends from a growing database of information. The system will also help them with costing. Their first step was to start collecting some data – to explore and learn what they had – and then enter it into a MySQL database table.

Figure 1 has is good data, but it's not going to be the quickest and easiest for them to look after and keep clean over coming months and years. Why's that?

Issues with this data model

1. Some of the data in the table repeats row after row. Once we know that a row is concerned with the production of product BB035, we know it's going to be a 15cm bowl every time, and always have a list price of 68 pounds.

2. The maker (glassblower) field contains one or more names, comma-separated, which will be very hard to search through in the future

3. The totalmade field is calculated as the sum of four other fields, so it's unnecessary to store this information.

Data duplication, fields containing multiple values, and fields that can be derived by calculation aren't always obvious when you design your first database, but their re-

dundancy will become clear, as they have to Bristol Glass, once the first blocks of data have been entered. It's then time to normalise the database to save duplicate data entry and storage, to provide for a greater consistency of the data, and to store it in such a way that more flexible selections can be made. It's also worth adding a unique id to each row of each table so that particular data can be easily and uniquely identified.

A new data model

To avoid data duplication, Bristol Blue Glass are separating their products out into a much smaller table with a single row for each product, and just retaining the product code (a unique identifier for each product type) in the main production table.

The totalmade field is being dropped as the total production figure for a row can be calculated by adding the firsts, seconds, makerseconds and any breaks.

The makers field is being removed from the production table. A small separate table listing each glassmaker is provided, and an intermediate pivot table is provided to link the production and glassmaker tables. This extra step is necessary because there's a many-to-many mapping involved, with each glassmaker responsible for many production lines, and some production lines being assigned to more than one glassmaker.

All tables have additional id columns.

Converting existing data

"The biggest investment in a system is not in the software itself, but

in the data it holds". Having updated their table design, Bristol Blue Glass wanted to transfer the data in the existing single table. But perhaps that wasn't as straightforward as they might have wished.

First thing to do? TAKE A BACKUP!

The conversion can be automated using a script. Since Bristol Blue Glass are familiar with PHP, and using it for all their other scripting, it's sensible to use it for this conversion too, even though it's somewhat of an unusual application for a language that's

Figure 2: How the script starts

```
<?php
mysql_connect("localhost","trainee","ab
mysql_select_db("bbg");
$q = mysql_query("select * from origina
$prods = array();
while ($row = mysql_fetch_assoc($q)) {

    if (! $prods[$row[prodcode]]) {
        # New product - create
        $qp = "insert into prod
            (prodcode, pro
            values ("
            '""'.addslashes(
            ",".
            '""'.addslashes(
            ",".
            $row[prodprice]
            ")";

        mysql_query($qp);
        $prods[$row[prodcode]]
    }

    # add row to main table
    $qp = "insert into manufact "
    (prodcode, proddate, firsts, se
    values ("
    '""'.addslashes($row[pro
```


breakages	makers
0	Ben Taylor, Ben Gough
1	Ben Gough
0	Ben Gough
0	Ben Taylor
0	Ben Taylor

intended to produce dynamic web pages.

The script reads each row of the original table, generates a new row in the product table if necessary, a new row in the manufacturing record table, new rows (if needed) in the maker's table and as many rows as it needs in the link table.

The script in Figure 2 was written with a few lines of statistics being output to the browser as it ran, as an aid to checking its integrity. It was then archived off the server to stop it accidentally being rerun!

continued on next page

```

oc123");
al");

e product row
ducts ".
oddesc, prodprice) ".
$row[prodcode]).'".
$row[proddesc]).'".
.
= 1;

seconds, makerseconds, breakages) ".
dcode]).'".

```



Like a graceful vase, a cat, even when motionless, seems to flow.
- George F. Will

The makings of a Cat



The initial gather of glass. Shaped like a bullet for the next gather.



The initial gather must be cooled with compressed air to aid the next gather's stability.



A water soaked newspaper (Evening Post) is used to shape the initial gather of glass.



The initial gather of glass is plunged into a furnace full of molten glass.



The second gather is quickly forced into shape, again using the wet newspaper.



The head is formed and then the sides are flattened with the wet newspaper.



The nose is then pulled out, followed by the tail.



Next each ear is then prepared and pulled out.



Further tweaking of the ears, preparing for final adjustments later.



The cat needs to be reheated in the glory hole for further tweaking.



The legs are pushed into shape using off cuts from an old worn out saw blade.



The final touches to the ears; pulled to a point.



Finally the feet are cut in with a pair of glass maker's shears.



The near finished cat is sat on vermiculite waiting for its base.



The cat is then squished onto a small puddle of molten glass. Voila!

The new data structure:

```
mysql> select * from manufact;
```

prodcode	proddate	firsts	seconds	makerseconds	breakages	mid
BB035	20050824	30	4	1	0	1
BB035	20050825	12	1	1	1	2
BB035	20050826	16	2	0	0	3
BB036	20050825	10	0	0	0	4
BB036	20050826	8	2	0	0	5

