Build Stuff 2018

B Blockchain   **F** Free time   **P** Party   **S** Session   **W** Workshop

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NOVEMBER 14 • WEDNESDAY

8:30am – 9:15am	F	**Registration**	1. Alfa

9:15am – 9:30am	S	**Welcome talk**	1. Alfa

9:30am – 10:30am	S	**Keynote: Denise Jacobs @denisejacobs - Banish Your Inner Critic v2.0: Swipe Left!** — 1. Alfa

Speakers: Denise Jacobs

Research shows that self-talk is not only a key component to thinking and processing information, but is also how we build our ideas of who we are. This means that when self-talk goes awry, it's the main source of our biggest block to creativity: the Inner Critic. What if there were simple and effective ways to change our self-talk for the better and banish the inner critic in order to do our best work as contributors, collaborators, and leaders? Fortunately, there are! First, you'll discover the 3 mental power tools that we already possess to stop the inner critic in its tracks. Then you'll learn methods for dealing with the fear of being judged and criticized, how to transform highly critical self-talk into that of approval and encouragement, and ways to feel like your ideas are good enough and stop committing "ideacide." By the end, you'll have a roadmap of how to both get unstuck and channel your creativity as a force for positive change in the world.

10:30am – 10:50am	F	**Coffee/tea break**	1. Alfa

10:50am – 11:40am	S	**Bartosz Sypytkowski @Horusiath - GraphQL - an elegant weapon... for a more civilized age.** — 5. Zeta

Speakers: Bartosz Sypytkowski

During this talk we'll take a look at standard REST-ful oriented web applications. What are their pros and cons and how they have been addressed by a GraphQL - an application-level query language and standard for building web applications, originally created at Facebook, now adopted by many companies all over the world, with implementations present almost on every platform. We'll also cover a trade offs of this approach and how to deal with them.

10:50am – 11:40am	S	**Martin Buberl @martinbuberl - Serverless — It all started in Vegas** — 2. Beta

Speakers: Martin Buberl

This talk is about our journey to Serverless at Trustpilot. It spans the past 2 years and dives into how we were able to successfully fast track the adoption of Serverless within our engineering organization. We'll share insights, architectural patterns and lessons learned on how we run Serverless functions in production today. This presentation hopefully inspires you to join the Serverless movement and gives you ideas and actionables on how to get started with Serverless in your company.

10:50am – 11:40am	S	**Matthew Renze @MatthewRenze - Artificial Intelligence: The Future of Software** — 1. Alfa

Speakers: Matthew Renze

Whether you realize it or not, we are currently entering the era of artificial intelligence. AI technologies will radically transform our economy, our society, and our lives. As a result, the software industry is preparing for a major transition as well. However, most developers do not yet possess the skills necessary to remain relevant in our new data-driven economy.

In this session, we will learn about modern artificial intelligence. We'll learn why it's important and how it will impact you, your career, and our future. We'll also learn how a series of modern technologies including The Internet of Things, Big Data, and machine learning are combining to create fully autonomous intelligent systems.

10:50am – 11:40am	S	**Rafal Legiedz @rafek - Augmented Reality - The State of Play**	4. Lambda

Speakers: Rafal Legiedz

I jumped onto the AR bandwagon after 10+ years of delivering line of business applications using a variety of platforms. Beginning with HoloLens and Windows Mixed Reality, I discovered this beautiful land of new possibilities. The hype is real, and many big players (Google, Microsoft, Apple, Facebook, you name it) are pushing AR to become ubiquitous. Hence the abundance of different approaches to AR to the point that it's hard to follow. After speaking with a good portion of developers and business people at conferences, and answering questions, I found out there is still work to be done to show people what the real capabilities of AR are. This session aims to present what's going on in this world and that we're ready to join the revolution in how humans interact with digital content.

10:50am – 11:40am	S	**Sanne Menning @sannemenning - Failing forward**	3. Garage

Speakers: Sanne Menning

We will show you how we help organizations innovate, improve efficiency and optimize customer experience and satisfaction with advanced analytics, data science and AI. Using real-world cases in the finance and utilities industry, we'll illustrate the entire process: from understanding the business and data collection to AI operationalization.
We will show our customers' challenges and what choices we made to provide them with the best possible solutions. Using a standard approach to AI problems, based on CRISP-DM, we will demonstrate the steps we took in each project. We will show you how to leverage cloud power and flexibility using Azure Data Lake, Azure Data Lake Analytics, Azure Databricks, and Azure cognitive services.

12:00pm – 12:50pm	S	**Jon Gyllensward @jongyllen - Crashing, monitoring and debugging in Azure**	4. Lambda

Speakers: Jon Gyllensward

Everything was prepared. The features were in place, the critical bugs were fixed, the environments were up and running and the test were green. We were finally about to go into production with the system we had been working so hard on for the past 18 months.

We had deployed in Azure with redundancy, fail-overs and slots using continuous delivery. The customers had been doing acceptance testing for weeks. We were ready!

Then it happened.

Three days before going into production, the pipeline started halting. The applications crashed one by one. First the development environment, following the test environment. Then the staging environment and last; the production environment. No exceptions or logs pointing us in the direction of the problem.

We had three days to pin down and fix it.

This is a war-story about how we turned our Azure environments upside down, logged, debugged and at last, found the nasty bug and fixed it.

12:00pm – 12:50pm	S	**Jose Carlos Chavez @jcchavezs - Distributed Tracing: understanding how all your components work together**	5. Zeta

Speakers: Jose Carlos Chavez

Understanding failures or latencies in monoliths or small systems usually starts with looking at a single component in isolation. Microservices architecture invalidates this assumption because end user requests now traverse dozen of components and a single component simply does not give you enough information: each part is just one side of a bigger story.

In this talk we'll look at distributed tracing which summarizes all sides of the story into a shared timeline and also distributed tracing tools like Zipkin, which highlights the relationship between components, from the very top of the stack to the deepest aspects of the system.

12:00pm – 12:50pm	S	**Layla Porter @LaylaCodesIt - APIs Exposed!**	3. Garage

Speakers: Layla Porter

More and more developers are building APIs, whether that be for consumption by client-side applications, exposing endpoints directly to customers so they can use an alternative front-end or wrapping up services in containers.

Now that we have all these exposed endpoints, what are we doing to secure them? Previously, our monolith was self contained with limited points of access making authentication and authorisation more straightforward - that's no longer the case.

We'll cover the potential risks we may face such as cross site scripting and BruteForce attacks as well as look at the possible options for securing API endpoints including OAUTH, Access Tokens, JSON web tokens, IP whitelisting, rate limiting to name but a few.

12:00pm – 12:50pm	S	**Martin Thompson @mjpt777 - Cluster Consensus: When Aeron Met Raft**	1. Alfa

Speakers: Martin Thompson

Consensus protocols enable distributed systems to agree a common view of shared state. This common view allows a cluster to continue service while a majority of its members are available. Raft was designed to be understandable and based on simple proven protocol, however like most consensus protocols there is little guidance on how to implement it efficiently.
Aeron was designed to be an understandable messaging system, it was also designed to be fast, very fast, even in its Java implementation. If the design principles of Aeron were applied to Raft, could we create a high-performance consensus implementation? Come to this talk if you would like to find out how to build a high performance distributed event system in Java and see what happened when Aeron met Raft.

12:00pm – 12:50pm	S	**Santeri Kangas @KangasSanteri - IoT security powered by AI on a cloud scale**	2. Beta

Speakers: Santeri Kangas

Research company Gartner predicts that more than 20B connected devices will be used worldwide by 2020. Protecting and securing IoT devices starts with device identification.

How advanced device identification helps to protect smart homes? How to use the latest cloud technology and innovative machine learning algorithms to secure connected homes? How to scale to 15M households, 100M devices worldwide in one year?

Santeri Kangas shares his insights about running an agile organization that managed to secure the router while deploying the private cloud effectively.

12:50pm – 1:50pm	F	**Lunch**	1. Alfa

1:50pm – 2:40pm	S	**Ewelina Kurasz @kuraszewelina - Business Analysts – do we really need them?**	3. Garage

Speakers: Ewelina Kurasz

In the Scrum Guide – a 17-page Scrum Bible – you will not find a single word about business analyst. And there are many doubts and questions about how to put a BA in an agile project.

Some will say that BA has become unnecessary friction between business and developers – an additional layer that negatively affects communication and creates the "Chinese whisper" effect. But IT has different communication requirements than business. A message sufficient for a proper reaction of the business recipient may be incomprehensible or too imprecise for the IT recipient.

So is there a place for a BA in a Scrum Team? Let's analyze it during my talk!

| 1:50pm –
2:40pm | S | **Henk Boelman @hboelman - Unleash some AI into the wild...** | 5. Zeta |

Speakers: Henk Boelman

We'll dive into a real-world case on how A.I. can assist medical workers in the field. From eliminating time-consuming documentation to gaining valuable insights into their work. By letting A.I. take care of common tasks, medical workers can focus on delivering essential medical care.

