ionCube Ltd.

Presentation to Kent University 2015

Hello!

I am Nick Lindridge

MD ionCube Ltd. - Software company

ioncube.com   ioncube24.com

Overview

- About ionCube

- What ionCube offers

- Who are we looking for

- Technologies we use

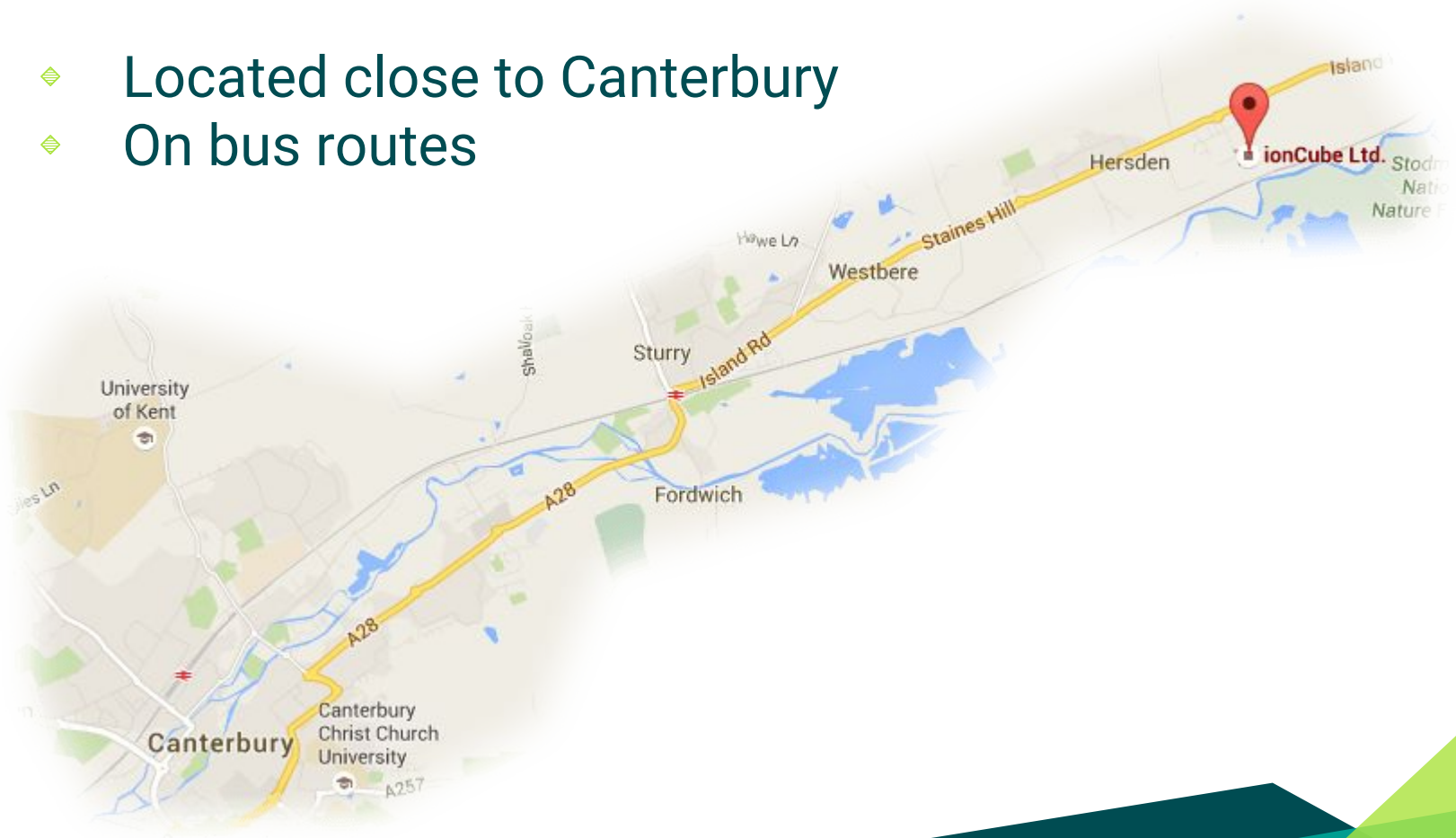- Questions - anything not covered?

- Demo

1.

About ionCube

About ionCube - where are we?

- Located close to Canterbury
- On bus routes

About ionCube - we had a unit built

About ionCube - offices

About ionCube - what we do

Develop #infosec solutions.

- ◈ ionCube PHP Encoder - protect/license PHP code
- ◈ online PHP Encoder
- ◈ ionCube24 - real-time protection against website vulnerability exploits

Top countries USA, Germany, UK, China, Russia,

Netherlands, Indonesia, Turkey, India, Italy,

France, 100+.