5 rows in set (0.00 sec)

```
mysql> select * from products;
```

prodcode	proddesc	prodprice	pid
BB035	15cm bowl	68	1
BB036	20.5cm bowl	80	2

2 rows in set (0.00 sec)

```
mysql> select * from blower;
```

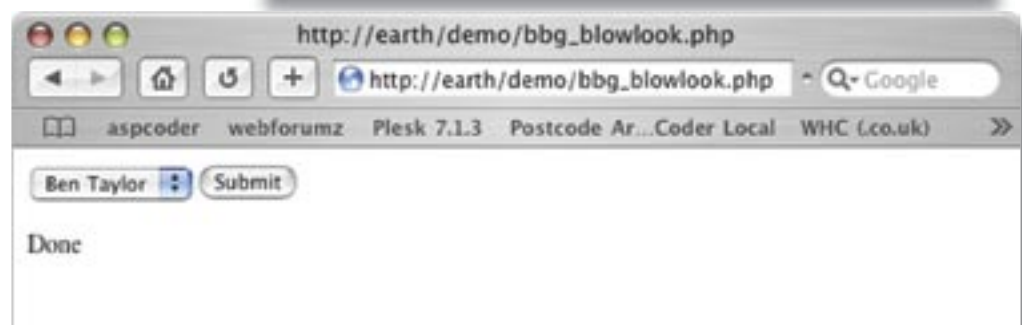
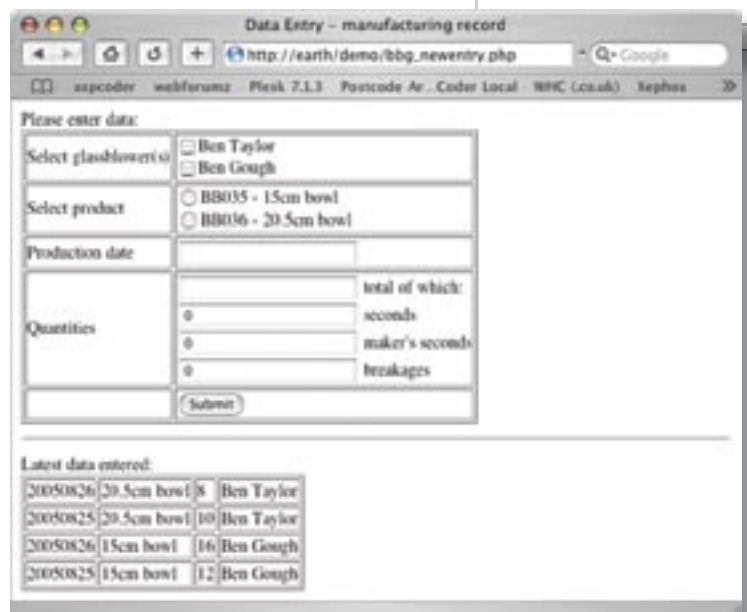
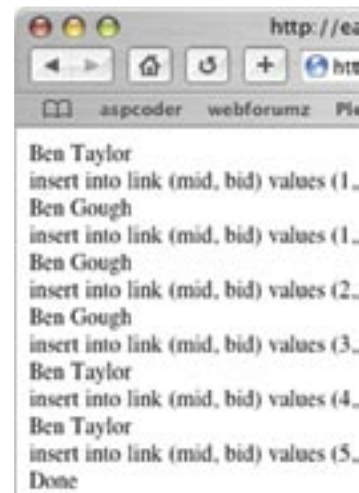
person	bid
Ben Taylor	1
Ben Gough	2

2 rows in set (0.01 sec)

```
mysql> select * from link;
```

mid	bid	lid
1	1	1
1	2	2
2	2	3
3	2	4
4	1	5
5	1	6

6 rows in set (0.00 sec)



Latest Versions of Open Source Software

as of October 2005

For use on Microsoft Windows-based systems, you may prefer to download ActivePerl, ActiveTcl or ActivePython from ActiveState at <http://www.activestate.com> who provide these languages ready compiled and with install wizards for Windows Systems. Note that Expect is now included within the ActiveTcl download and no longer requires the purchase of a license.

Perl <small>see http://www.cpan.org for additional modules</small>	5.8.7 Stable 5.9.2 Development	www.perl.com
Tcl/Tk	8.4.11 Stable 8.5a3 Alpha release	www.tcl.tk
Expect	5.43.0 Stable	expect.nist.gov
Python <small>see http://www.vex.net/barnassus/ for Python resources</small>	2.4.2 Stable	www.python.org
PHP <small>see http://pepa.php.net and http://pecl.php.net for additional resources</small>	4.4.0 Stable 5.0.5 Stable 5.1.0 Release Candidate	www.php.net
MySQL <small>see http://dev.mysql.com for associated downloads such as the MySQL administrator and the MySQL Query Browser</small>	4.1.14 Generally Available 5.0.13 Release Candidate	dev.mysql.com
Apache Tomcat <small>Note: Tomcat 5.5 Requires a Java Runtime Environment version 5. If you're using Java2 1.4, Tomcat 5.0.28 (Stable) remains available for download.</small>	5.5.9 Stable 5.5.12 Alpha	jakarta.apache.org/tomcat httpd.apache.org

Using the new data structure

If you want to examine all the data using a single view, the command is now more complex:

```
select * from ((manufact left
join link on manufact.mid =
link.mid ) join blower on link.
bid = blower.bid) join products
on manufact.procode = products.
procode
```

but the users won't see that – just the developer will – and he'll work it out once and then cut and paste it, adding **WHERE** and **LIMIT** clauses as necessary. (Note: there's a careful decision to be made as to whether to use **JOINS** or **LEFT JOINS** depending on whether or not you wish for any orphan records to be reported.

Data entry will be much shorter and easier. The script is available in full at http://www.wellho.net/demo/bbg_high.php.



Some other interesting downloads ...

PHPMYAdmin (from <http://www.phpmyadmin.net>). phpMyAdmin is a very popular tool written in PHP that handles the administration of MySQL over the Web.

MySQL Connector/J (from <http://dev.mysql.com/doc/mysql/en/java-connector.html>) is a driver that connects Java Applications that comply with the JDBC specification to MySQL. In other words, it's the "glue" between Java and MySQL that lets you reference a MySQL database from within your servlet or JSP. This connector replaces the org.gjt.mm classes, from which it is derived.

The Simple Machines forum (at <http://www.simplemachines.org/>), written in PHP and using MySQL and released under an open source license, is an up and coming forum; we're already using it at our save the train forum (<http://www.savethetrain.org.uk/forum>) and we're looking to replace the engine behind Opentalk with in too in the next few months.



Melksham Accommodation

We're in touch with many of the owners of hotels and bed and breakfast establishments in and near Melksham. When you book a course with us, we'll send you a list of such places that consistently get good reports from our trainees, together with a smattering of new places that have expressed an interest in being on our lists.

For this edition, we've checked and updated all the details, and we bring you a full listing, ranging from simple


B&Bs through to luxury hotels, and from quiet suburban accommodation that's literally a few yards from our training centre to town centre and countryside locations.

If you're coming on a course, please contact the establishments directly to check on availability of rooms and to make your overnight bookings with them. And please ask us if you want further advice or suggestions, or if you're looking for something a little different, such as camping or self-catering.



