



# news@UK

*The newsletter of FLOSS UK, the new name for the UK's oldest Open Systems User Group, UKUUG*

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## From the Secretariat

I am pleased to advise that the Spring Conference held on 19th – 21st March in Newcastle was well attended and enjoyed by all. There is a write-up of the event later in this issue.

We are hoping that we can repeat the success again in 2014 when we hold the event in Brighton. The call for papers should be available shortly.

So far we have not arranged any further tutorials for this year, but we are working on these and will circulate details to members via email once we have something confirmed.

We continue to work closely with Josette Garcia of O'Reilly to bring you various tutorials.

At this time we are working on OpenTech which once again is hugely popular. A write-up of the event is also found in this issue.

We are also hoping that the BarCamp being held on Saturday 1st June will be well attended and perhaps attract some possible new members.

Other forthcoming events include the UKUUG AGM on 20th September in London, and the Unconference on 26th October, also in London.

SuSE have kindly renewed their Gold Sponsoring membership with us for a further 12 months. The Sponsoring memberships greatly assist us and allow us to keep event fees as low as possible.

Full details, and the Agenda for the AGM will be sent to you in August. If you are interested in joining Council please let me know.

Don't forget Inland Revenue allows our members to claim their subscription amounts for tax allowance purposes - see further details on our web site.

The next Newsletter will appear in September and has a copy date of 16th August. Any interesting articles from members will be very welcome – all submissions should be sent to: [newsletter@ukuug.org](mailto:newsletter@ukuug.org).

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## Chairman's Report

*Kimball Johnson*

### Events

The last few months have been busy, since I wrote this last report, we have had training courses both on Python, and Perl. The Perl course will be running again next year, so if you missed out this time look out for the announcement for next year. Other training including Python, PHP, and Vim are all planned, but details have not been confirmed as yet.

Last month was the annual spring conference. Thank you once again to everyone that attended, both speakers and delegates. It was a thoroughly enjoyable conference, and I hope to see many of you again next year. The videos of the talks are being worked on, I hope to have them online in the next few weeks.

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As I write this I am on my way to OpenTech, which looks to be a excellent as ever, many thanks to Sam Smith for his fantastic organisation. Finally, by the time the newsletter is printed, the Barcamp in Birmingham will have happened, I am sure it will be as fantastic as the Unconference in London last October, which is also expected to repeat this year.

### **Support for local user groups**

The budget is still available for FLOSS UK to assist local user groups by helping them to obtain speakers for their events and assist with travel expenses. In addition we have a small budget for assisting with projects that would benefit the Free Software or Free Hardware communities in some way. If you have an idea and wish some support, please contact Jane on [office@flossuk.org](mailto:office@flossuk.org) and it will be discussed by the council.

### **Get Involved**

FLOSS UK exists to serve its members and we are always on the lookout for people who are keen to get involved in any capacity, whether that be through volunteering to help with organising events, writing newsletter articles, or entirely new activities which haven't been tried before. If you would like to help out in any capacity please do get in touch via [office@flossuk.org](mailto:office@flossuk.org).

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## **Report from the FLOSS UK conference: Spring 2013**

***Alain Williams***

This was in Newcastle upon Tyne at the County Hotel which, in spite of its name, is in the centre of the city: directly opposite the main railway station. This was great for me as it was an easy ride up from Stevenage, where I left my car. I did not stay at the conference hotel, but five minutes away at the Waterside Hotel. Although comfortable I suggest that you do not go there, they advertise free WIFI but block outgoing port 22: which made it useless for me.

I did not go to the tutorials and got to the conference hotel after they had packed up for the day. Fortunately I saw the familiar face of Werner Wiethege from previous conferences and we had a pleasant meal by the docks. Our conversation was largely on technical matters, none of which I remember except IPv6. We drank no alcohol but the following morning I had a horrendous hangover. On the second morning I felt as clear as a bell in spite of consuming a lot of wine and beer at the conference dinner and afterwards, which led my eldest son to suggest that I had had a (faster than) light drink that violated cause and effect.

The County Hotel had provided two large rooms set up with seats and projectors, plus a milling-around room where the sponsors had stands. Lunch was finger buffets.

Below I give impressions of some of the talks, the detail varies with how interesting I found them and how recently since I had had some coffee. There were other talks that I did not see since, at times, two parallel tracks were running.

