My DIY Website

Phil Bass June 2025

Why DIY?

For minimal cost and maximum control.

And to avoid being locked-in to big-tech.

The Plan

1. Register a Domain Name
2. Choose a Hosting Company
3. Select Your Tools
4. Design Your Site
5. Build the Pages
6. Launch!

Register a Domain Name

I chose fasthosts as my domain registrar and registered

ploid.org.uk

It cost me £1.20 for the first year, renewing at £11.99 + VAT.

Choose a Hosting Company

There are lots of them. Here are a few popular ones:

- IONOS
- Hostinger
- GoDaddy
- Bluehost
- Hostgator

Or you can host your website on your own hardware.

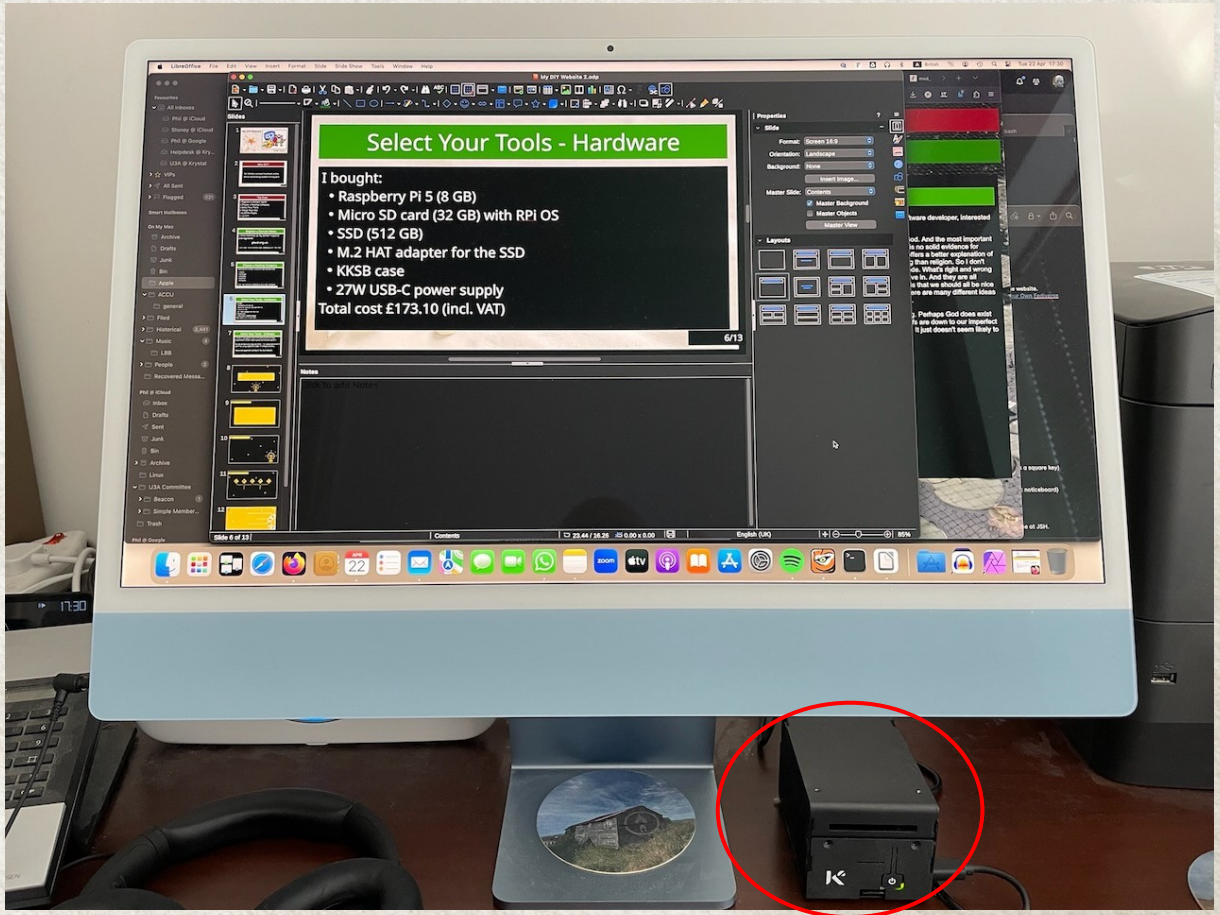
Select Your Tools - Hardware

I bought:

- Raspberry Pi 5 (8 GB)
- Micro SD card (32 GB) with RPi OS
- SSD (512 GB)
- M.2 HAT adapter for the SSD
- KKSB case
- 27W USB-C power supply

Total cost £173.10 (incl. VAT)

My iMac …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6/13

… and the Raspberry Pi

Select Your Tools - Software

I chose to use Apache, the command line and a simple programmer's editor called Geany (pronounced 'genie'?).

The site will be built using raw HTML, CSS, Javascript and PHP. I won't be using a website builder or software libraries.

I have a two-page skeleton site up and running.

Configuring Apache

The main Apache configuration file is /etc/apache2/apache2.conf.

The default configuration only allows access to files in /usr/share (for pre-installed OS utilities) and /var/www (for our own web pages). I added /mnt/ssd to the list of allowed directories.

The main configuration file includes any other files in the conf-enabled and sites-enabled subdirectories.