In this session, I'll take you along on a A.I.-First technical journey, from patient identification handled by Cognitive Services, efficiency improvement with natural language processing, handling data in Azure/CosmosDB and building & delivering the App with Xamarin and Visual Studio Team services.

We took the app to some remote places in Uganda and beta tested it. We will zoom into some challenges we faced running it in the field and discuss the tools and components used.

Join this session and bring back some real-world A.I. lessons to your organisation.

| 1:50pm –
2:40pm | S | **Johannes Brodwall @jhannes - Privacy will kill your application: Surviving GDPR** | 1. Alfa |

Speakers: Johannes Brodwall

On May 25th the European Union enacted new privacy laws that apply uniformly to all member nations. These rules will pretty much apply to anyone who builds or owns IT systems and the implications may surprise you.

In this practical and entertaining talk, Johannes explores how a simple example of an everyday application gets entangled with privacy issues and how to untangle yourself.

As a side effect of the going to the talk, you will be able to impress your friends with statements like "according GDPR article 7, subsection 4, this is not a legally obtained consent" - a phrase that works surprisingly well at parties.

| 1:50pm –
2:40pm | S | **Rimantas Benetis - Building Sustainable Software** | 2. Beta |

Speakers: Rimantas Benetis

Have you ever worked in a company which has plenty of legacy software built by "other developers". That software seems to be totally unmaintainable and probably needs to be rewritten and as a bonus there are another x applications/system hanging on top of this.
Guess what - It will be same conversation after someone joins your company where you are making this new and shiny software after 5 years.
So what's the magic - how do we create something that lasts?
The answer is - there is no magic, only hard work and good decisions along the way.
The other important pieces to this puzzle are understanding that this is a moving target and all departments needs to work together to get it right.
In this presentation I will cover the main points that need to be addressed in order to have a software that can evolve and adopt as time passes and that there is no more "release and forget" approach.

| 1:50pm –
2:40pm | S | **Sam Elamin @samelamin - Lessons learnt implementing scalable, fault-tolerant data pipelines with Apache Spark** | 4. Lambda |

Speakers: Sam Elamin

ETL pipelines ingest data from a variety of sources and must handle incorrect, incomplete or inconsistent records and produce curated, consistent data that delivers invaluable insight into the customers behaviour

In this talk Sam Elamin will relate his real life experience in building robust data processing pipelines powered by Spark that balances the considerations of extreme performance, speed of development, and cost of maintenance.

Sam will walk through building a Datalake using best practice patterns and running hundreds of jobs in parallel using open source tools including Apache Spark, Apache Airflow and Presto that underline systems which are dealing with £100,000 worth of transactions every hour, and more importantly will also highlight the pitfalls to avoid while providing scalable and reliable big data solutions

If you are curious about becoming a data engineer or fancy a move to big data then this is the talk for you!

| 3:00pm –
3:50pm | S | **Darija Sapozenkova-Hauge - Chatbot is an answer. But what is a question?** | 4. Lambda |

Speakers: Darija Sapozenkova-Hauge

Tips, tricks and pitfalls designing a chat bot user experience. And most importantly - why design a chatbot?

3:00pm – 3:50pm	S	**Hannes Lowette @hannes_lowette - Build software like a bag of marbles, not a castle of LEGO**

Speakers: Hannes Lowette
3. Garage

If you have ever played with Lego, you will know that adding, removing or changing features of a completed castle isn't as easy as it seems. You will have to deconstruct large parts to get to where you want to be, to build it all up again afterwards. Unfortunately, our software is often built the same way. Wouldn't it be better if our software behaved like a bag of marbles? So you can just add, remove or replace them at will?

Most of us have taken different approaches to building software: a big monolith, a collection of services, a bus architecture, etc. But whatever your large scale architecture is, at the granular level (a single service or host), you will probably still end up with tightly couple code. Adding functionality means making changes to every layer, service or component involved. It gets even harder if you want to enable or disable features for certain deployments: you'll need to wrap code in feature flags, write custom DB migration scripts, etc. There has to be a better way!

So what if you think of functionality as loose feature assemblies? We can construct our code in such a way that adding a feature is as simple as adding the assembly to your deployment, and removing it is done by just deleting the file. We would open the door for so many scenarios!

In this talk, I will explain how to tackle the following parts of your application to achieve this goal: WebAPI, Entity Framework, Onion Architecture, IoC and database migrations. And most of all, when you would want to do this. Because… 'it depends'.

3:00pm – 3:50pm	S	**Jimmy Bogard @jbogard - Vertical Slice Architecture**

1. Alfa

Speakers: Jimmy Bogard

Moving from a layered architecture to a vertical slice architecture can be a bit daunting. We remove abstractions, complex structures, and focus building on the axis of change, then what's next? What new structures, patterns, and policies will need to be introduced in this style of architecture? How will we deal with common business functionality, and where do concepts like CQRS and DDD fit in?

In this session, we'll introduce the idea of vertical slice architectures, and dive into the patterns, tools, and techniques used with slices. We'll also cover how you can fit vertical slices into different kinds of systems, from desktop, SPA, and normal MVC applications. Finally, we'll look at some of the new challenges that come with slices and layers, and how a different approach provides a much more maintainable end result.

3:00pm – 3:50pm	S	**Michael Yarinchuk @Myarichuk - Raft - Bringing Democracy to the Cloud**

5. Zeta

Since its introduction in 1989, Paxos has been a most prevalent protocol for solving consensus in distributed systems. Not long ago, researches at Stanford published Raft protocol - a more understandble and approachable alternative to Paxos.

In this talk I will talk about design of distributed systems and introduce Raft, reveal its inner-workings and show how it is useful in solving reliability issues inherent to all distributed systems.

3:00pm – 3:50pm	S	**Peter Milne @helipilot50 - Moving from Anarchy to Usability and Sustainability**

2. Beta

Speakers: Peter Milne

This talk covers the architecture and challenges of moving user-facing applications from startup mode to enterprise mode.

The problem of 88 different applications that use every JS framework, 600+ API endpoints, multiple JavaScript dialects, with an unproductive UX or UI components.

I will cover architecture to facilitate the migration to a large scale Single Page web application and the environment that supports it. Also, I will discuss the challenges of introducing new technologies, like React, GraphQL and Node.js, to an entrenched development organisation with strong opinions (smile).

3:50pm – 4:10pm	F	**Coffee/tea break**

1. Alfa

4:10pm – 5:00pm	S	**Audrys Kažukauskas - Agile nowadays. Need for a higher gear**

2. Beta

Speakers: Audrys Kažukauskas

A tectonic shift has taken place and Agile software development is now the mainstream. Although there are still bumps on the road, everyone agrees Agile is the way to go. Most of you already use Scrum or Kanban, mixed with technical practices of Extreme Programming, have adopted DevOps, and enjoy Continuous Delivery with 1-Click Deployment to push features into production as they are completed. Is there a "next big thing" coming to make us significantly more productive? There is. Join me to explore for it together.

4:10pm – 5:00pm	S	**Debbie O'Brien @debs_obrien - How we made frontend development easy and fast by building a custom built framework**	4. Lambda

Speakers: Debbie O'Brien

We looked at many frameworks and many ways of fixing our code taking into account all the problems we were having and what the business needed not just now but also in the future as new brands were being created by the week. There wasn't really any framework that suited our needs plus we didn't have the time to train our whole team to use a new framework so we basically created our own. That might sound crazy. Why reinvent the wheel? We really believed this was the best option for our companies needs and that it would solve their problems and allow the frontend team to easily migrate into it and make websites easy and fast without changing too much the languages they were using.

4:10pm – 5:00pm	S	**Dennis Traub @dtraub - Successful, Accomplished, Depressed - About Performance, Perfectionism, and Burnout in IT**	1. Alfa

Speakers: Dennis Traub

More than two decades of working in IT had taken Dennis to his physical limits. His collapse came unexpected but, in reality, he could easily have seen it coming.

It also was about time though! That way, Dennis was able to realize that he had failed to look after himself for the most part of his life. He had only focused on what he thought others expected of him.

Since his burnout, Dennis has been spending a lot of time finding out what's important to him. And one of these things is to share his experience with burnout and depression as a major issue in modern society. He talks about our obsession with performance and productivity, and about the negative self-image that troubles so many of us.

He shares his ideas on how we can clear our minds from time to time, how to be able to find our true selves. It seems like nowadays, everything and everyone needs to be faster, better, more perfect. Dennis will show you how you can find some time and space for yourself and what's important to you.