Products - PHP Encoder

- PHP remains highly popular - used by 81.6% of websites - w3techs.com, 8 dec 2015

- Many commercial developers want to protect and license code

- Website owners (should) want to protect database passwords

Products - PHP Encoder

- Compiles PHP to modified VM bytecode

- ionCube Loader PHP extension with modified execution engine

- Encrypt code sections with runtime generated encryption keys to solve static key issue

```
// @ioncube.dk g(14) -> "octoberon"
function fn($p)
```

- Licensing solutions

Products - PHP Encoder

- Encoder/Loader codebase - C

- GUI - C++ / wxWidgets

- Windows, Linux, FreeBSD, OS X

- Updated to support new versions of PHP and run code from previous Encoders, plus new features

Five a day

Website vulnerabilities

- Customer reports 5 website vuln exploits per day for their small hosting business with 1000 sites

- Sites often hacked with code upload exploits

- Vulnerable plugins unpatched

- New vulnerabilities exploited

- Poor website configuration allowing steganographic attacks

Products - ionCube24
A solution in a nutshell

- Take advantage of Loader's hooks into PHP

- File metadata cache added to ionCube Loader

- Detect new/changed files as potential malware

- Block execution to prevent damage

- Real-time notifications and alerts

- Future services additional to security

Products - ionCube24 Technologies

- AngularJS javascript frontend framework - modern alternative to jQuery approach

- Node.js / Socket.io real-time feed

- Phalcon C based PHP framework

- Upcoming - C++ based distributed service monitoring, C3/D3 charting, lots more.

2.
What ionCube offers

Successful placements and continued employment

- Industrial placements are a key part of the team

- Kent student 2014-15

- Employed after placement completed. Gained many skills and confidence during placement

- German student 2014-15. ionCube24 dev. Now employed back in Germany while completing degree

Chance to gain broad knowledge

- Small team, expert mentoring, key roles

- Working with front and backend technologies

- Improving technical and soft skills (mozfest, minecraft, YRS, GDG conference)

- Take ownership of work

- Creating code and not just patching others

Your workspace

What would I be doing? Example: Adding a new ionCube24 feature

⬦ Discuss requirements. Chance to be creative

⬦ Add to Mantis or refer to existing Mantis entries

⬦ Version control branch if non-trivial

⬦ Add new feature test for conditional activation

⬦ MySQL database changes

⬦ Add PHP MVC framework models, actions, view templates

⬦ AngularJS javascript framework and Node.js if needed

⬦ Front/backend Debugging

Typical rollout processes

- Testing

- Merging feature branch into trunk

- Updating and testing on staging server

- Deployment to live

- Test and rollback if necessary

Other activities

- Chrome to debug, make JS/CSS live edits, review performance, explore CSS design changes

- Documentation, e.g. wiki or markdown

- Working with APIs, e.g. PayPal EC

- Researching new code libraries

- Writing Unix shell scripts to automate tasks

- Support tickets

- Having fun!

Projects

Dependent on skills

- ionCube24

- ionCube24 agent

- Website changes - new look, new cart

- Encoder, Encoder GUI or IPF (another product)

What would I learn?

- Lots. Uni is no substitute for real world experience
- Opportunity to gain much broader knowledge and to see the bigger picture than being a small part of a large company
- Gain development, deployment management, business related and customer oriented skills
- Work in a tech rich environment with a wide range of technologies and others passionate about our industry

3.

Who are we looking for

Ideal candidate?

- Talented developer, possibly starting before Uni.

- Passionate about creating solutions and problem solving

- Keen, curious and enthusiastic to learn

- At least one of PHP, C/C++, JS.

- Some Unix experience useful but all can be learnt

Other skills we could use
- Social media / blogging, video presentations / screen casting, marketing, video/photography, graphic design

4.
Technologies we use

Current servers
Cloud / Dedicated

- Bare metal (dedicated) - 1

- Digital Ocean - 7 droplets in US and Europe

- Amazon - AWS EC2 - 7 instances US and Europe

Custom security and reporting infrastructure

- Constant light load of attack

- Occasional coordinated attacks with 100's machine botnets

- Custom Publish Subscribe infrastructure to monitor logs

- Alerts via PushBullet / PushOver apps and locally sent SMS

- Instant firewall block across all servers if flooding or vulnerability probing on any machine

More...

- Replication to Maria DB. 15 minute / daily backups

- Subversion source code control

- PHP, C, C++, JS, HTML5, CSS3

- Developed build farm for automated distributed builds

  e.g. `build @freebsd7-64`

- Mantis bug/feature tracker

- Composer / bower / gulp / rsync

- Cygwin - UNIX tools on Windows

- And much more...

5.
To Apply

Applications via

- hr@ioncube.com

- www.ioncube.com/jobs

- ioncube24.com/about/jobs

- Send a CV, let us know any particular tech interests you have, code outside uni you may have written, what you're looking for and contact details and we'd love to chat with you.

Thanks!

Anything not covered?

Any tech questions?

Please ask!

You can find me at nick@ioncube.com

Feel free to share this pdf.

Final.
ionCube24 DEMO

Demo

We demo'd ionCube24. If you have a PHP based website on the web, you could try it for your own site.