Pictured: (top) The Spa B&B is in one of the same former Spa lodging houses as Well House Consultants and is right next door. (below, left) The Old Manor, a B&B also along Spa Road, is halfway between town centre and our training centre. Conigre Farm Hotel is almost in town

centre and easily walked from to our centre.

Because a full list of amenities for the accommodations indicated by  on the facing page is too long to fit on these pages, it can be downloaded from our web site: <http://www.wellho.net/downloads/WHCaccom.pdf>.

Alisa House

Holt Road, Bradford on Avon
Wiltshire BA15 1TR
Telephone: 01225 862020
Facsimile: 01225 862020
www.alisahouse.co.uk

Angel Best Western

Market Place
Chippenham, Wiltshire SN15 3HD
Telephone: 01249 652615
Facsimile: 01249 443210
www.angelhotelchippenham.co.uk

At the Sign of the Angel

Church Street
Lacock, Wiltshire SN15 2LB
Telephone: 01249 730230
Facsimile: 01249 730527
www.lacock.co.uk

Beckerley View

Beckerley Lane
Holt, Trowbridge
Wiltshire BA14 6QN
Telephone: 01225 782713

Beeches Farmhouse

and Pig Wig Cottages
Holt Road, Bradford on Avon
Wiltshire BA15 1TS
Telephone: 01225 865170
Facsimile: 01225 863996
www.beeches-farmhouse.co.uk/

Beechfield House

Beanacre
Melksham, Wiltshire SN12 7PU
Telephone: 01225 703700
Facsimile: 01225 790118
www.beechfieldhouse.co.uk

Best Western Lansdowne Strand

The Strand
Calne, Wiltshire SN11 0EH
Telephone: 01249 812488
Facsimile: 01249 815323
www.bw-lansdownestrand.co.uk

Boyd's Farm

Gastard
Corsham, Wiltshire SN12 9PT
Telephone: 01249 713146
Facsimile: 01249 713146

Brookside Bed and Breakfast

High Street, Rowde
Devizes, Wiltshire SN10 2QF
Telephone: 01380 726394

Church Farm

Atworth
Melksham, Wiltshire SN12 8JA
Telephone: 01225 702215
Facsimile: 01225 704774
www.churchfarm-atworth.freereserve.co.uk

Church Farm Holiday Cottages

Church Farm, Broughton Gifford
Wiltshire SN12 8PR
Telephone: 01225 783413

Conigre Farm Hotel

Semington Road
Melksham, Wiltshire SN12 6BZ
Telephone: 01225 702229
Facsimile: 01225 707392

Coppers B&B

21b Leigh Road, Holt
Trowbridge, Wiltshire BA14 6PW
Telephone: 01225 783174

Devon Cottage

16 Leigh Road
Holt, Wiltshire BA14 6PW
Telephone: 01225 782557

Fieldways Hotel & Health Club

Hilperton Road
Trowbridge, Wiltshire BA14 7JP
Telephone: 01225 768336
Facsimile: 01225 753649

Frying Pan Farm

Melksham Lane, Broughton Gifford
Wiltshire SN12 8LL
Telephone: 01225 702343
Facsimile: 01225 793652
www.rpbp.dsl.pipex.com

Great Chalfield Manor

Melksham, Wiltshire SN12 8NJ
Telephone: 01225 782239
Facsimile: 01225 783379

Hatt Farm

Old Jockey
Corsham, Wiltshire SN13 8DJ
Telephone: 01225 742989
Facsimile: 01225 742779

Heatherly Cottage

Ladbroke Lane, Gastard nr Corsham
Wiltshire SN13 9PE
Telephone: 01249 701402
Facsimile: 01249 701412

Hilbury Court Hotel

Hilperton Road
Trowbridge, Wiltshire BA14 7JW
Telephone: 01225 752949
Facsimile: 01225 777990
www.hilburycourt.co.uk

Hinton Lodge

Great Hinton
Trowbridge, Wiltshire BA14 6BS
Telephone: 01380 871067
www.hintonlodge.co.uk

Honeysuckle Cottage B & B

95 The Common, Broughton Gifford
Wiltshire SN12 8ND
Telephone: 01225 782463
www.honeysucklecottage.org.uk

Bythesea Hotel

Bythesea Road
Trowbridge, Wiltshire BA14 8HR
Telephone: 01225 776633

King's Arms

Market Place
Melksham, Wiltshire SN12 6EX
Telephone: 01225 707272

Kings Stile Cottage

153 Bath Road, Atworth
Melksham, Wiltshire SN12 8JR
Telephone: 01225 706202
Facsimile: 01225 706202

Lacock Pottery B&B

1 The Tanyard, Church Street
Lacock, Wiltshire SN15 2LB
Telephone: 01249 730266
Facsimile: 01249 730948
www.lacockbedandbreakfast.com

Leigh Park Hotel

Leigh Road West, Bradford on Avon
Wiltshire BA15 2RA
Telephone: 01225 864 885
Facsimile: 01225 862 315
<http://www.latonahotels.co.uk>

Longhope Guest House

9 Beanacre Road
Melksham, Wiltshire SN12 8AG
Telephone: 01225 706737
Facsimile: 01225 706737

Lower Foxhangers Farm

Lower Foxhangers, Rowde

Devizes, Wiltshire SN10 1SS
Telephone: 01380 828254
Facsimile: 01380 828254
www.foxhangers.co.uk

Lower Lodge B&B

Bowden Hill
Lacock, Wiltshire SN15 2PP
Telephone: 01249 730711

Methuen Arms

2 High Street
Corsham, Wiltshire SN13 0H
Telephone: 01249 714867
Facsimile: 01249 712004
<http://www.latonahotels.co.uk>

Moorlands

The Coach House, Station Approach
Melksham, Wiltshire SN12 8BN
Telephone: 01225 702155
Facsimile: 01225 702155
www.moorlandsuk.co.uk

