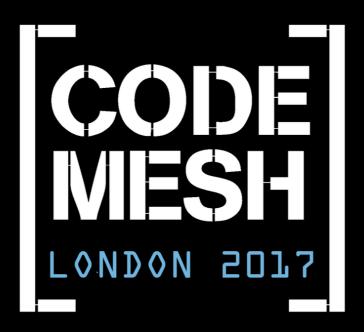




RADU POPESCU

CODE MESH TRIP REPORT

CODE MESH LONDON – NOVEMBER 8–9 2017



The underlying theme is "the right tool for the job".

CODE MESH LONDON – NOVEMBER 8–9 2017

- http://www.codemesh.io
- 5th edition
- Industry + academia
- Organised by Erlang Solutions
- All talks will be on YouTube: https://www.youtube.com/
 playlist?list=PLWbHc_FXPo2goQkXS82Yn99HlpQ4G56oF

CODE MESH LONDON - NOVEMBER 8-9 2017

- Promoting useful non-mainstream technologies to the software industry
- The underlying theme is "the right tool for the job", as opposed to automatically choosing the tool at hand
- Brings together users and inventors of different languages and technologies (new and old), speakers will get the opportunity to inspire, to share experience, and to increase insight.

FOUR KEYNOTES

- Margot Seltzer (Harvard University, Berkley DB) Automatic
 Scalability Through Learning, Prediction and Speculation
- David Turner (Univ. of Kent) Some History of Functional Programming Languages
- Guy L. Steele (Oracle) A Cobbler's Child
- Matt Might (Hugh Kaul Personalized Medicine Institute) -Winning the War on Error: Solving the Halting Problem and Curing Cancer

SOME PARTICIPATING INSTITUTIONS

U of Cambridge, Oracle, U of Kent, Hugh Kaul Institute of Precision Medicine, British National Museum of Computing, Imperial College, Cognitect, NRK, Starbucks, Migros, ThoughtWorks, Docker, Facebook, VMWare, CERN

PEER STRITZINGER - GRISP

Using the Erlang VM (BEAM) on a bare-metal on embedded hardware

- GRIPS boards can be purchased
- loT!

PETER VAN ROY - CATHOLIC UNIV. OF LEUVEN

- Building Robust Systems with Weakly Interacting Feedback Structures"
- Interesting design approach for large scale systems with fault-tolerance
- Examples: congestion control in TCP, supervision trees in Open Telecom Platform (OTP)

SOPHIA DROSSOPOLOU - IMPERIAL COLLEGE

- "Pony for Safe, Fast, Concurrent Programs"
- https://www.ponylang.org/
- "Pony is an open-source, object-oriented, actor-model, capabilities-secure, high-performance programming language."

CHRIS FORD - THOUGHWORKS

- "Type Systems and Microservices"
- Using dependent types for implementing session types
 - Dependent types:
 - ~ std::array<int, 4>
 - A pair of numbers, the second larger than the first
 - "A function which takes as an argument a number N and returns a container of size N"
 - Session types: the encoding of an entire communication protocol in the type systems

ANDREW FORD - VMWARE

- "Building Actor Systems in Rust: Techniques and Tradeoffs"
- Case study for using Rust in production (part of an infrastructure orchestration system at VMWare)
 - The advantages of the type system
 - Support for concurrency
 - Extending the actor system to cover multiple nodes

SIMON MARLOW - FACEBOOK

- "Haxl: A Big Hammer for Concurrency"
- Simon Marlow wrote "Parallel and Concurrent Programming in Haskell" (O'Reilly)
- Haxl is a component of Sigma, the platform for fighting spam, malware and abuse at Facebook.
- Encapsulate the parallelism and concurrency behind and API
- Similar to TDataFrame?

JUSTIN CORMACK - DOCKER

- "Immutability and state: making a functional OS"
- Developer of LinuxKit, a toolkit for building custom, minimal, immutable Linux distributions
 - At Docker, it's also used to produce the Linux VM that powers Docker for Mac
- Trying to solve a similar problem as CernVM
- Will be giving a talk at the CernVM Workshop in Jan 2018

BENJAMIN SAMUEL KOREN

- "Developing the Sound Diffusive Acoustic Panels of the Elbphilharmonie Concert Hall Hamburg"
- Actual architect
- Developing software components to aid in designing these physical components
- Also covers the production and installation of the panels

MY TALK

- A presentation of CernVM File System, our use of Erlang in the backend, impressions from the development phase
- Gave the talk at CodeMesh and at the London Erlang User Group
- A lot of interest in CernVM FS, and the Docker plugin!