Stephen Quinney had been looking at his ssh login logs, that he collected to a central server, and gathered statistics on the various login failures. Not all failures are attempts at cracking his systems (he does have some 2,800 users). He had charts of things like time of day, and

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where malicious attacks came from (China and Cambodia being source of over 50%). He ended with 5 golden rules for protecting your systems, starting with not allowing root login (I am amazed that people still do) – read his paper to see what they all are. Stephen is from the University of Edinburgh and is a frequent, and interesting, speaker at these conferences.

The next talk about a Long Distance Syadmin remained Lonely for me, so I used outgoing port 22 via the conference WIFI to catch up on email, and was then rescued by the coffee break. As usual I was mugged by the O'Reilly representative and escaped after buying only one book. I chatted to the sponsors of whom I remember SUSE and Bytemark – who gave every delegate a mug with the delegate's name on – nice!

System monitoring was a theme of the conference. One subject that I was looking forward to; I like machines that I can largely ignore until they tell me that they need attention. Like many I use Nagios, but it is not straightforward when many machines need monitoring, the project is reluctant to take patches and some advanced features are becoming proprietary; so I am interested in what else I could use.

Bytemark's John Hackett introduced Custodian, their own large scale network monitoring system, which they wrote because Nagios could not keep up. It does not look at internal machine checks (eg disk space) but this could be done with a plugin. It is not a large system like Nagios but made of several small tools that plug together. Bernd Erk of Netways talked about Icinga (a Nagios fork) and Jeff Gehlbach introduced OpenNMS. The one that I have played with since is Icinga as I don't have to worry about the huge numbers of machine that the others are good for. What a conference like this is good at is showing you what everyone else is talking about and using, you still need to do the hard work to see what is right for you.

Aaron Brady of iWeb talked about his attempts to monitor hundreds of machines at 10 second intervals rather than the more normal 5 minutes. They want to know that something is wrong before the customers do. This involved building a long running monitor that performed tests without the excessive workload that results from forking of traditional external plugins.

The last session of the conference was Ben Jefferson of Brighter Connections who showed how he used a Raspberry Pi with a 3G dongle to monitor VMWare systems via SNMP. Talking to VMWare was not quite straightforward, there are 3 different ways one of which worked for him. A big point of his was that sending SMS messages did not depend on any of the rest of his infrastructure that might be affected by an outage. The dongle is controlled through use of the Hayes modem command set, something that takes me back a few years.

Tim Fletcher of Brighter Connections talked about different sorts of system storage: use of RAM, Flash, fast disks and SANs. How to put them together, different ways in which they can be used, speed versus reliability (eg power fail). This included software like Flashcache, Bcache and ZFS. This talk later spurred me to complete the documentation of some storage benchmarking software that I wrote last year and release it on my web site.

There were a couple of talks about configuration management and clouds. Bernd Erk of Netways GmbH described OpenNebula that can provision machines in a cloud and also adds a lot of management (where they are, quality of service, ...). Jan-Piet Mens, introduced Ansible: a simple configuration mechanisms for \*nix systems that does not require

special software to be installed on the configured machines; it logs in via ssh to do things.

Simon Riggs of 2nd Quadrant brought us up to date with PostgreSQL, something that I, and others, are starting to use more in reaction to the uncertainty of MySQL.

The conference dinner was in the Living Planet Museum, a ten minute walk away from the conference hotel. Before the meal we looked a bits of dinosaur juxtaposed with bits of Hadrian's wall and a spectacular collection of butterflies. After the meal local boy Lindsay Marshall waxed nostalgic for twenty minutes, reminding us how much things had changed in the Unix world, while other things were the same. On the way there we played follow the leader, one person seemed to know where they were going, some of us took the Newcastle Metro back – just to see what it was like; before comparing notes, at length, in a pub.

All in all it was enjoyable. It invigorates me to rub shoulders with those of similar minds and (try to) ignore customers for a couple of days.

Most of the slides presented are available at the link below. I do remember a time when delivering a paper meant producing slides for the talk AND a paper with a real description of what you were talking about, a lot of extra effort that many seem, unfortunately, unable to justify these days.