Configuring DNS and SSL

To start with, I got my site running on my local network.

Then, to make it accessible from elsewhere on the Internet, I switched on the firewall on the RPi, set my router to forward TCP ports 80 and 443 to it, and added a DNS A record.

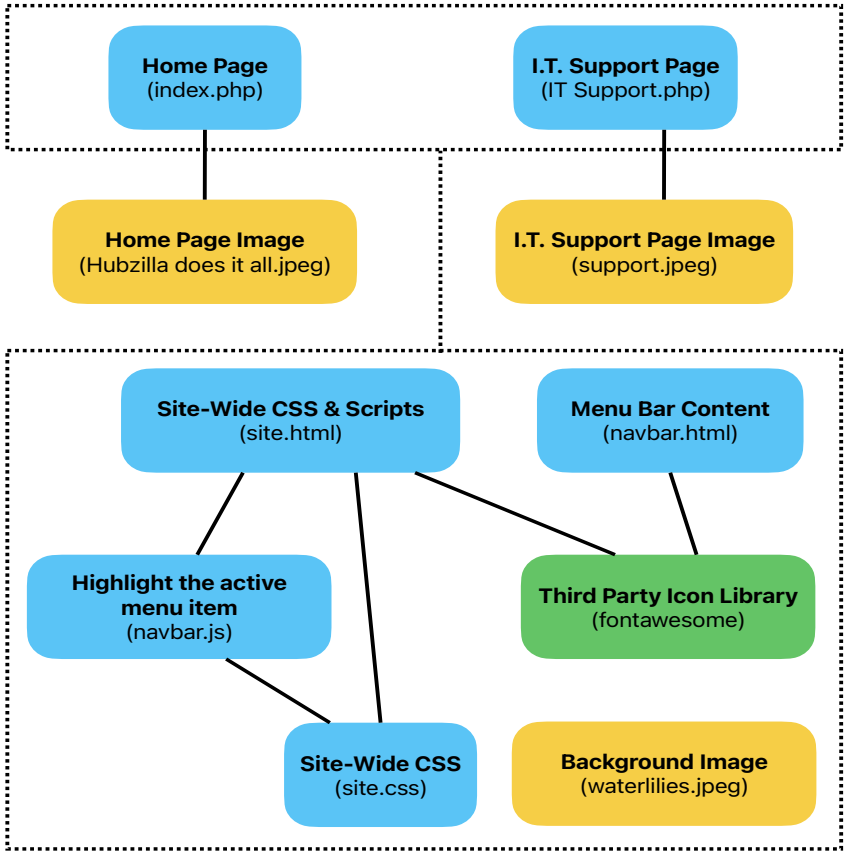
And to enable the use of secure connections, I created an SSL/TLS certificate (using openssl), used fasthosts to sign the public key (£42), and installed the keys on the RPi.

Design Your Site

My site‘s pages share a menu bar and background image.

- One PHP file for each website page
- One HTML file for the menu bar
- One Javascript file to highlight the current menu item
- One site-wide HTML file and one site-wide CSS file
- One copy of the free fontawesome library of icons
- Image files ad lib (for background and illustrations)

The Website Files



The Website Files

Key:

- Text Files (HTML, CSS, JavaScript, PHP)
- Image Files (JPEG)
- Icon Files (various formats)

Each page has its own content file and ad hoc media files (e.g photos).

All pages share common files for the background, the menu bar, styles and scripts.

Build the Pages

The world’s your oyster here.

You can add pages, menus, text and images. You can add documents, photos, music and videos. You can link to other websites.

You can play with page layouts, fonts and colours. You can control access to different parts of the site. And more.

The Website


I.T. Support
Phil's Personal Website
About This Site
The main purpose of this website is to provide a platform for me to learn how to build and maintain websites.
The content and style may change in arbitrary ways and at any time. It is likely to be broken for short periods fairly frequently.
About Me
I am a humanist and retired software developer, interested in science and music.
I believe there is probably no God. And the most important word there is 'probably'. There is no solid evidence for God's existence, and science offers a better explanation of life, the universe and everything than religion. So I don't believe in an absolute moral code. What's right and wrong is defined by the societies we live in. And they are all different. The best we can say is that we should all be nice to each other. Unfortunately, there are many different ideas about what "being nice" means.
But, of course, I could be wrong. Perhaps God does exist and the differences in our beliefs are down to our imperfect understanding of His message. It just doesn't seem likely to me.

Difficulties and Miss-Steps

1. I couldn’t get the HTML Flexbox to work at first.
2. I had to get a micro-HDMI cable to enable a headless Pi config.
3. I struggled to get a web server running at first, probably because I had both Apache and Nginx installed at the same time.
4. By default, PHP is disabled in Apache. To switch it on you have to use mpm_prefork mode and explicitly enable PHP.
5. When I switched on the firewall on the RPi, it killed VNC access.
6. For the fasthosts setup, there needs to be a DNS A record with a blank hostname. (?)

For the Future

- Arrange backups
- Automount the SSD
- Install a database (MariaDB)
- Find out how to restrict access to parts of the site
- Provide a site registration form (or membership package)
- Provide a blog and/or RSS feed
- Install one or more Fediverse hubs?
- Add content to the site

That’s All (for now)