Newhouse Farm

Littleton
Semington, Wiltshire BA14 6LF
Telephone: 01380 870349

Old Manor Hotel

Trowle Common
Nr Bradford on Avon
Wiltshire BA14 9BL
Telephone: 01225 777393
Facsimile: 01225 765443
www.oldmanorhotel.com

Paxcroft Cottages

62b Paxcroft Cottages, Devizes Rd
Trowbridge, Wiltshire BA14 6JB
Telephone: 01225 765838

Pear Tree Inn

Top Lane
Whitley, Wiltshire SN12 8QX
Telephone: 01225 709131
Facsimile: 01225 702276

Pickwick Lodge Farm

Guyers Lane
Corsham, Wiltshire SN13 0PS
Telephone: 01249 712 207
Facsimile: 01249 701 904
www.pickwickfarm.co.uk/

Red Lion

1 High Street
Lacock, Wiltshire SN15 2LQ
Telephone: 01249 730456
Facsimile: 01249 730766

Ring O' Bells

321 Marsh Road, Hilperton Marsh
Trowbridge, Wiltshire BA14 7PL
Telephone: 01225 754404
Facsimile: 01225 340325
www.ringobells.pwp.blueyonder.co.uk

Springfield Gardens

29, Kingfisher Drive, Bowerhill
Melksham, Wiltshire SN12 6FH
Telephone: 01225 703694
Facsimile: 01225 703694
www.springfieldgardens.co.uk

The Bear Hotel

The Market Place
Devizes, Wiltshire SN10 1HS
Telephone: 01380 722444
Facsimile: 01380 722450
www.thebearhotel.net/index2.html

The Black Swan Hotel

Market Place
Devizes, Wiltshire SN10 1JQ
Telephone: 01380 723259
Facsimile: 01380 729966

The Crown Hotel

12 Timbrell Street
Trowbridge, Wiltshire BA14 8PP
Telephone: 01225 774245

The Old Ham Tree Inn

Ham Green, Holt
Trowbridge, Wiltshire BA14 6PY
Telephone: 01225 782581

The Old Manor

48 Spa Road
Melksham, Wiltshire SN12 7NY
Telephone: 01225 793803
Facsimile: 01225 793803
www.theoldmanor-wiltshire.co.uk

The Old Manor House

73 High Street, Semington
Trowbridge, Wiltshire BA14 9JR
Telephone: 01380 870450

The Old Rectory

Cantax Hill, Lacock, Wiltshire SN15 2JZ
Telephone: 01249 730335
Facsimile: 01249 730166
www.oldrectorylacock.co.uk

The Polebarn Hotel

Polebarn Road
Trowbridge, Wiltshire BA14 7EG
Telephone: 01225 777006

The Shaw Country Hotel

Bath Road, Shaw
Melksham, Wiltshire SN12 8EF
Telephone: 01225 702836
Facsimile: 01225 790275
www.shawcountryhotel.fsnet.co.uk

The Spa Bed and Breakfast

402, The Spa
Melksham, Wiltshire SN12 6QL
Telephone: 01225 707984
www.melksham.org.uk/thespa

The Tollgate Inn

Ham Green, Holt, nr Bradford on Avon
Wiltshire BA14 6PX
Telephone: 01225 782326
Facsimile: 01225 782805
www.tollgateholt.co.uk

Travel Inn Cepen Park

#267 West Chippenham Way
Chippenham, Wiltshire SN14 6UZ
Telephone: 01249 462096
Facsimile: 01249 461359
www.travelinn.co.uk

Wayside

Chittoe Heath
Bromham, Wiltshire SN15 2EH
Telephone: 01380 850695
Facsimile: 01380 850696
www.waysideofwiltshire.co.uk

White Hart Hotel

2 London Road
Calne, Wiltshire SN11 0AB
Telephone: 01249 812 413
Facsimile: 01249 812 467
<http://www.whitehart-hotel-calne.com>

Woodpeckers

Holt Road, Bradford on Avon
Wiltshire BA15 1TR
Telephone: 01225 865616
Facsimile: 01225 865615
www.woodpeckersbnb.co.uk

Woolley Grange Hotel

Woolley Green, Bradford on Avon
Wiltshire BA15 1TX
Telephone: 01225 864705
Facsimile: 01225 864059
www.luxuryfamilyhotels.com



Mapping



To many of us, a map is an intensely valuable diagram putting places into context. If you're a provider of web content, it's easier than you think to provide tailored mapping information to your user.

To illustrate, visit our "on site course" page for your UK postal area, and the side image will be a map of Britain confirming that we've identified the code correctly.

Ask for information about a public course, and we'll give you a map showing how your home town relates distance-wise to our Melksham training centre.

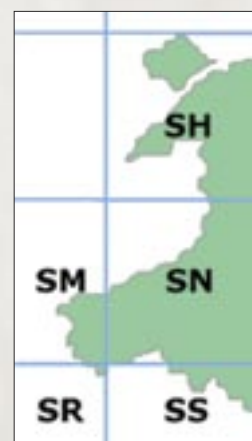
It's all done through PHP scripts, using the GD extension. Perhaps you're familiar with PHP generating HTML content. A call to the **header** function allows you to change the content type, and calls to functions such as **ImageCreate**, **ImageFilledRectangle** and **ImageJpeg** let you create a canvas on your server, draw on that canvas, and send it the browser as a .jpg.