<http://www.flossuk.org/Events/Spring2013/Talks>

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## OpenTech 2013

*Roger Whittaker*

The OpenTech event this year took place at the University of London Union building on Saturday 18th May. This is a great “almost annual” event that has become one of the highlights of the calendar for many of us. Sponsored this year by the ODI, with bookings and logistics handled by UKUUG, the event covers a big area including open source software, open data, digital rights and the social implications of technology.

As in previous years, there were three tracks, with a large room downstairs and two smaller rooms in the floors above. It was not always easy to choose which track to attend: there were certainly times when I wished I could be in two places at once.

In the first session I attended the Open Rights Group's “Naked Citizens” session presented by Jim Killock and others. In particular ORG is currently concerned about the heavy lobbying of European politicians by large parts of the industry against data protection. ORG wants to push back against these efforts, and in particular to ensure that there is real informed consent by individuals for the uses that data gathered about them is put to.

On a brighter note, Ruth Coustick noted the recent victory over the Communications Data Bill or “snoopers’ charter”. There were few illusions in the room that this fight will need to be fought again, however.

For the late morning session, I attended the “Answering Questions About” session with three related talks about how to make sense of complex and convoluted information. Lisa Evans of the Open Knowledge Foundation showed some interesting tools for making sense

of government and local government spending by aggregating and analysing published data and in particular guessing when cuts have been made.

Chris Taggart of Open Corporates showed some amazing graphs showing the complex webs of ownership relating corporate entities and their subsidiaries (often located in “tax havens”).

In a similar spirit by a different domain, John Sheridan looked at possible ways in which the interpretation of the law can be assisted using software tools. A commercial solution exists in the form of the “Oracle Policy Automation Solution”: this is already influencing the way that legislation is written and formatted. He strongly urged the need for an open community to get behind efforts to do the same thing in order to protect the principle of the rule of law.

Lunch was available in the canteen downstairs, while the bar served drinks. Quite a few delegates were seen sloping off to the large Waterstones bookshop across the road, as well they might, because unusually for such an event, Josette and her O’Reilly stall were sadly absent on this occasion.

After lunch I attended a pair of talks on hardware matters, from opposite ends of the spectrum. Graham Burnett of Hatstand spoke about the amazing world of FPGAs and high speed trading. He was followed by Rob Bishop on the subject of the Raspberry Pi: an excellent talk that led to a fair amount of discussion about education policies and much more.

In the large room downstairs, Richard Pope discussed some of his “tiny data” projects. These ranged from the slightly whimsical (a dial with a pointer activated by weather and transport data that points either to a picture of a bike or the underground symbol or somewhere in between, so that he can decide how to go to work) to a very practical community project drawing on many data sources and listing and tweeting everything of note happening in a small area of Brixton (including events, planning applications and much more).

Terence Eden’s wonderful talk started with a reprise of some well known cases of corruption and then made a “modest proposal” – “Kickback Starter”: crowdfunded bribery for your MP!

Stephen Reid of UK Uncut talked about the protests that have been made against various corporates regarding their tax avoidance, and discussed ways forward for the future.

In the next session, Nicholas Tollervey spoke about his “Drogulus” project: an ambitious attempt to create a programmable peer to peer storage system. Peter Hintjens drew on his experiences of openMQ to describe the best ways of building and running online communities around open source software. He was particularly strong on the need to avoid ego and personality clashes, building in safeguards against these from the start. James Smith of Cleanweb spoke about using software and web advocacy in the fight against climate change.

Some of the most frightening moments of the day took place in the last session. Phil Booth spoke about the changes in NHS policy which mean that patient confidentiality is already a thing of the past, with a large number of health service staff and others now able to see identifiable patient records. Eric King spoke about the Digital Arms Trade and gave frightening examples of surveillance equipment being sold by UK and European companies to assist with phone and internet surveillance all over the world. Nick Pickles spoke about the remnants of the Communications Data Bill and what is likely to happen next.

The bar remained open long after the event closed, and many discussions continued.

This was an excellent event, and Sam Smith and his associates have once more done a brilliant job in bringing it together.