4:10pm – 5:00pm	S	**Sean Farmar @farmar - How can monitoring save your bacon**	5. Zeta

Speakers: Sean Farmar

We usually think of monitoring as something the Operations team will take care of. In a "monolithic" system that might be enough.
But we like to distribute our systems. We deploy microservices with persistent queues and automated retries. We allow them to tolerate failure, at least for short periods of time. Sometimes it may seem everything is running OK. No heavy load, no memory or CPU surges, no immediately observable slow-downs. But in fact the system may not be functioning and effective performance is degrading. Messages are piling up in queues. Business SLA's are starting to get breached. With distributed systems, we need to do more than basic monitoring.
Let's talk about how we can do a better job at keeping the lights on and ensuring our systems are functioning as designed.
I'll introduce various aspects of monitoring and the things we need to think about when writing code. I'll show how you can optimize your distributed systems and find performance bottlenecks. You'll discover how you can win if you give monitoring a bit more love :-)

4:10pm – 5:00pm	S	**Tomer Gabel @tomerg - Non-deterministic Software for the Rest of Us**	3. Garage

Speakers: Tomer Gabel

Classically-trained (if you can call it that) software engineers are used to clear problem statements and clear success and acceptance criteria. Need a mobile front-end for your blog? Sure! Support instant messaging for a million concurrent users? No problem! Store and serve 50TB of JSON blobs? Presto!

Unfortunately, it turns out modern software often includes challenges that we have a hard time with: those without clear criteria for correctness, no easy way to measure performance and success is about more than green dashboards. Your blog platform better have a spam filter, your instant messaging service has to have search, and your blobs will inevitably be fed into some data scientist's crazy contraption.

In this talk I'll share my experiences of learning to deal with non-deterministic problems, what made the process easier for me and what I've learned along the way. With any luck, you'll have an easier time of it!

| 5:20pm –
6:20pm | S | **Keynote: Jeffrey Richter - Architecting Distributed Cloud Apps**
Speakers: Jeffrey Richter
Cloud applications are all about running cost efficient, scalable, and highly-available services while embracing the likelihood of failure. This absolutely requires developers to write code differently. In this technology-agnostic talk, Jeff walks through many concepts, requirements, and trade-offs required when building distributed cloud apps. We'll also go through the pros and cons of a microservices architecture, service communication techniques, and storage service concepts. | 1. Alfa |
| 6:20pm –
7:30pm | P | **After conference discussions and beer time** | 1. Alfa |

| B | Blockchain | F | Free time | P | Party | S | Session | W | Workshop |

NOVEMBER 15 • THURSDAY

4:00am – 4:50am   B   **Alexey Bashlykov - From IT to Blockchain**   6. Theta
Speakers: Alexey Bashlykov
- personal experience
- open source resources to learn and to start with
- developers communities
- projects to contribute

7:45am – 8:30am   F   **Ieva - Office Yoga**   1. Alfa
Speakers: Ieva

Doing yoga in the office can be fun, innovative and relaxing with many long term benefits. Prolonged work on the computer strains the neck, shoulder and back muscles, which leads to tension and stiffness. Unless attended to properly, it could impact your ability to function effectively at the workplace, affecting your overall quality of life. Office yoga comprises of a sequence of simple exercises you can perform quite unobtrusively at your desk, at any time of the day.

Making corporate yoga exercises a part of your routine can work wonders as they wipe away body pain, fatigue and tension and increase overall muscle strength and flexibility, keeping you fresh and revitalized through the day. The exercises don't demand much time, and can be done in spurts throughout the day, sparing you from unnecessary discomfort in the long run.

9:00am – 10:00am   S   **Keynote: Lynn Langit @lynnlangit - Programming...probably**   1. Alfa
Speakers: Lynn Langit

Like you, I code everyday. What I code and how I code varies widely. A look into my world of coding - machine learning, cloud, new tools/languages, bioinformaticians, kids and teaching tech around the world.

10:00am – 10:20am   F   **Coffee/tea break**   1. Alfa

10:20am – 11:10am   B   **Vadim Nareiko - Meaning of Decentralization**   6. Theta
Speakers: Vadim Nareiko

Visionaire speech on decentralization in general, real cases in business and technological spheres, unexpected comparisons and strong statements about Blockchain by Vadim Nareyko, Managing Partner at EnCata Soft

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10:20am – 11:10am   S   **Eleanor McHugh @feyeleanor - Identity & trust in monitored spaces**   3. Garage
Speakers: Eleanor McHugh

We live in a world of poorly protected persistent data silos, the digital equivalent of a rusty tin box tied up with string and buried in a somewhat disheveled flowerbed. The owners of these silos hoard a bewildering array of personal data on everyone who interacts with them on the off chance that some of this might be useful to them in the future or have concrete resale value. A vast industry exists to help secure these silos once they exist, but rarely does anyone asks the key existential question: do we need all that data in the first place?

In most cases the answer is no, and by collecting and storing this personal data we're endangering both our systems and the people who use them.

Across the developed world, the outcry over high-profile data breaches has forced legislators to take action, introducing strict new regulations on how personal data can be stored and the rights of individuals both to control their data and to be forgotten. So how as IT professionals can we deal with this new reality? And what are the implications as the IoT expands the scope of personal data and new analytic tools make it increasingly transparent?

Join Eleanor to explore the relationship between privacy and identity, the slippery nature of consent, and how we can prove after the event that our applications acted correctly. Can we really design all this into our processing systems from their very inception? And if so, how?

10:20am – 11:10am	S	**Itamar Syn-Hershko @synhershko - SQL on BigData with AWS Kinesis, Presto and Elastic**

Speakers: Itamar Syn-Hershko

4. Lambda

That thing that happens when your company is scaling so fast you have to replace your infrastructure within weeks or the whole thing crashes. This is what happened to our customer, and this is the story of how we replaced good-ol' SQL with streams and batch processing technologies on AWS.
Using Terraform, Packer, Elasticsearch, AWS Kinesis, Lambda and EMR we were able to provide a truly scalable solution in a matter of weeks, without hurting production and while dealing with a huge scale.
In this talk we will quickly go through the design phase, the various stake holders and how we improved their usage of the system, and introduce the tools that helped us make this happen.

10:20am – 11:10am	S	**Jonathan Mills @jonathanfmills - Building Progressive Web Apps with React**	2. Beta

Speakers: Jonathan Mills

Progressive web apps are a happy middle ground between a responsive web app and a native app. They are lightweight apps designed to conform to any device, work offline, and when appropriate, feel like a native app.
But all this is made possible with JavaScript frameworks you already know. Come learn how to use your existing React knowledge to build the next generation of web applications.

10:20am – 11:10am	S	**Pedro Felix @pmhsfelix - Using Kotlin Coroutines for Asynchronous and Concurrent Programming**

5. Zeta

Speakers: Pedro Felix

Asynchronous and concurrent programming play a very important role in the current world of Web APIs and microservices, where a significant part of our code is about orchestrating interactions with external systems. Using traditional synchronous models, where threads are blocked while waiting for external responses, is not suitable for platforms where threads are costly, such as .NET or the JVM, or where there are special threads that can't be blocked, such as on Javascript or Android applications.

There are various programming models to handle asynchronicity, ranging from simple callbacks to reactive streams as a way to handle asynchronous sequences.
Among these, the concept of Future has seen broad adoption in multiple platforms (e.g. Promises/thenables in javascript, CompletableFuture in Java 8, Task in .NET), including language support via the async-await constructs, which are now available in languages such as C#, Javascript, and Python.
However, instead of also adding explicit async-await support in the Kotlin language, their designers decided to go another route and address these problems with the different and more generic concept of coroutines.

This session presents Kotlin coroutines, as implemented via suspending functions, and their use to write asynchronous and concurrent programs.
Starting from the ground-up, we show how suspending functions allows us to turn callbacks into suspension points that don't break the apparent control flow.
From then we move into creating and starting coroutines as instances of these suspending functions, taking a look at the underlying state machine and continuation interfaces.
With this knowledge, we show how the async-await construct can be implemented as library functions without needing explicit language support.
We also show how to achieve interoperability with other JVM asynchronous constructs, converting between them and coroutines.
The relation between coroutines and threads is also illustrated, with emphasis on thread scheduling (e.g. ensuring the coroutine always run in the Android UI thread) and context propagation.

With the recent release of Kotlin 1.3, coroutines graduated to a stable feature, becoming an essential language mechanism to write asynchronous code on the Kotlin language.

10:20am – 11:10am	S	**Seth Vargo @sethvargo - So you wanna do security with microservices, eh?** 1. Alfa

Speakers: Seth Vargo

Equifax, Yahoo, the NSA, IHG, Hyatt, Uber, and eBay are just a few of the over 100 companies that reported security and data privacy breaches in 2017. For many organizations, the perimeter firewall has been the only required security, but with the move to cloud, no longer can users rely on a firewall as the only means of defense. Instead, we need to adopt defense in depth and rethink the way we do security in microservices. Just like DevOps, this is a collaborative process that requires changes throughout the stack from developers, operators, security professionals, and executives.