How do we do the maps, though? Through standard grid references. Here's a snippet of our postcode file:

LE	SK585045	Leicester
LL	SH782822	Llandudno
LN	SK975715	Lincoln
LS	SE299340	Leeds
LU	TL090213	Luton

and our grid reference file that tabulates the first two letters:

```
# Grid references - bottom left corner of square
# This file contains the two letter codes used by the British
# map reference systems. For example, ST914628 is:
# From the West 300 x 10 + 914 = 3914
# From the South 100 x 10 + 628 = 1628
# Distances measured in tenths of a kilometre.
0 0 SV SW SX SY SZ TV
100 100 SR SS ST SU TQ TR
100 200 SM SN SO SP TL TM
200 300 SH SJ SK TF TG
200 400 SC SD SE TA
100 500 NW NX NY NZ OV
100 600 NR NS NT NU
0 700 NL NM NN NO
0 800 NF NG NH NJ NK
0 900 NA NB NC ND
100 1000 HW HX HY HZ
300 1100 HT HU
400 1200 HP
```



your site

We use a regular expression (a very easy one!) to break up the eight-character grid reference, and a couple more lines of code to work out a numeric Easting and Northing:

```
preg_match("/(..)(...)/", $highpoint, $parts);
$xmlcn = $twolettersx[$parts[1]] * 10 + $parts[2];
$ylcn = $twolettersy[$parts[1]] * 10 + $parts[3];
```

and then we work out the pixel position at which we want our marker, and see if it's actually on the map. In fact, we do this with a series of maps so that we can use the largest scale we have available.

```
$xpixel = ($xmlcn - $lhs) * 1000 / ($rhs - $lhs);
$ypixel = 1000 - ($ylcn - $bhs) * 1000 / ($ths - $bhs);
if ($xpixel < 25 or $xpixel > 975) continue;
if ($ypixel < 25 or $ypixel > 975) continue;
```

Then it's a question of loading the most suitable map backdrop and adding symbols:

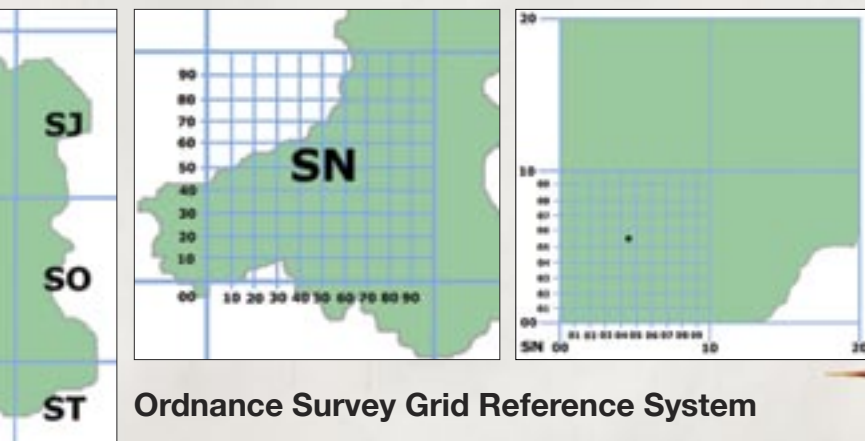
```
$im = imagecreatefromjpeg($best);
ImageFilledRectangle($im, $xpixel-$symsize, $ypixel-$symsize,
    $xpixel+$symsize, $ypixel+$symsize, $colour);
```

before sending out the completed image to the browser:

```
header("content-type: image/jpeg\n-cache-control: no-cache, no-store\n");
imagejpeg($im);
```



We are here



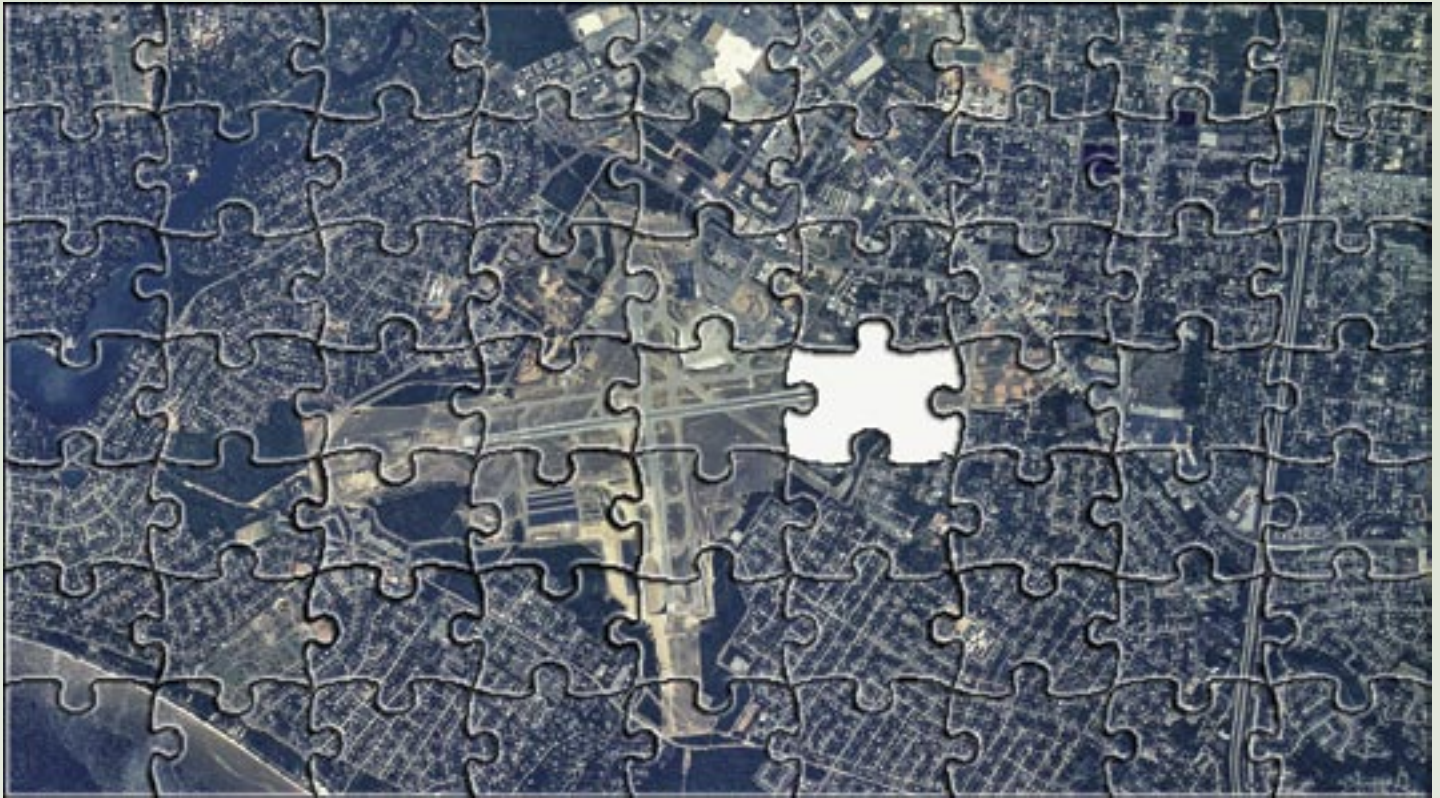
Ordnance Survey Grid Reference System



Getting from A to B with Apache httpd and Apache Tomcat



You wouldn't choose an aircraft for a journey of 10 miles, nor a car for a journey of 5,000. Yet both are pieces of transport that will get you from A to B.