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## **Hackspaces, Maker Faires and German Fishing Boats**

*Kimball Johnson*

I have been rather busy over the last few weeks; not particularly unusual for me, but, unlike wedding planning or playing computer games, my recent activities may be of more interest to the membership. The past few weekends (and evenings) have revolved around something that has been happening for a while, although it has only come in to prominence fairly recently, the Hackerspace. This is a concept whose history is a little muddled, but the roots can best be attributed to the formation of the Chaos Computer Club (CCC) in Germany. This started on Tuesday the 12th of September 1981 with around 5 people ‘to explore the issues surrounding the rise of technology’ [1]. With 1984 approaching it was common belief that emerging technology would be used to enact features of Orwell’s famous novel, but CCC realised that it was interesting and could be used for their own purposes.

Over time CCC grew and, despite problems of many kinds, two important things happened. Firstly, they found a clubroom in Hamburg, which, whilst very small, gave a permanent meeting space, and even enabled them to run an annual congress, starting with less than 100 delegates in 1984 [2]. Secondly in 1998 the Berlin offshoot of CCC set up a new home, CCCB. This was not a great space but crucially it had a permanent internet connection, a fact which led to a massive increase in membership and the expansion of meetings beyond the weekly Tuesday night, which has influenced successive Hackerspaces. At a similar time, also in Berlin, another group of friends started up C-Base, a non-profit association, as ‘a knowledge pool and place for ideas with a multiplicity of scientific-technical and future-oriented people.’ There is a mythical backstory behind their space; that it is a 100,000 year old crashed spaceship, which the group is trying to repair. These two spaces in Berlin, along with the annual Congress in Hamburg have inspired other spaces around the world. Notable are Metalab in Vienna and Noisebridge in San Francisco; these are not the oldest outside Germany, but both have been inspirational to the others that have formed around the world.

The concept finally reached the UK in 2009, with the formation of the London Hackspace [3]. This was the brain-child of Russ Garret and Jonty Wareing; the first meeting, held in a pub on a Friday rather than the traditional Tuesday, had 20 attendees. Over the years this has grown to the largest Hackspace in the UK, both in terms of membership and floorspace, they have also inspired many other spaces across the UK, including HacMan in Manchester [4], which I am a member of.

My involvement with Hacman, and the wider Hackerspace movement, has led to involvement with several interesting events over recent weeks. As a member of HacMan I attended Maker Faire UK in Newcastle [5]. Maker Faires are run by Maker Media, the publishers of Make Magazine, and started in the Bay Area of California in 2006 [6]. They describe themselves as ‘The Greatest Show and Tell on Earth’, which is a brilliant description and doesn’t quite encapsulate the full variety of what I saw. As well as people bringing their

wonderful creations there are many workshops intended to encourage people to have a go; this year's included soldering with Mitch Altman, the founder of San Francisco's Noisebridge, Japanese braiding, quilting, pottery and coding on the National Museum of Computing's BBC Micros. Understandably there is an affinity between the Hackerspace and Maker movements, so a large contingent of the UK hackspaces attended, showing off their creations and encouraging people to join them. In addition the UK Hackspace Foundation had an 8 foot long map of the UK with all the known hackspaces location marked on it. During the weekend, visitors were encouraged to place a white pin for any hackspace they were a member of, and a black pin for any locations where they would like to join a hackspace. The number of pins was extremely encouraging, especially the number of black pins, showing that demand is still high.

Another extremely popular part of the maker faire, was a number of talks, including one from the aforementioned Mitch Altman entitled 'Making a Living Doing What You Love'. These bring me back to the hackerspace movement and CCC in particular.

As I mentioned earlier, CCC started to run a congress every year, This is an indoor event where hackers from around Germany, and increasingly the world, come together to collaborate, attend talks and generally share ideas and culture. It was from Congress that the Hackerspace movement spread across the Atlantic, when a lone hacker from New York attended, and then set up NYC Resistor [7]. As well as the Congress events, a group of Dutch hackers decided to hold an outdoor event, with scope for a wider range of workshops and practical events, over 3 days [8]; this attracted people from all over the community. It is still going, now a very successful event, but as it involves a lot of work from volunteers, held only every 4 years, the next in August this year. After the third event in the Netherlands CCC joined in by running a similar event in Germany, 2 years after the Dutch camp; again repeated quad-annually. Never to be out done, Jonty, Russ and others decided it was high time that a similar event happened in the UK. So, at the end of August 2012, 499 hackers congregated on a field in Milton Keynes for a wide range of talks, welding lessons, hammock making sessions, electronics workshops, and of course drinking beer and having a great time. It was a fantastic event and so the organisers decided that it should happen once more, in 2014. In order to fill the time in-between, the team ran a one day event this year [9], on board the Motorschiff Stubnitz in Canary Wharf. I attended, and as all these events are run by volunteers, helped out. It was an incredible day, with talks on a huge variety of topics, from designing an open source vacuum cleaner to spending a week cut off from the internet in order to write code. Alongside this were more workshops, including playing the ancient boardgame Go, soldering with Mitch once again and Locksport [10].