Hackers are getting more sophisticated in their attacks. As a result, we need a strong recipe to reduce the threat of intrusion, a mechanism for detecting security breaches and anomalies, and a process for quickly responding to security incidents ("break glass").

Seth Vargo outlines the key principles for securing microservices and distributed systems in the modern world, where applications run in cloud or hybrid cloud infrastructure. You'll learn the challenges associated with microservices and the principles of secure applications (think 12-factor apps, but for security); you'll also discover how to implement time-based, limited-access controls and capture security practices and policy as code.

11:30am – 12:20pm	B	**Konstantin Zhidanov - Blockchain Protocols** 6. Theta

Speakers: Alexey Bashlykov, Jaro Šatkevic, Jonas Simanavicious, Konstantin Zhidanov

 -which blockchain protocols already exist
- which problems the technology fronted last two years
- examples of protocols trying to resolve the problems
- opensource protocols — what's the role of developers community in building blockchain ecosystem

11:30am – 12:20pm	S	**Daniel Molnar @soobrosa - The Data Janitor Returns** 3. Garage

Speakers: Daniel Molnar

This talk is for the underdog. If you're trying to solve data related problems with no or limited resources, be them time, money or skills don't go no further. This talk is opinionated and updated to GDPR, deep learning and all the hype .

11:30am – 12:20pm	S	**Milda Glebauskiatė @mildagle - Writing tests when the code is already there: Golden Master technique** 5. Zeta

Speakers: Milda Glebauskaitė

Inheriting someone else's code is scary. It might be ugly, unreadable and the intentions are not always clear. Especially if there are no tests. How to deal with it? Characterization tests come to the rescue.

There is no doubt, that test coverage brings safety when refactoring or adding new features to code. However, legacy code tend to be untestable and often we're stuck in a vicious circle were to test, we must refactor, and to refactor, we have to write tests. The purpose of characterization test known as Golden Master is to minimize the refactoring and maximize the safety in these situations.

In this session we will learn when and how to apply Golden Master and try to implement it ourselves.

11:30am – 12:20pm	S	**Morten Arngren - Cross-Device Tracking Algorithm** 2. Beta

Speakers: Morten Arngren

Cross-Device tracking is about connecting cookies across devices (eg. mobile phones, laptops) to form an extended profile per user. This can be used to provide a more personalized advertisement experience across devices. In this talk you will be taken down the rabbit hole of how Adform's Cross-Device algorithm was designed. It is both high-level with some depth into the core algorithm with some final results. It covers how the algorithm was designed and not so much the implementation in production.

11:30am – 12:20pm	S	**Nir Dobovizki @NirDobovizki - Smart home from scratch - a little C#, a little C++ and a whole lot of cheap Chinese electronics** 4. Lambda

Speakers: Nir Dobovizki

The story of my smart home system, all the way from the original idea to today, everything from designing the system, getting the hardware, dealing with the home existing electrical system and more

11:30am – 12:20pm	S	**Randy Shoup @randyshoup - Scaling Your Architecture with Events and Services**	1. Alfa

Speakers: Randy Shoup

This session is a deep dive into the modern best practices around asynchronous decoupling, resilience, and scalability that allow us to implement a large-scale software system from the building blocks of events and services, based on the speaker's experiences implementing such systems at Google, eBay, and other high-performing technology organizations.

We will outline the various options for handling event delivery and event ordering in a distributed system. We will cover data and persistence in an event-driven architecture. Finally, we will describe how to combine events, services, and so-called "serverless" functions into a powerful overall architecture.

You will leave with practical suggestions to help you accelerate your development velocity and drive business results.

12:20pm – 1:20pm	F	**Lunch**	1. Alfa

1:20pm – 2:10pm	B	**Aleksei Nikiforov & Augustas Alesiunas - Blockchain Usage in Real Business**	6. Theta

Speakers: Augustas Alesiunas, Aleksei Nikiforov

- the current state of market
- issues with mass adoption and implementation of blockchain in real world businesses
- examples from specific domains (insurance, agrotech, food industry, gaming)

1:20pm – 2:10pm	S	**Adam Ralph @adamralph - Finding your service boundaries - a practical guide**	3. Garage

Speakers: Adam Ralph

We know it's useful to split up complex systems. We've seen the benefits of modular deployment of microservices. Dealing with only one piece of code at a time eases our cognitive load. But how do we know where to draw the service boundaries? In complex business domains, it's often difficult to know where to start. When we get our boundaries wrong, the clocks starts ticking. Before long, we hear ourselves say "it would be easier to re-write it".

Join Adam for practical advice on discovering the hidden boundaries in your systems. Help tease out the natural separation of concerns in a sample business domain. During 20 years of developing complex systems, Adam has had plenty of time to get things wrong. Learn to avoid the common pitfalls that can lead us down the path to "the big re-write".

1:20pm – 2:10pm	S	**Chris Condron @CLCondron - Troubleshooting, Optimizing, and Managing Message Driven and Event Sourced Systems**	1. Alfa

Speakers: Chris Condron

In this talk we will look at how to leverage the messaging infrastructure itself to find and identify problems in message driven systems. We will look at what categories of problems can occur and what their symptoms are. Then move on to diagnosing the source of the problem and the taking corrective actions. We will also look at how to use these same tools to implement dynamic resource management. Finally we will wrap up with some thought on how to use tsi information in designing robust high performance systems.

1:20pm – 2:10pm	S	**Christian Zacharias @pulni - What it takes to become a great developer!**	2. Beta

Speakers: Christian Zacharias

Over the last years in my job as CTO for various companies I talked and met a lot of developers; often these developers were good ones but only a few of them were actually really great.

My talk will explain that becoming a great developer is possible for everyone by learning some specific skills and behaviors. You will see that being a great developer has nothing to do with expertise or technology (language, framework, stack).

1:20pm – 2:10pm	S	**Lukas Vileikis @en0xide - Lessons from 4 Billion breached records**	5. Zeta

Speakers: Lukas Vileikis

Websites are hacked daily and their data is stolen by hackers. How, why is it done and what can we learn from it?

1:20pm – 2:10pm	S	**Martin Hinshelwood @MrHinsh - Agile Scaling Unicorns and how to tame them**	4. Lambda

Speakers: Martin Hinshelwood

Many organisations are seeking that unicorn of process that will magically transform their organisation. They require that this agile unicorn be documented, scalable, and tell them exactly what to do, and when. We will dive into the fallacy of the scaled blueprint and demonstrate why it does not work. Then we will look at ways that we can use Scrum to Scale Scrum with the Nexus Framework. Designed by Ken Schwaber to be the scaffolding around which you can build your own unique process it enshrines only the minimum required to implement an Empirical Process Control System at scale for an organisation.

Just as with Scrum, the Nexus Framework is more like a rule book than a strategy guide. It makes sure that we are at least all playing the same game, working toward the same goal. But its not enough to Win, we need additional Practices or Strategies to help us. We will dive into some of those additional practices and how they might help you succeed

2:30pm – 3:20pm	B	**Dmitrii Chirkin - Law and Legislations for Blockchain Project**	6. Theta

Speakers: Dmitrii Chirkin
- state of legislations on different countries
- perspectives of the market from the lega point of view
- setting up the crypto company -- first challenges and how to avoid them

2:30pm – 3:20pm	S	**Jeff Strauss @jeffstrauss - Multithreaded JavaScript—Web Workers, Shared Memory, and Atomics**	2. Beta

Speakers: Jeff Strauss

For better and for worse, JavaScript is single-threaded by design. For over 50 years Moore's Law has described persistent exponential growth in computational power. But recently, physical limitations have slowed the trend, with advancement now coming more frequently through the use of multiple CPUs and cores. This is fine for languages featuring threads and task-based architectures. But what about JavaScript?

Thankfully, the JavaScript community has introduced new paradigms for handling parallelism over the web. The Web Worker allows long-running code to execute in the background without blocking the UI. Starting with ES2017, Shared Memory Buffers and Atomic operations allow easier passing of data and messages among these worker processes and your main application. Learn to leverage these exciting new features to improve the performance and responsiveness of your web application today!

2:30pm – 3:20pm	S	**Jessica Ellis @jellis_tkp - The Skills Gap: How to Inspire our Kids to study Computer Science**	1. Alfa

Speakers: Jessica Ellis

The last few years several countries have passed new legislation mandating computational thinking be added to students' core curriculum, but what are the best practices to use when teaching kids to code? By using a number of different delivery platforms and modern development practices including pair programming, mob programming and other techniques designed to teach computer programming in a social and collaborative environment, pioneering teachers and inspired curriculum are changing the demographics and the numbers of students pursuing STEM-related higher educations. We'll explore what programmers and other tech leaders can do to support and change the educational opportunities in their own communities.