And in a similar vein, you wouldn't choose Apache Tomcat to serve your PHP web site, nor would you choose Apache httpd to run your online Java banking application.

Just as you would use a combination of car and aircraft to get from Brecon to Sao Paulo, or from Rome to Alnwick ... so you would use a combination of Apache httpd and Apache Tomcat to serve your total web presence. The servers are not competitors; each takes its own place in your jigsaw puzzle.

How can Apache httpd and Apache Tomcat work together to bring their combined facilities to bear on the same site? We came up with no fewer than eight ways.

1. Different Hosts or ports
2. Returned locations
3. Mod rewrite
4. Mod proxy
5. Mod Jserv
6. Mod jk
7. Mod jk2
8. Warp

As a web site manager, you really want your users to access your site through a single server name – provide a one-stop shop – so the option of different hosts or ports probably isn't a top choice. Nor is returning a different location, as that's just masking multiple hosts and will lead to some clues in the location bar. No, you want your users to contact a single piece of server software on one server, and have it refer onwards, transparent to the user, if necessary.

Options 3 through 8 all offer this single point of contact for the user, and, without exception, that single point of contact is httpd. It's well suited for receiving a high volume of requests, handling most of them and passing on just the heavy or Java ones to Tomcat.

Mod rewrite and Mod proxy both make an ongoing http connection from httpd to Tomcat. In other words, your original client (browser) contacts httpd as a server, which then acts as a browser in turn and contacts Tomcat as a server. The user isn't told this is

happening. It's just that the two servers are cleverly configured. It's rather like enquiring about something at the tourist information, and having the person assisting you asking a colleague, then passing on that colleague's answer.

An ongoing http connection works very well for many server set-ups, but not for all. Separate connections are established each time a request is referred, and the use of a protocol that's not designed to closely tie two servers can lead to performance issues. The "connector" manual helpfully tells you to try out the options and see whether you'll benefit from going the next step with your particular metrics. So what is the next step?

An ajp (Apache Jserv Protocol) connector between httpd and tomcat provides a closer link that's not going to be started up and shut down all the time, and has been implemented in a number of ways; we're now at ajp 1.3. The original Jserv module was obsoleted, and replaced by jk. Requirements for extra facilities led to the introduction of jk2, and then later by warp; however, cross-platform issues with warp and a setup that's perhaps overcomplex with jk2 have led to both of them being deprecated, leaving jk as the current ajp connector.

Code from the jk2 team is being re-used and rolled back into jk, and jk remains far from a plug-and-play solution with numerous installation and configuration options. But it is getting easier for the web server administrator to install at each new release.

Our two-day "Deploying Apache httpd and Tomcat" course covers the installation and basic configuration of both the Apache web servers, and the connection of them through both modproxy and modjk. Clustering and load balancing are also overviewed, and for private courses, the schedule can be altered or extended to include practicals using our equipment as a server farm, under Linux or Windows.

A training web site

<http://www.savethetrain.org.uk>



We're 90 minutes by train from London and 210 minutes by National Express Coach. So many of our trainees arrive by train that it's become a regular run for us to meet them at the local station at Melksham, either on the evening before their course starts, or on the morning itself.

So you can imagine our displeasure at finding that there's a proposal to withdraw all but a single rush hour train through Melksham from the end of 2006. It's not a decision that I want to take lying down. To combat this, I'm getting publicity for the current service, and learning about usage patterns, railway service franchising and financing, local and government politics, and

a lot more. My key communication vehicle?

A web site <http://www.savethetrain.org.uk> used in association with local newspapers and radio, leafleting, letter writing and more.

What have I learnt so far? That the whole situation is very complex. The existing service is already used far more than I imagined and would cause some real hardships, and not just to us, if the service was to be slashed as proposed.

We opened up our training centre to a public meeting in September; we got so many people along that we had to take out the conference tables and equipment and borrow 35 collapsible chairs, and the room was full. Everyone turned up, from users

to train operating company representatives, and from parish representatives through to "County", and a sprinkling of campaign and specialist interest groups. It was heartening to see how everyone present felt that the decision to slash the services was a poor one, and agreed on moving forward with a publicity campaign both to raise traffic further on the current service, and to let the decision makers and potential future operators know that we care about the service and that it IS used. A 35 percent increase in ticket sales in the year completed just after the invitation to tender was drawn up, and many other recent developments and statistics, rendered the data of a year ago outdated and unduly pessimistic.

The web site uses the subjects we teach to help provide a changing interesting and informative read. See how the Next Train indicator changes during the day and know which weekends buses are running instead. See how the page top banners change, always showing you a crowd of people using the service. See how the Stop Press banner changes frequently so that new arrivals to any page can be greeted with an urgent service message. Support and petition forms, of course, are more obviously server-side programs. Then we've got a blog using Moveable Type, and a forum using Simple Machines (SMF).

Are we going to "Save the train"? I don't know. This isn't an easy battle to have chosen, but I DO know that the people at Marsham Street - the Department for Transport HQ - will now have heard of Melksham and its case when they come to decide where to award the franchise, and how to vary it based on feedback that wasn't available when it went out to tender.



Back Issues

All back issues are available by post to UK addresses at no charge. Please phone or email us for a copy or two.
Copies of recent editions are also available to download from our web site: <http://www.wellho.net/net/ofcourse.html>.