All in all Hackspaces, and the activities and events the community build, are a fantastic opportunity for collaboration and discovery. The combination of opportunities to spend time with like minded people, space to have large tools or run community events, and the buying power of a collective to obtain things like laser cutters or industrial scale power tools is something that is not to be missed. I would advise anyone I know, be they electronics or computer minded, fans of metal and woodworking, or keen knitters and paper crafters, to find their local Hackspace [11][12] and join, as it will give you a great community of friends, a place to learn new skills, and pass on your passion and skills to others.

My thanks to all that helped with this article, Dominic Morrow whose blog posts of Maker Faire and EMW helped with my memory; Bre Pettis, Astera Schneeweisz, and Jens Ohlig

for their excellent book ‘The Beginning’ and my wife for her proofreading and style assistance.

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## Twisted Network Programming Essentials

Jessica McKellar and Abe Fettig

O’Reilly Media

ISBN: 978-1-4493-2611-1

194pp.

£ 26.99

Published: March 2013

reviewed by Paul Waring

Event driven programming appears to be the current ‘in thing’, but I have never fully understood how it works. I picked up this book in search of enlightenment – particularly as I have wanted for some time to write a customised IRC bot for updating channel topics with the latest events. One important point to note is that this book, not unreasonably, assumes a prior understanding of Python – although I managed to get by with my limited knowledge and preference for C-style syntax. Twisted also only works under Python 2.x at present, although a port to Python 3 is in progress.

Chapter one is a very brief ‘getting started’ guide. Twisted is available for most Linux distributions, so installation is simple, and OS X users should find it pre-installed. There’s a brief outline of where to find the documentation and other forms of help (mailing lists, IRC etc.) and then you’re straight into the next chapter.

The second chapter drops you straight into code – no long preambles here. A simple echo client/server implementation demonstrates the basic structure of a Twisted application, including the Reactor, Transport and Protocols. Event-driven programming is introduced at this point, with a helpful diagram and explanation, contrasting it to more familiar paradigms such as single threaded and multithreaded.

Chapter three introduces the concept of Deferreds – a way of abstracting the management of callbacks. Multiple callbacks (and ‘errbacks’ for errors) can be registered with a single deferred. This topic would have benefited from a more detailed explanation – given how important it is to later chapters – but the diagrams were useful and the Twisted website can help fill in the gaps.

Chapter four examines the construction of a HTTP server, with examples for serving static and dynamic content. The detail is fairly limited though, and only just over a page is given to the asynchronous handling of requests – which is the whole point of using a library such as Twisted. This is followed by a chapter on the client side of web requests, which again only provides a fairly brief overview.

The next part of the book groups several chapters under the heading of ‘Building Production-Grade Twisted Servers’. Deployment, logging and databases are all covered in short order – I would have liked to have seen more detail on the latter topic given that database queries are usually blocking. The chapter on authentication is more useful, carefully defining all the components of the generic ‘Cred’ system which ships with Twisted, before providing multiple examples and a helpful process diagram. Testing receives the longest chapter in the book, with examples of unit tests for all the major components of a typical Twisted application.

The final part of the book consists of a collection of short chapters with varying degrees of implementation details for IRC, email and SSH clients and servers. The IRC chapter in particular provided a useful starting point for my bot.

Overall, this is a good introduction to the Twisted framework and event-driven programming for anyone who is already familiar with Python. It does concentrate on breadth rather than depth of coverage, so further reading is required in order to produce fully fledged clients or servers. No book can cover everything though, and I would recommend this as a good starting point before jumping into the more detailed documentation on the Twisted website.

