Joseph Hallett

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EDUCATION

2018 (Expected) PhD at Edinburgh University School of Informatics

Users and companies have opinions and policies about how their mobile devices should be used. These policies are often expressed in natural language which can be imprecise. Using an authorization logic I showed how to capture and encode these policies. This let me show how to enforce the policies with automatic tools. It also allowed me to compare and contrast policies precisely. My work during the PhD led to full publications contrasting user's privacy preferences with their app installation habits (AppPAL for Android), and describing precisely the concerns and trust relationships in BYOD policies (Capturing Policies for BYOD).

- Implemented *AppPAL* authorization logic in Java/Haskell.
- Supervised by Prof. David Aspinall.
- Examined by Dr. Paul Jackson and Dr. Charles Morisset.
- Currently completing corrections.

2012 MEng Computer Science at Bristol University (2:1)

- Specialised in cryptography and security.
- Won the Infineon Prize for best final year project in Computer Architecture.
- Dissertation on a steganographic method to create architecture independent bytecode.

EXPERIENCE

2017–present Java Software Engineer at SCISYS

- Developing mission control and operations systems for satellites.

2014–2016 Teaching Assistant at Edinburgh University

- Developed new lab exercise for Intel on using TLS securely and implementing certificate pinning in Android apps.
- Developed new labs on defending against buffer overflows, injection and web vulnerabilities.

2012–2013 Security Engineer at MathEmbedded

- Developed Linux and Android security specifications for conditional access vendors.
- Worked on a dynamic analysis tool for assessing a system's conformance to the security specifications. Helped develop a kernel module and rootkit to hook into the system under test, and SQL database to implement the tests. Built a test framework to test the tool worked as expected on multiple architectures and OSs.
- Updated a set-top box system to a more recent kernel. Integrated patches to harden system; helped port their main application from a chroot into an LXC container.

2009–2012 Teaching Assistant at Bristol University

- Lab assistant for introductory C programming courses.

2008 Software Engineering intern at GE Oil and Gas

- Worked on testing, bugfixing, and developing coding standards for C++.

2007 Summer placement as Software Engineer at Renishaw

PUBLICATIONS

(All publications authored by Joseph Hallett and David Aspinall)

- *Paper* Capturing Policies for BYOD. IFIP-Sec Conference (2017)
- *(Short Paper)* Common Concerns in BYOD Policies. IMPS Workshop (2017)
- *(Presentation)* Specifying BYOD Policies With Authorization Logic.
  iFM PhD Symposium (2016)
- *Paper* AppPAL for Android. ESSoS Conference (2016).
- *(Poster)* Using Authorization Logic to Capture User Policies in Mobile Ecosystems.
  SOUPS Conference (2015)
- *Paper* Towards an Authorization Framework for App Security Checking.
  ESSoS Doctoral Symposium (2014).

TECHNICAL SKILLS

- Java • C and C++ • Python • Ruby • Haskell • Datalog • R • Linux • Android
- Security • Reverse Engineering • Jenkins • DevOps • Policy languages • Git • LaTeX