Issue 1
Winter 2000/01
8 pages
Perl Whirl 2000 - An Alaskan Adventure
Wellhokommen, Bien Venue
Tcl/Tk and Expect
Handling Huge Data - Sample script
Book Review - The "New Camel"

The London and Dublin connection
Perl for Larger Projects

Case Study - MPC Data embed MySQL
More Dynamic than an array
Expect / Tcl application
Book review - "The Java Cookbook"



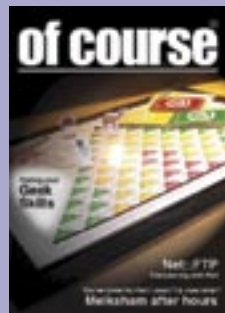
Issue 5
Autumn 2002
16 pages
RegEx
Tcl up to date
Learning Perl as a first language
YaBB
Tk - updates of your screen
Portable PHP code

Using PHP in stand-alone applications
Running scripting languages fast
Open Source Bulletin Board



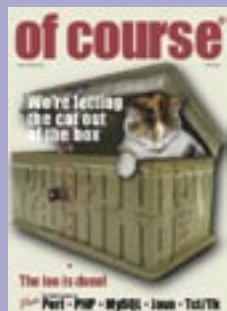
Issue 8
Spring 2004
24 pages
PHP: What do the letters stand for?
Choosing which OS
OO design
What's a polecat?
Hidden costs
Quality matters
Objects in Perl

Who teaches the teacher?
Python on either side of the pond
Broadband Access for the Traveller
Logging in to the BT Openzone service
Dining out in Melksham
Brag Page
References and variables in Perl
What do you put into a file?
What defines quality software?
Getting to the core price of Fedora
HTTP Developer's Handbook



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Using FTP from Perl
In and around Melksham
Blistering Speed right to the laptop
What's the latest software version?

Is Open Source right for you?
Focus on Perl Standards
Web logs and market research



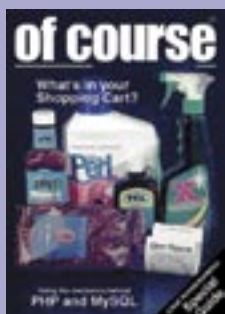
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Spring 2003
16 pages
Perl 6 introduction
Public sector data
When size matters
Data Mining
Online e-commerce
Spring Cleaning
10 relevant projects from SourceForge

Coding tips
Latest Versions
Apple get it right
Introducing our loo
Sample application in Perl
Data Protection act - buyer beware
Setting up Mac OS X
A rogue's gallery of recent students



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Autumn 2004
24 pages
Legal aspects of a web site
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A numbers riddle
Handling huge data
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Web site visibility

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Dynamics of web pictures
Extreme Programming
OOP DeMYSTiFieD



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Wireless networking
Sessions and State
On the Oban road

Perl 6 - State of the Onion
Are you under attack from Codered?



Issue 7
Autumn 2003
24 pages
PHP sticky boxes
Perl 5, Ponie, Perl 6
SQLite
Python and Jython
Opentalk - Tcl, Perl, PHP, Java, MySQL
Broadband update

Course materials
Open Source moves forward
Data structure design - link or copy?
Deployment training - new growth area?
Latest stable versions of open source
Course schedule and calendar
Tailoring your web site
Not only faster, but bigger too.



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Spring 2005
24 pages
Geekmas greetings
Java course notes now available free
Navigation skills
Travelling the world
Embedding Layers
Libraries, real/virtual
Who tends MySQL?

Seat pricing GUI in Tcl/Tk
You can do a lot with a little Python
Cruising with the Geek gods
Make your site's URLs more friendly
Simplifying complex joins
WHC welcomes new employee, Leah
Apress's distinctive looks filling shelves
Distributing open source applications



Issue 4
Winter/Spring 2002
16 pages
Keeping data secure
Extracting text from Microsoft Word documents in Perl
Improved security in PHP 4.1
Daemons

Cookies - European law and regulations
The Parrot virtual machine

Schedule

Perl

Perl Programming

5 days £1210

Covers the major features of the language and their use for newcomers. This course now runs in conjunction with Learning to Program in Perl and covers version 5, with footnotes where appropriate to tell you about Perl 6.

12-16 December 2005

6-10 March 2006

12-16 June 2006

Using Perl on the Web

2 days £550

This advanced course takes the Perl programmer through to making full use of Perl on the Web. CGI, mod-Perl, standards. Sessions, cookies, content management, etc.

17-18 November 2005

18-19 April 2006

Perl for Larger Projects

3 days £770

This advanced course takes the Perl programmer through the facilities provided in the language which make it particularly suitable for larger projects. Objects, huge data, SQL databases, XML, efficiency and other topics.

14-16 November 2005

10-12 April 2006

PHP and MySQL

Technology for PHP

1 day £330

Overviews the technologies that you'll need to make good use of PHP. A lead-in day for our PHP Programming course.

16 January, 2006

8 May 2006

PHP Programming

4 days £990

PHP is a scripting language used to add executable content to Web pages. This course covers the fundamentals of PHP, such as linking a series of forms together into a session, maintaining state, cookies, security and other matters. We also cover PHP's interfacing to relational databases,

with a particular study of MySQL.

17-20 January 2006

13-16 March 2006

9-12 May 2006

Object Oriented Programming with PHP

1 day £330

This advanced PHP course introduces you to object oriented programming principles, and teaches you how they are implemented in PHP.

4 November 2005

17 March 2006

7 July 2006

MySQL Relational Database

2 days £550

Structure, installation, administration, database design and programming.

21-22 November 2005

30-31 March 2006

Apache and Tomcat

Deploying Apache and Tomcat

2 days £550

How to source, install, configure and support Apache and Tomcat for the deployment of Java web applications.

17-18 November 2005

23-24 November 2005

12-13 January 2006

20-21 April 2006

8-9 June 2006

Python

Python Programming

3 days £770

This Python course starts at the fundamentals, then studies collections, functions, modules and packages, and the use of and creation of data types, plus an overview of OO principles and an introduction to development environments and resources.

9-11 January, 2006

27-29 March 2006

5-7 June 2006

Tcl

Tcl Programming

3 days £770

Fundamentals of the Tcl programming

language including Expect, libraries and regular expressions. Further topics covered on the course include writing your own commands (procs), packages, libraries, namespaces and other - you'll leave the course with a thorough grounding in Tcl.