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## **The Modern Web: Multi-device web development with HTML5, CSS3 and JavaScript**

**Peter Gasston**

**NO STARCH PRESS**

**ISBN: 978-1-59327-487-0**

**243pp.**

**£ 23.99**

**Published: April 2013**

**reviewed by Lindsay Marshall**

I spend a lot of time trying to keep up with the things that are going on in this area, which involves a lot of looking at web pages and following links around, and bookmarking things that I never get the time to visit. And, ultimately, everything you need to know is on the web somewhere, but in the end it's nice to have a single source that summarises everything in a clear way and has useful examples that you can use as starting points.

And lo and behold, this book comes pretty close. Sure, it will be out of date pretty soon as we are dealing with a fast moving target here, but it's good enough for now. It's well written and it has good examples, though sometimes they need to be read carefully to work out what is going on, but that is more the fault of the web standards than the author. Most importantly, I learned a lot of new stuff reading through this. Top notch, useful stuff that I have already put into play in sites I am working on. Stuff that I hadn't come across, even with all the reading and searching that I do.

If you are a builder of modern web sites then I reckon you need this book.

Buy it.

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## **Computer Science Programming Basics in Ruby**

**Ophir Frieder, Gideon Frieder and David Grossman**

**O'Reilly Media**

**ISBN: 978-1-4493-5597-5**

**188pp.**

**£ 18.99**

**Published: May 2013**

**reviewed by Andrew Richards**

This is a compact book with an ambitious brief, to get readers up to speed in Ruby whilst simultaneously covering some key computer science topics. It largely succeeds. It does however assume a familiarity and comfort with maths in some of the text and particularly in some of the exercises, which may be intimidating to less maths-oriented students.

It is useful as an introductory computer science text, and/or as an introduction to Ruby programming. It is most appropriate as part of a taught course, but is clear enough for a well-motivated and reasonably savvy reader to tackle without assistance.

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A set of slides is also available online to accompany the book in Powerpoint format; the example programs in the text are also available online – making this a very well-rounded resource for teaching – and with the option of tweaking the slides if desired.

The book steps through various programming features in Ruby, such as variables, conditionals, loops, arrays, objects. It also covers more computer science oriented topics including algorithms, a discussion of the different types of errors in a computer program, and a chapter on different types of sorting and searching. This gives a greater breadth to the book than one purely focused on teaching Ruby. The text is concise and new concepts are introduced at a moderate pace; examples are thoughtful and well-judged. As an introductory book, some more advanced topics like recursion don't get covered.

The authors take the trouble to carefully introduce the idea of algorithms, and later on in the book they explore the issues of speed and efficiency, particularly in comparing sorting and searching algorithms – and not just as 'this is the best algorithm', but with more a nuanced discussion around the structure of the data to be processed and the expected usage of the program. The idea and importance of algorithms in computing are therefore well covered. This discussion does include mathematical considerations such as how an algorithm's complexity can be expressed in  $O(n)$ ,  $O(n^2)$  etc notation.

The book struck a good balance in terms of what topics it chose to explain. Each chapter has a summary (key concepts, key definitions) and exercises to reinforce the material just presented. The exercises tend to have a mathematical or numerical bias; they are concise and echo the preceding chapter well, although a couple mystified me. Answers are not provided. The book has no index, a sad omission.

Although in general getting things right and explaining things well, the authors have rather mangled their explanation of Unicode ('The first 256 characters, digits, symbols and codes ... are identical to ... ASCII', and later, 'Each character is assigned a unique number from 0 to 255' are both wrong and misleading). This Unicode mis-step is somewhat mitigated by the online slides, which include a set of slides about encoding systems mainly focusing on Unicode (and getting it right this time) – these slides are perhaps intended as a correction to the above faulty explanation. There's also a heavy-handed (= intimidating) explanation of binary via number systems.

Particularly impressive is that the book hasn't allowed itself to waste several chapters explaining in minute detail how to install and run Ruby, and how to edit programs. This information is instead consigned to three small appendices, providing just enough information to get you started, although it is puzzling that the authors specify installing a very particular version of Ruby for Debian/Ubuntu.