2:30pm – 3:20pm	S	**Jurij Nesvat - The Cornerstones of the Accessibility Awareness**	5. Zeta

Speakers: Jurij Nesvat

The EU directive 2014/24/EU, USA ADA or the Rehabilitation act of 1973 are changing the game - more and more products, web sites and mobile apps have to be accessible. Let's talk about important things that should be done in the organization to succeed in meeting the new requirements.

2:30pm – 3:20pm	S	**Yan Cui @theburningmonk -How to build observability into a serverless application**	3. Garage

Speakers: Yan Cui
Serverless introduces a number of challenges to existing tools for observability, we need to adapt our practices to fit this new paradigm. In this talk we will see how you can implement log aggregation, tracing and correlation IDs for a serverless application.

| 2:30pm – 3:20pm | S | **Yves Lorphelin @ylorph - Tamed Eventual Consistency** | 4. Lambda |

"In Event Sourced systems, Latency is feared by the Developpers, and Eventual Consistency is uncacceptable for Business"

Most of us have been taught that users want to see the result of actions in our systems immediately.
And that therefore a typical transactional system is a must.

And so, we stopped thinking about time.
And so, we stopped asking:
* How long are you willing to wait
* Does it make sense to show an immediate response

Event sourcing, and the associated use of CQRS (Command Query Responsibility Segregation) has put time back as a first class citizen in our systems.
And made the need of discussions about latency explicit.

Latency and Eventual consistency is not a fatality.
It is a matter of modelling.
Modelling event streams.

This talk will explore an eventsourced subsystem, build for a government HR agency.
The steps used to tame eventual consistency inside it.
As well as those taken for integrating it into the whole Legacy system.

| 3:20pm – 3:40pm | F | **Coffee/tea break** | 1. Alfa |

| 3:40pm – 4:30pm | S | **Alexey Zimarev @Zimareff - Simplicity vs Simplification** | 5. Zeta |

You often hear that DDD is hard. People are trying and failing, complaining over increased complexity, which gets out of control. In fact, despite many complains that accidental complexity is overcoming the domain complexity, often this is not the case. Developers tend to over-simplify business problems and, in turn, play around with technical complexity instead. The reason for this is that many business problems are considered as "easy" or "solved" when it is actually not the case. According to past experiences, making decisions before engaging the decision-making part of the brain too often lead to underestimating of the domain complexity, poor user experience and low overall customer satisfaction.
During this talk, Alexey will show several cases like this and will try to convince you to think deeper about business problems, even if they seem to be simple at first glance.

| 3:40pm – 4:30pm | S | **Deimantas Steponavicius & Mazvydas Vrubliauskas - Creating maintainable code in a cross border team** | 4. Lambda |

This is the story of our endless journey to achieve maintainable code, while working in a startup-like organization with a strong focus on culture.
This culture encourages and enables us to be more agile in creating production code and to react faster to uncertain business needs.
Naturally, this implies the need for highly maintainable code, which is a challenge in itself, especially in a rapid growth phase of our investment product – june.dk.
In addition, to make things more complicated… we are a cross-border team scattered between two countries, Denmark and Lithuania.
One could say that the last part is the most peculiar, as cultural and multi-site differences impact every minute of our job way more than anybody expected in the beginning.
So this is the story of what we've learned while trying to tackle the challenges of becoming a mature and efficient team while having fun along the way.

3:40pm – 4:30pm	S	**Dylan Beattie @dylanbeattie - Apps, Algorithms and Abstractions: Decoding our Digital World**

Speakers: Dylan Beattie   1. Alfa

It's a familiar scenario. You're on a train, your phone goes 'ping', you take it out of your pocket and hey - someone sent you a message! It's a funny cat picture. You laugh, you reply 'LOL', you put your phone back in your pocket… but have you ever stopped to think about what's actually involved in making that happen? Inside even the most basic smartphone there are literally hundreds of innovations, algorithms and inventions - but how do they really work? How were they developed? And what's the next generation of algorithms and applications going to look like?

In this talk, we'll take a deep dive into the technology behind those everyday experiences, and demystify the algorithms and abstractions that make our digital world go round. We'll look at everything from network addressing algorithms, frequency-hopping cellular data networks and shortest path optimisation, to wavelet compression, fingerprint recognition and media encoding schemes. Whether you're a programmer, a product owner or just somebody who loves using the latest tech, after watching this talk you'll never look at your phone quite the same way again.

3:40pm – 4:30pm	S	**Ian Cooper @ICooper - The Clean Architecture**

Speakers: Ian Cooper   3. Garage

What is the clean architecture and how you would build one in .NET? Recently Bob Martin has categorized a set of architectures, including hexagonal architecture, onion architecture and screaming architecture as 'the clean architecture' - a layered architecture of concentric circles with a strong emphasis on separation of concerns. This architecture has become popular because of its amenability to modification as an evolutionary architecture and its support for practices such as TDD. In this presentation we will discuss the clean architecture and its benefits. More than that, in the bulk of the presentation, we will show you how to implement a clean architecture in .NET. From first steps to working code, we will show you the moves required to embrace this approach, and introduce you to some of the OSS libraries that can help you get there. All examples will be in .NET Core

3:40pm – 4:30pm	S	**Osvaldas Grigas @ogrigas - Good Enough Tests**

Speakers: Osvaldas Grigas   2. Beta

Not all integration tests are a scam, not all mocking is evil, and not all unit tests are useful. Trade-offs depend on architectural choices, the use of databases and frameworks. I will walk through the evolution of my own style of writing tests, focusing on their value, cost and agility. Finally, I'll share my current preferred style of testing microservices.

4:50pm – 5:50pm	S	**Keynote: Russ Miles @russmiles - How to Be Wrong**

Speakers: Russ Miles   1. Alfa

Being wrong is often seen as the WORSE THING THAT CAN HAPPEN(tm), especially when you're build business critical applications and services. But the increased velocity of modern software development, plus the increased need for our systems to be resilient, reliable, and RIGHT has increased the pressure on developers exponentially. Never before have software owners had such an opportunity, or the power, to BE WRONG!

We need to get better at being wrong, and that's what this keynote is all about.

In this keynote talk Russ Miles, CEO of ChaosIQ,, will share the tools and techniques he uses to turn inevitably BEING WRONG, into BEING SUCCESSFUL at BEING WRONG. BEING WRONG can be turned to our advantage, and in this talk Russ will share stories of how this has happened, and also the challenges to look out for.

The myth of always being right when you create and operate software is over! You're going to BE WRONG most of the time's time to get better at BEING WRONG, learning to turn "accidents" such as outages into opportunities…

8:00pm – 11:30pm   P   **Magic Party: It's not magic, it's just code.**   1. Alfa

THE PARTY WILL TAKE PLACE AT ANOTHER VENUE. Let's meet at Legendos Klubas: Kalvarijų g. 85, Vilnius 08219

Beers & snacks are on us!

PROGRAM:
8.00 p.m. Registration to the Party
8.15 p.m. The Rock star Dylan Beattie
8.45 p.m. Magic Show by Rokas Bernatonis
9.15 p.m. Russ Miles Symphony
9.30 p.m. Wolfsome Show
10.15 p.m. DJ Magic
10.35 p.m. Wolfsome Show
11.20 p.m. DJ Magic

| B | Blockchain | F | Free time | P | Party | S | Session | W | Workshop |

NOVEMBER 16 • FRIDAY

| 10:00am – 11:00am | S | **Keynote: Sam Newman @samnewman - Insecure Transit - Microservice Security** | 1. Alfa |

Speakers: Sam Newman

A deep dive into some of the technical challenges and solutions to securing a microservice architecture. Microservices are great, and they offer us lots of options for how we can build, scale and evolve our applications. On the face of it, they should also help us create much more secure applications - the ability to protect in depth is a key part of protecting systems, and microservices make this much easier. On the other hand, information that used to flow within single processes, now flows over our networks, giving us a real headache. How do we make sure our shiny new microservices architectures aren't less secure than their monolithic predecessors? Picking up where my previous presentation on this topic left off, in this talk, I outline some of the key challenges associated with microservice architectures with respect to security, and then looks at approaches to address these issues. From secret stores, time-limited credentials and better backups, to confused deputy problems, JWT tokens and service meshes, this talk looks at the state of the art for building secure microservice architectures.

| 11:00am – 11:20am | F | **Coffee/tea break** | 1. Alfa |

| 11:20am – 12:10pm | S | **Dennis Traub @dtraub - Domain Modeling in a Serverless World** | 2. Beta |

Speakers: Dennis Traub

Back in the day, when Eric Evans came up with Domain-Driven Design, Microservices were still in the future and nobody had ever heard of "Serverless" or Functions as a Service (FaaS).
Modeling a rich domain has always been hard, and it has become even harder with a modern architecture's share-nothing approach while multiple services and functions still need to operate on common conceptual models.
In this session, Dennis presents a few approaches to model the richness of a business domain without turning your serverless functions into a "Distributed Big Ball of Mud".

| 11:20am – 12:10pm | S | **Heather Downing @quorralyne - The Visible Developer: Why You Shouldn't Blend In** | 3. Garage |

Speakers: Heather Downing

Ever wonder how some technical people are recognized and promoted quicker than others with the same skillset? Yes, there is a formula to make it more likely. We will explore the habits of well known developers outside of their coding chops, to identify what additionally allowed them to become a trusted and known voice in their environment. This approach can be a benefit to you, no matter how junior or senior you are.

| 11:20am – 12:10pm | S | **Mikhail Shilkov @MikhailShilkov - All-in on Cloud: How We Moved from Million Euro Worth of Hardware to Azure PaaS** | 5. Zeta |

Speakers: Mikhail Shilkov

Astrata Europe is tracking telemetry from tens of thousands of vehicles throughout Europe. For many years all the back-end services were hosted on bare-metal self-managed hardware.