6-8 February, 2006

22-24 May 2006

Tcl - the Tk Toolkit

2 days £550

Covers widgets, geometry managers and event handlers of the Tk GUI so you can write and maintain graphic applications.

9-10 February 2006

General

Regular Expressions

1 day £330

Dedicated to pattern recognition and matching, dependent on recognizing sequences of characters.

17 February 2006

Deploying LAMP -

Linux, Apache, MySQL, Perl / PHP

4 days £990

Installing and supporting applications under open source technologies.

6-9 December 2005

3-6 April 2006

Or, take them individually:

Linux Basics day 1 (£330)

Linux Administration day 2 (£330)

Linux Web Server days 3&4 (£550)

Programming in C and C++

13-14 February 2006 £550

C and C++ Programming

13-16 February 2006 £990

C++ for C Programmers

15-16 February 2006 £550

Extra Days

If you want to cover extra topics on Perl, PHP, Python or Tcl/Tk that aren't included in the public course, we can schedule a one-on-one with you at £440.00. Please email or phone us with your requirements.

Prices valid for bookings confirmed by 31 December 2005. See Web site for US dollar and Euro prices. Prices do not include VAT.

Calendar

Public scheduled courses are shown in tan. Open dates indicated as a guide only and are reserved for private, on-site courses. If you have three or more students and would like a course custom-tailored to your needs, please phone us to make sure the dates are still available. The office is closed for Christmas and Easter holidays.

NOVEMBER 2005

PHP				PHP
31	1	2	3	4
7	8	9	10	11
Perl			Apache	
14	15	16	17	18
MySQL		Apache		
21	22	23	24	25
28	29	30	1	2

FEBRUARY 2006

30	31	1	2	3
TCL			TK	
6	7	8	9	10
C/C++				RegEx
13	14	15	16	17
20	21	22	23	24
27	28	1	2	3

DECEMBER 2005

5	LAMP			
6	7	8	9	
Perl				
12	13	14	15	16
19	20	21	22	23
BANK HOLIDAY	BANK HOLIDAY			
26	27	28	29	30

MARCH 2006

Perl				
6	7	8	9	10
PHP				PHP
13	14	15	16	17
20	21	22	23	24
Python			MySQL	
27	28	29	30	31

JANUARY 2006

BANK HOLIDAY				
2	3	4	5	6
Python			Apache	
9	10	11	12	13
PHP	PHP			
16	17	18	19	20
23	24	25	26	27
30	31	1	2	3

APRIL 2006

LAMP				
3	4	5	6	7
PERL				BANK HOLIDAY
10	11	12	13	14
BANK HOLIDAY	PERL		Apache	
17	18	19	20	21
24	25	26	27	28
1	2	3	4	5

Major web site update: same great stuff, just better organised, easier to navigate

If you've visited our web site recently, you'll find a new look and theme throughout. Our site has grown from six to 60, then to 600 and now to 6,519 pages. Because of this growth, the ideal navigation structure for a site with a few dozen pages had been stretched almost to breaking point as the site became a few thousand pages long. The information is all there, but the user needed better tools for quickly locating the content he wants through a more consistent interface.

Some of the techniques we're using to keep more than 6,000 pages manageable:

Next and last

Over the years, pages had been added by using a "leaf and branch" directory structure, with content lists and indexes at each level. Each index had been of a format appropriate to the specific content indexed.

On the new site, you'll find consistent indexing and "next" and "last" buttons that let you move through associated content without the need to (re)visit the index. You'll also find a navigation indicator to tell you where you are and let you jump several levels.

History

We're holding your history. Did you see something useful a couple of pages back? Then you'll be able to return to it with a single click by choosing its title.

Double indexes

Would you like pages indexed by category, or by subject and subtopic? You have both available to you now. A "Horse's Mouth" en-

try - that's our Blog - will be available by date, by general subject area (theme) and by subtopic down to which part of which training module it refers to. And that's in addition to our search facility that uses techniques such as metaphones and levenshtein distances to help you to the right place even if you're not sure of a spelling.

Mining

Yesterday, we had 31 visitors to our site as a result of a search for "mysql left join" and 30 who searched for "perl ftp". Twenty-seven searched for "posix regular expressions" and 25 for "php string".

Did each of these people arrive directly at the right page for them? It's unlikely. We've got a lot of examples and good content and, chances are, they got close. But we can help them do better. Our new navigation tools are aware of the search terms that users entered to get to our site, and will suggest other pages that might be appropriate, and relevant indexes too, to help them find exactly what they want in the shortest number of clicks possible.

Office system links

The site now includes connections to our office systems. If a course fills, the date is removed from the "next available dates" page. If a private course is booked, the on-line diary is changed to reflect it. A link for our staff gives further booking details.

Exciting? Yes, and it's an enabling update too. Just wait and see what's to come next!



Knowing your r's from your x's

What does `-rwxr-x---` mean in the output of a Linux `ls` (list symbols) command?

The first character indicates the type of file system object that the line describes, and the commonly found characters are:

-	a regular file
d	a directory
l	a symbolic link

You then have three groups of three characters, which describe who can do what with the file system object:

first 3 positions	what the user (owner) can do
middle 3 positions	what the group members can do
final 3 positions	what the other users of the system can do

Within each of the three groups, read as follows:

first character	r OR - an r indicates readable
second character	w OR - a w indicates writeable
third character	x OR - an x indicates executable for a plain file or a xessible for a directory

If you see an **s** or a **t** (lower case) in the third position, it indicates that the "x" is set, and conveys additional information for the administrator. If you see an **S** or a **T** (upper case), it indicates that there is not an X set.

Note that write permission to a directory allows the person with that permission to add files to the directory and delete files from within it, even if they don't have any access right at all to the actual file being deleted.

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Our office hours are 08:00 to 18:00 Monday to Friday.

You'll usually reach us at the weekend and in the evenings, too, as phone messages and faxes are emailed to us automatically. If you email us, we'll receive your email within 24 hours, 365 days a year.

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