There were a few typos that could lead to confusion that I've submitted as errata, any reprint of the book should fix these (this is confirmed by the authors); although the exercises are good, thoughtful and concise, they have not all been road-tested (I found a couple of errors when doing them). Some technical terms such as 'debugging', 'initialize' suddenly appear without prior introduction: The target audience may be slightly thrown by this, although if the book accompanies a taught course this would present no problems.

Given that a key goal of the book relates to teaching programming, I would have liked to see some mention of different approaches to program development (waterfall / agile / test-

driven etc) as well as reference to design patterns, since otherwise the student is left with no clues about these approaches to programming. Similarly a list or discussion of topics the reader might like to investigate next would have been welcome. There is however an 'Additional reading' appendix listing 10 books.

In correspondence with the authors, they report that its draft version was well received by students from less technical backgrounds, so my concerns about its maths bias may be overstated – and in a taught course the tutor can help students through any maths-related discomfort.

Overall I thought this was an excellent book, achieving what it sets out to do. It is very clear that it is an introductory text, yet it manages to cover a lot of ground, with only a few places where it is heavy going. Together with the free online slides that go with the book, this makes for a well-rounded package for teaching. In my own case, I found it made for a very nice introduction to Ruby, and I love books like this that are relatively thin but content-dense.

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## **Cypherpunks: Freedom and the Future of the Internet**

**Julian Assange et al**

**Or Books**

**ISBN: 978-1-939293-00-8**

**196pp.**

**£ 8.99**

**Published: April 2013**

**reviewed by Roger Whittaker**

This book has had remarkably little publicity in the month since its release. Back in 2010, Wikileaks and everything about Julian Assange was hot news. At that time, the US government was actively trying to force Wikileaks off the internet, and a number of members of this organisation, including myself, were part of a worldwide volunteer effort to provide mirrors to help prevent that. The clear waters of those days have been muddied by the (clearly bogus) allegations of sexual offences against Assange from Sweden, as well as by the falling out that has occurred between Assange and some of the main stream publications that acted for a while as media partners.

Julian Assange is now stuck in the Ecuadorian Embassy in Knightsbridge, a situation that cannot continue for ever, and unfortunately may well end badly (for instance if there is a change of government in Ecuador) with his eventual handing over by the British to the Swedes, and then by the Swedes to the Americans to face the case that a Grand Jury has been quietly preparing against him that could quite possibly lead to him spending the rest of his life in jail.

Meanwhile, the US authorities have been trying to establish a doctrine under which anyone who passes information to a journalist that the government prefers be not known can be deemed to be guilty of conspiracy (in the recent AP case).

And in the case of Wikileaks, the US authorities have used a variety of interesting stratagems to weaken the organisation, including using dubious legal and extra-legal pressures on credit card providers and payment organisations to prevent the flow of donations to Wikileaks.

The opening paragraphs of the book read:

*This book is not a manifesto. There is not time for that. This book is a warning.*

*The world is not sliding, but galloping into a new transnational dystopia. This development has not been properly recognised outside of national security circles. It has been hidden by secrecy, complexity and scale. The internet, our greatest tool of emancipation, has been transformed into the most dangerous facilitator of totalitarianism we have ever seen. The internet is a threat to human civilisation.*

Apart from the introduction by Assange, the book takes the form of a series of conversations between Julian Assange, Jacob Appelbaum, Andy Müller-Maguhn and Jérémie Zimmermann. I usually find books in such a format difficult to read. But here, there is not a great deal of disagreement between the authors most of the time, and the discussion is a friendly one and easy to follow. Even so, I would prefer it if the book had been a “manifesto”, or at least a more structured text.

The book certainly offers a serious warning. What has happened so far to Julian Assange illustrates his view that the fact that one does something on the internet is no hindrance to the physical coercive power of the state. The defence against that power is summed up in the aphorism early in the book “*Cryptography is the ultimate form of non-violent direct action*”.

The examples in the book of how we are now all trapped within a panopticon constructed by governments, communications companies and social media are chilling. In particular it is asserted that for a few tens of million dollars a year it is possible to retain all internet and phone communications taking place in a medium sized country. As I write this, in the immediate aftermath of the Woolwich soldier murder, the Home Secretary and the security services are again lobbying to regularise and legalise the surveillance which they almost certainly already undertake.