By the end of 2017, the decision was made to join the cloud era and move all business-critical workloads to Azure cloud. And on top of that, the applications were modernized to leverage higher level Platform-as-a-Service whenever feasible.

During this session Mikhail will guide you through this migration story from making the decision to lessons learned, looking from developer and operations points of view.

11:20am – 12:10pm	S	**Rob Ashton @RobAshton - Patterns for building zero-support distributed systems in Erlang**

Speakers: Rob Ashton
<div align="right">6. Theta</div>

We have all seen the local demos of the "let it fail" philosophy that Erlang espouses, but what happens when you take that and apply it across a complete distributed system in production? What does it look like and how does it change the manner in which you then support it?

For the last several years, I have been working in a very small team, both building and deploying/supporting bespoke products that power upwards of half a million live video events a year, as well as forming the backbone of various television services across the UK. For some of our customers, it has been half a decade since we received a support call and indeed it is a virtual non-happening that anybody has to get out of bed to solve a problem in production. A lot of this results directly from our use of OTP, and there are then wider patterns that have arisen across our codebases and even the manner in which we provide support to our clients.

In this session, we will be using code and examples from real-world projects to demonstrate how we build, deploy, and then support hundreds of services/workloads across both the cloud and our on-premise high density units in production, as well as also covering how our software stack ensures that on a bad day, our services carry on delivering content even when servers are catching fire or somebody has spilled coffee on the datacentre power supply.

11:20am – 12:10pm	S	**Sirar Salih @sirarsalih - Two Tales: The time when I flew drones and when I talked to the cookie monster using Node at the Norwegian Parliament**

<div align="right">4. Lambda</div>

Speakers: Sirar Salih

Once upon a time I had the idea of creating a Node server to control a drone through the power of the Internet. Of course, this idea seemed crazy at the time as this was when the Internet of Things was just becoming a new buzzword. Controlling things using the Internet was a new and fascinating thing at the time. This tale (one of two) will look at how I managed to control a drone by creating and using a Node server, to fly a device from any corner of the world. This tale will dissect and investigate the node-server-ar-drone library, created by myself, at NPM.

The second tale, is a rather funny one. It takes place many years after the first tale, in an environment so bureaucratic that it leverages 8 year old technology. This second tale, is about how I sat up a Node server at the Norwegian Parliament so that I could talk to the browser's cookie monster to save and to fetch user data related to GDPR. In other words, this tale is so sensitive that it includes GDPR, the Norwegian Parliament and the all bureaucracy that follows.

Welcome to an adventurous day of tales!

11:20am – 12:10pm	S	**Vitaly Friendman @smashingmag - Dirty Little Tricks From The Dark Corners of eCommerce**

Speakers: Vitaly Friedman
<div align="right">1. Alfa</div>

When designing eCommerce experiences, we tend to prioritize what we want to say rather than how it's actually said. It's not easy because there are literally hundreds of things that can go wrong: from selecting a product, to adding an item to the cart, to getting that final confirmation email, to actually receiving the purchased item. Every step along the way has to be meticulously designed with an eye for error and potential misunderstandings. It affects interaction with filters as much as displaying shipping options or sending a shopping cart abandonment email.

In this talk, Vitaly will be covering a few design patterns to increase conversion by improving clarity and consistency of the eCommerce experience and sparkling a little bit of delight here and there. You'll walk away with hands-on tips and techniques for crafting better eCommerce experience right away.

12:10pm – 1:10pm	F	**Lunch**

<div align="right">1. Alfa</div>

1:10pm – 2:00pm	S	**David Ostrovsky @DavidOstrovsky - Containers in Production: It's Like Orchestrating Cats** 2. Beta

Speakers: David Ostrovsky

You've finally installed Docker and typed 'docker run hello-world' into the terminal - congratulations! You have taken the first out of about a thousand steps to having your containerized application run in production. Let's talk about the other nine hundred and ninety nine.

We need to look at container orchestration: who creates the containers, how many and when, who makes sure they stay up or get upgraded? We need to look at monitoring, which needs to go from looking at easily identifiable machines, to amorphous cloud applications that span multiple machines and keep moving around. We have to have get logging and debug information from our containers. We must consider security and service discovery. The list of buzzwords is long, but we'll do our best to cover it in this talk. We will look at Docker Swarm, Kubernetes and Amazon Container Service for orchestration and discuss how to monitor, debug and secure containerized applications both on-prem and in the cloud.

1:10pm – 2:00pm	S	**Kevlin Henney @KevlinHenney - 1968** 1. Alfa

Speakers: Kevlin Henney

It's half a century since the NATO Software Engineering conference in Garmisch. How are we doing? Are we nearly there yet? Or is there no there there?
The world of software development has changed so much and in so many ways since 1968 that it's difficult to imagine what we could learn from the past, but it's learning rather than imagination that's the constraint. There was no shortage of imagination, insight and inspiration in the 1960s and 1970s, and in many ways the apple of 21st-century software development has fallen disappointingly close to the tree of the past.
So let's turn back the clock to see what we could have learned from the past, what we can still learn from the past and what the future might hold in store for code and its development.

1:10pm – 3:10pm	W	**Alexey Bashlykov - Getting started with Solidity** 6. Theta

Speakers: Alexey Bashlykov

Solidity is the most popular language for writing Ethereum smart-contracts. In the course of the workshop, the audience will be introduced to Truffle -- a development framework that makes working with smart-contracts a whole lot easier. We will discuss the best practices and all together write our first smart-contracts, test them, and deploy to the network.

1:10pm – 3:10pm	W	**Alexey Zimarev @Zimareff & Sergio Silveira @RagingKore - Hands-on event sourcing with .NET**

Speakers: Sergio Silveira, Alexey Zimarev   3. Garage

Event sourcing is becoming ever more popular these days. May people heard about it on different conferences but not so many have tried. It seems to be too complex at first. Experts shout - here be dragons, only sue this technique when you have to. In fact, event sourcing can solve many challenges that many business domains have in terms of technical implementation. In DDD we moved towards behaviour-first approach after many years of struggle with domain models being our data models. Event sourcing finally allows us making behaviour visible and persistent. But you need to get some hands-on experience and all those little things that no one tells you about, before getting serious about event sourcing. During this workshop, Alexey and Sergio will gradually bring more clarity to implementation techniques of an event sourced application, touching upon domain analysis, defining events, entities and value objects, persisting events and using projections. You will also learn the basics about distribution, integration and task-based UI. All the code will be in C# and some JavaScript.

Please ensure that you know what Event-Sourcing, since we won't be spending much time on the theory and will jump to writing code as soon as we can.

If you plan to follow the code, please check the requirements here:
https://github.com/alexeyzimarev/PrepareForEventSourcingWithCsharp

1:10pm – 3:10pm	W	**Heather Shockney @HeatherShockney - Developer's Guide to User Experience and Design**

Speakers: Heather Shockney   4. Lambda

 User experience and design are often hard problems for developers. We focus on code and hopefully someone else will make sure it looks good and users enjoy using it. That's because user experience requires a different set of tools and thought processes. Sometimes, however, we do not have the luxury of a design team on every project. Join us and add some of those tools to your toolbox so that every product you work on from this point forward has the extra edge. Regardless of if you are building an AR/VR, ML, or Mobile/Web app, this talk will help you to:

* Perform User Research
* Use sketching sessions
* Affinity diagramming
* Design Information Architecture
* Create Valuable Personas
* Create User Journeys and Story Mapping
* Usability Testing
* Define Minimum Marketable Product

1:10pm – 3:10pm	W	**Mandi Walls @lnxchk - Making Security and Compliance Easy with InSpec** 5. Zeta

Speakers: Mandi Walls

InSpec is an open source testing framework for infrastructure with a human- and machine-readable language for specifying compliance, security, and policy requirements.

Using a combination of command-line and remote-execution tools, InSpec can help you keep your infrastructure aligned with security and compliance guidelines on an ongoing basis, rather than waiting for and then remediating from arduous annual audits. InSpec's flexibility makes it a key tool choice for incorporating security into a complete continuous delivery workflow, reducing the risk of new features and releases breaking established host-based security guidelines. This workshop covers the basics of working with InSpec, writing tests to reflect your organization's security guidelines, consuming community security profiles, and managing InSpec as part of a high-velocity workflow.