If anything, I find the book as a whole too optimistic. Although as the authors say, it is simply a fact of the world that strong encryption properly used can be a defensive weapon against the all pervading power of the state and others, they put too much trust in its power to roll back the present situation. The authors are part of an elite with deep knowledge of the tools available. But their expert knowledge of encryption has not saved Julian Assange from his current effective state of imprisonment, nor has it stopped Jacob Appelbaum from being repeatedly and regularly harassed by the US authorities. Ultimately encryption can only save us if it is widely and routinely used. Otherwise the minority who use it are easy targets just for that reason.

As I indicated earlier, I am slightly disappointed that Assange did not write a different kind of book. But this one is well worth reading and I recommend it.

## **The Passion of Bradley Manning: The Story Behind the Wikileaks Whistleblower**

**Chase Madar**

**Verso Books**

**ISBN: 978-1-78168-069-8**

**256pp.**

**£ 8.99**

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**reviewed by Roger Whittaker**

Bradley Manning's trial proper is scheduled to begin on June 3rd. In that trial he will admit to being the source of a large leak of materials that were later published by Wikileaks. But he will deny the charges of "aiding the enemy".

As has been widely reported, the security measures that were in place at Forward Operating Base Hammer in Iraq (to protect the information for the leaking of which he will probably now serve a life sentence) were laughably weak. Passwords were stuck to monitors on post-it notes, while the computers had fully working removable media drives and connectors, and no-one was surprised to see a member of the team burning CDs.

On the other hand, although the materials that Manning had access to were classified, the level of classification was such that he was one of about 850,000 people with access to the kind of documents he was seeing. This puts him in a different category from Daniel Ellsberg for instance, who, when he smuggled out photocopies of the "Pentagon Papers" was dealing with secret documents that had a very limited circulation.

But the change of atmosphere in the intervening forty years or so has been such that, although both Ellsberg and Manning were motivated by disgust at the misdeeds and lies of the government that they were serving, and a belief that disclosure would aid democracy, Ellsberg escaped punishment and was regarded by a large section of the public including some mainstream politicians as a hero. Manning had few people to speak up for him while he was held in conditions amounting to torture at Quantico, and will almost certainly spend most of the rest of his life in prison.

This is the social and political background in the world's most powerful nation to the issues around internet freedom in the Assange book (discussed above).

The book is a sympathetic and readable account of the Manning case, which is quite frank about Bradley Manning's confused emotional states (and extreme foolishness at a crucial point in discussing what he had done with a person who was not to be trusted).

Just as an account of the US government's bizarre approaches to information classification and security, it is worth reading. More than that: it tells the story of what history will probably see as a turning point in the control of the flow of information by those who hold power.

As information is what (at some level) we all deal in, I feel that this review should not be seen as "off-topic" for this publication, and I urge you to read the book.

## Contributors

**Kimball Johnson** is a Systems Developer for Lancashire County Council He has been programming since a very early age, starting with BBC Micros, then MS DOS and Windows Systems, however was enlightened with a copy of Debian GNU/Linux Woody at university. He is always wanting to learn and has recently started to take on embedded programming on a variety of devices, on everything from a Arduino to a Nintendo DS.

**Jane Morrison** is Company Secretary and Administrator for UKUUG, and manages the UKUUG office at the Manor House in Buntingford. She has been involved with UKUUG administration since 1987. In addition to UKUUG, Jane is Company Secretary for a trade association (Fibreoptic Industry Association) that she also runs from the Manor House office.

**Andrew Richards** is an IT consultant specialising in Linux and Unix based email servers, general sysadmin and networking. He dabbles in C and Python and has written a number of open source add-ons and patches to qmail. In his free time he enjoys arty foreign films, badminton and cycling. Find him at [www.acrconsulting.co.uk](http://www.acrconsulting.co.uk)

**Paul Waring** is a Council member of FLOSS UK and a director of a wholesale insurance broker. Outside of work he can usually be found filing documentation bugs against various open source and free software projects.

**Roger Whittaker** works for SUSE supporting SUSE Linux Enterprise Server for major customers in the UK. He is also the UKUUG Newsletter Editor, and co-author of three successive versions of a SUSE book published by Wiley.

**Alain Williams** is a folk dancer who particularly likes contras, squares and zesty Playford. In his spare time he runs a Linux consultancy doing freelance system administration, web applications and Open Source technology teaching.

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