2:20pm – 3:10pm	S	**Bill Dinger @adazlian - OWASP Top 10 Vulnerabilities & ASP.NET** 2. Beta

Speakers: Bill Dinger

In this talk we'll go over the new 2017 OWASP Top 10 vulnerabilities and how they apply to ASP.NET. We'll include a demonstration of each vulnerability, the risk it poses, how to detect the attack, and how to mitigate it. Source code and demo project will be available.

2:20pm – 3:10pm	S	**Roy Osherove @RoyOsherove - The Enterprise Devops Challenge** 1. Alfa

Speakers: Roy Osherove

DevOps is the implementation of continuous delivery and agile concepts across the organization, focusing on pipelines as the main building blocks for delivery value internally and to the customer.
But getting to that state is complicated because it requires several facets of work: People, process and tools.
In large organizations ,we have the added complexity of :
" Multiple dependencies and sub systems
" Multiple teams, groups, business units with competing interests
" Varying degrees of agility, culture, tools, technologies and processes
" Security, compliance and policy gates

In this talk we will discuss main patterns and anti patterns for adopting and implementing DevOps pipelines throughout the organization.

3:10pm – 3:30pm	F	**Coffee/tea break** 1. Alfa

3:30pm – 4:20pm	S	**Irma Spudienė & Augustas Nekrošius - Master Data API story: REST is dead, long live GraphQL?** 5. Zeta

Speakers: Augustas Nekrošius, Irma Spudienė

Master data is critical information for operational and analytical decision-making within a large financial organization. In the case of SEB, Master Data includes customer, products and business arrangements information which is shared internally across our company's systems yet externally to regulators. As part of transforming our Master Data domain we are re-designing the service interface towards our consumers. One of most popular approaches is to use REST web services for API. But what if we could have a more flexible solution when it comes to the clients' ability to pick the data they are interested in by not having to build several consumer specific end-points? GraphQL - a very interesting REST alternative - allows the consumer of the API to specify what data it needs and limits the over-fetching or under-serving you can get with REST. During the presentation, we will explain the concepts architects and developers need to understand and talk about challenges you may face when adopting GraphQL. Furthermore, we will provide a demonstration of how REST and GraphQL coexist in our solution. Or maybe we intend to replace REST with GraphQL? Let's discuss!

3:30pm – 4:20pm	S	**James Nugent @jen20 - Infrastructure as TypeScript** 2. Beta

Speakers: James Nugent

For almost a decade "Infrastructure as Code" has been a DevOps buzzword - but the myriad tools in share a dirty little secret... there's no actual code! Few people like "programming" YAML or JSON (even the human-friendly variants!), and even fewer like having to reverse-engineer ways to apply known good development practices to tools which resist it at all cost.

So, what if things were different,and programming infrastructure was more like real programming, with real programming languages like TypeScript? What if you defined Lambda functions by actually writing lambdas, created abstractions using complex types, and could take advantage of existing tools for modularity, linting, refactoring and testing?

Enter Pulumi, an open-source deployment engine which enables all these things using TypeScript, Python or Go!

In this talk, we'll look at how you can write TypeScript code using Pulumi to provision traditional cloud infrastructure, manage Kubernetes and build portable "serverless" applications - all with minimal YAML in sight! We'll look at deploying to multiple regions of the same cloud, and how to build abstractions allowing multi-cloud to be a reality.

3:30pm – 4:20pm	S	**Karl-Henrik Nilsson @KHNilsson - LogicApps - unleash your productivity** 1. Alfa

Speakers: Karl-Henrik Nilsson

Pre-written code that, like tiny bricks of lego, can add features to your application or workflow?! Join Karl-Henrik Nilsson and learn how logic apps contribute to everything from keeping inbox zero to features for new apps and how he uses it to get away from helping friends and family!

3:30pm – 4:20pm	S	**Marco Heimeshoff @Heimeshoff - Software development is not about software** 3. Garage

Speakers: Marco Heimeshoff

We build software that changes the world. From optimizing small companies to connecting humans and businesses on a global scale, our work plays a hidden but major role. Software development is not about software, it is about understanding the customers domain and solving their problems. We need a culture, a way of thinking about the needs of the customers first and putting an emphasis on their language and human interactions. If we let the domain drive our design, we can tackle complexity in the heart of software. The pillars of Domain Driven Design are learning, language and empathy. With the right mindset it becomes simple to derive good models, keep them pure and aligned with the business.
Let's explore how to use Domain Driven Design to transform everything in your organisation: code, culture, agile and architecture.

3:30pm – 4:20pm	S	**Priit Liivak @priitliivak - Impact of cultural dimensions in distributed software teams** 4. Lambda

Speakers: Priit Liivak

When software teams grow across geographical boundaries, they face a new set of communication challenges. These challenges may arise from large time-zone differences, new communication channels or, in some cases, from disparities in cultural paradigms. During this talk, I will share my knowledge and experiences from working with various distributed development teams in an international organization. By reflecting on scientific research and various real-life stories, I wish to improve your experience working in a dispersed environment.

4:40pm – 5:40pm	**S**	**Keynote: Jeff Strauss @jeffreystrauss - Starting Over** 1. Alfa

S   **Keynote: Jeff Strauss @jeffreystrauss - Starting Over**   1. Alfa

4:40pm –
5:40pm

Speakers: Jeff Strauss

Adversity. A necessary component of life. Inevitably, we all reach professional and personal moments that require us to take a deep breath and a giant step back. Moving forward again often feels difficult, even impossible. We suffer, immobilized by fear.

But fear is more than some pesky roadblock. It is a rational response to adversity. Whether facing a major code refactoring, the changing technology landscape, a new role, or even a fresh career, we can learn to leverage fear and uncertainty to move beyond our hurdles and get the job done! Key life skills exist that can be developed to conquer adversity. Learn to assess risks, build relationships, and recognize opportunities for growth.

Starting over may seem insurmountable. Armed with the right skills, perspective, and a little patience, nothing truly is.

NOVEMBER 17 • SATURDAY

9:00am –
5:00pm

W   **(PART1) Chris Condron & James Geall - Building real world distributed systems**   2. Beta

Speakers: Chris Condron, James Geall

When you build a real event sourced system, there are a number of patterns that are often spoken to but not shown. This class will walk you through some of them.

9:00am –
5:00pm

W   **(PART1) Ian Cooper - Practical Messaging**   4. Lambda

Speakers: Ian Cooper

Increasingly developers are relying on distributed architectures to solve the problems of scaling their applications and their development teams. But that means they now have to consider the problem of getting the parts of their systems to talk to each other.In this tutorial, we will look at why asynchronous messaging is often the preferred solution to the problems of integrating and distributed solution, and look at the implementation of common messaging patterns.

If you have ever been put off moving from RPC-based solutions to messaging because of the need to learn how to implement messaging based solutions, this workshop will get you started. if you have been using messaging but want to gain a firmer understanding

The session will be a hands-on introduction and take you from simple messaging scenarios like "Hello World" through to more complex ideas like routing, brokers, and publish-subscribe.

Topics covered will include:

Day 1: Messaging Architectures and Simple Patterns

- Integration Styles
- Why Prefer Messaging?
- Decoupled Invocation
- Work Queues
- Messaging Systems
- Pipes and Filters Architectures
- Channels, Endpoints, Routers
- Types of Messages
- Command. Events, & Documents
- Request-Reply
- Channels
- Point-to-Point
- Publish-Subscribe
- Data Type Channel
- Invalid Message Channel
- Dead Letter Channel
- Endpoints
- Polling Consumers
- Event Driven Consumers
- Competing Consumers
- Service Activator

Day 2: Distributed Systems Advanced Patterns

- Routers

- Content Based Router
- Routing Slip
- Process Manager
- Management
- Message Store
- Control Bus
- Reliability
- CAP Theorem
- Eventual Consistency
- Guaranteed Delivery
- At Least Once
- Exactly Once
- Durability & Persistence
- Rabbit MQ Clusters
- .NET Frameworks
- Brighter
- Mass Transit
- NServiceBus
- Message Oriented Middleware
- Rabbit MQ
- Redis
- RDBMS
- Kafka
- SQS + SNS
- Kinesis
- Azure Service Bus

There will be hands on coding exercises in .NET and Python enabling you to implement simple and more complex messaging scenarios.

Computer setup:

We will use Rabbit MQ for examples. You need not have the latter installed on your machine, but you should have Docker installed on your machine, as exercises will use Docker Compose.

9:00am – 5:00pm	W	**(PART1) Jimmy Bogard & Adam Ralph - SOA Done Right (with examples in ASP.NET and NServiceBus)**

1. Alfa

Speakers: Jimmy Bogard, Adam Ralph

Go beyond the hype and build a solid foundation of theory and practice with this workshop on SOA development.

Join Adam Ralph and Jimmy Bogard for a two-day deep dive covering architectural topics like:

- UI decomposition
- Data ownership across the enterprise
- Finding service boundaries

You'll also learn the nitty-gritty details of building production-ready systems including:

- Fault tolerance – HTTP and queues
- Reliable integration with 3rd party systems
- Scalability, high availability & monitoring

Finally, get some hands-on experience in SOA development by building:

- Scalable command-processing endpoints
- Publish/subscribe event-processing interactions
- Long-running multi-stage business processes and policies

Objectives

We'll understand service oriented architecture concepts, and DDD concepts such as bounded contexts and data ownership.

We'll apply those concepts to build a simple, yet fully functional, order management system sample with a microservices architecture, using patterns such as command processing, pub/sub and long-running sagas.

Skill Level

Senior developers, tech leads, and architects will benefit most from this workshop.

Computer setup

Participants are requested to bring a Windows laptop with Visual Studio 2017 and to follow the full set up instructions at least one week before the workshop, available at https://github.com/Particular/Workshop/blob/master/README.md

9:00am – 5:00pm	W	**(PART1) Roy Osherove - Elastic, Agile and adaptive Leadership Workshop**	3. Garage

Speakers: Roy Osherove

The Problem

As managers, architects, and other types of technical team leaders, you usually learn the "what" of how your teams should work. You learn about methodologies, practices and techniques for delivering software. Often, you leave courses on these topics with a great desire to "change" how things work, but soon discover you are "stuck". Stuck convincing your team to adopt specific practices. Stuck by not having enough time to learn how to accomplish these practices ("we don't have time for unit testing"). Stuck with all the people related aspects of leading a team.

Objective

In this workshop we will learn essential skills and techniques for leading software teams, based on elastic and adaptive leadership principles.

You will gain the skills to make real change happen in your team, and to grow the team you want from the team you have.

1. Learn about the three basic team modes: Survival mode, Learning mode and Self Organization Mode. Learn how to know which mode your team is in right now.

2. Learn essential skills for the three modes of leadership you will need for the three phases of the team: Command and control leadership, Coaching and facilitative leadership.

3. Learn how to change anything by understanding why people behave they way they do, and understanding the six influence forces that affect our behavior.

4. Participate in engaging exercises that will examine your skills at the various leadership modes.

Agenda - Day 1

1. The role of the leader, and the leader's manifesto
2. Introduction to elastic leadership
3. The three team and leadership modes
4. Focusing on Survival mode and how to get out of it
5. Exercises on survival mode
6. Commitment Language
7. Exercises on Commitment Language

Agenda - Day 2

1. The Learning Mode, and the coaching leader
2. How we learn
3. How to grow people
4. Delegation as growth tool
5. "What are you going to do about it?"
6. Exercises in delegation
7. Team Homework
8. Clearing Meetings and growth meters
9. Influence Forces
10. Exercises in influence forces
11. Team Dysfunctions

9:00am – 5:00pm	W	**Dennis Traub - Hands-On AWS Workshop**	5. Zeta

Speakers: Dennis Traub

What you will learn:

- How to secure your account with IAM and CloudTrail
- How to securely store and archive data with S3 and Glacier
- How to build and troubleshoot a multi-tier infrastructure

Who should attend:

This workshop is primarily aimed at developers, ops specialists and architects with basic experience on AWS or similar cloud platforms. However, we will be working in groups, therefore even if you've never had a chance to work with the cloud before, this is your chance to learn a lot.

Prerequisites:

There will be pre-provisioned training accounts, so you won't need to bring your own.

9:00am –
5:00pm

W   **Kevlin Henney - Paradigms Lost, Paradigms Regained: Programming with Objects and Functions and More**
                                                                                        9. Eta

Speakers: Kevlin Henney

It is very easy to get stuck in one way of doing things. This is as true of programming as it is of life. Although a programming paradigm represents a set of stylistic choices, it is much more than this: a paradigm also represents a way of thinking. Having only way to think about problems is too limiting. A programming paradigm represents a set of patterns of problem framing and solving and contains the ingredients of software architecture. As Émile Auguste Chartier noted, there is nothing more dangerous than an idea when you have only one idea. Perhaps even more problematic than being stuck with a narrow view of paradigms, is being stuck with a dysfunctional view of each paradigm. For instance, many developers working in languages and frameworks that support object orientation lack a strong idea of the principles of interaction, data abstraction and granularity that support an effective view of OO, and instead surround themselves with manager objects, singletons and DTOs. During the day we will explore the strengths and weaknesses of different programming styles, patterns, paradigms, languages, etc., with examples and opportunity for discussion.

Notes: This is a lecture-based day, but with plenty of opportunity for questions and discussion. This is the same 1-day session (updated slightly) that was popular in 2016.

9:00am –
5:00pm

W   **Martin Hinshelwood - Delivering software with Azure DevOps Services**
                                                                                        7. Omega

Speakers: Martin Hinshelwood

With the rename and relaunch of VSTS as Azure DevOps and lost of new features there is no better platform for being able to deliver all of your applications continuously to production. We will cover planning and organisation with Azure Boards, repos and pull requests in Azure Code, continuous delivery in Azure Pipelines, and a little stint on Azure Artefacts and Application Insights. Don't miss this one day workshop that will challenge you to get better at delivering your own software.

9:00am –
5:00pm

W   **Philipp Krenn - Monitor Your Applications with Logs, Metrics, Pings, and Traces**
                                                                                        6. Theta

Speakers: Philipp Krenn

"With microservices every outage is like a murder mystery" is a common complaint. But it doesn't have to be! This workshop gives an introduction on how to monitor distributed applications with open source tools and in particular the Elastic Stack (previously ELK Stack).
We dive into:
* System metrics: Keep track of network traffic and system load.
* Application logs: Collect structured logs in a central location.
* Uptime monitoring: Ping services and actively monitor their availability and response time.
* Application metrics: Get the information from the applications' metrics and health endpoints via REST or JMX.
* Request tracing: Use Sleuth to trace requests through a distributed system and Zipkin to show how long each call takes.

9:00am –
5:00pm

W   **Russ Miles - Chaos Engineering 101**
                                                                                        8. Epsilon

Speakers: Russ Miles

Are you ready to improve your resilience of your Cloud systems? In this 3-day, pay for, workshop Russ Miles will dive into Chaos Engineering so that you can build confidence in your systems behavior and identify weaknesses before they happen!

Chaos Engineering is a relatively new term for a practice that has been successfully applied by some of the largest and most complex production systems for some time. If you're working with large-scale, complex systems then you will likely benefit from building confidence in your systems using the Chaos Engineering approach.

Chaos Engineering is an empirical discipline for defining experiments where the weaknesses of a complex, or even chaotic, system can be explored, discovered and eventually rectified. Most frequently practiced in Production, Chaos Engineering helps you learn about your system so that it can be continuously improved in the face of current and future conditions.

Key takeaways:
• Demystify Chaos Engineering and explore how and why it is needed.
• Learn how to establish an culture, practice, architecture and design that is ready for Chaos Engineering.   • Learn how to effectively Plan your own Game Days to collectively uncover system weaknesses with your team.

• Learn how to Design, Build and Execute careful and controlled Chaos Engineering experiments to learn about weaknesses in your complex production systems.
• Learn how to apply different levels of experiments to learn about different weaknesses.

NOVEMBER 18 • SUNDAY

9:00am – 5:00pm	W	**(PART2) Chris Condron & James Geall - Building real world distributed systems** *Speakers: Chris Condron, James Geall* When you build a real event sourced system, there are a number of patterns that are often spoken to but not shown. This class will walk you through some of them.	2. Beta

9:00am – 5:00pm	W	**(PART2) Ian Cooper - Practical Messaging** *Speakers: Ian Cooper*	4. Lambda

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Speakers: Roy Osherove

The Problem

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Agenda - Day 2

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10. Exercises in influence forces
11. Team Dysfunctions

9:00am – 5:00pm	W **Denise Jacobs - Hacking the Creative Brain**	6. Theta

Speakers: Denise Jacobs

As tech professionals, what we need is a way to work better so that we can create more, right? Our brain is our most powerful tool, but so often the practices and culture of work only stifle our efforts to produce fresh ideas and approaches when most needed. As developers, we hack all of the time. In order to have more creative productivity, we need to do is re-approach and modify how we use our brains on a daily basis in order to access more of its inherent processing power. Through exploring various concepts and approaches, including the neuroscience of creativity, productivity techniques, and emerging practices that spur innovation, we'll discover not only the ways in which our brains work best, but also what's behind the times when we feel on fire with creativity and when we don't. We'll translate this information into processes and techniques for dramatically enhanced creative productivity. Beware: this workshop challenges the standard norms around concentration, focus, productivity, and may change how you work…for the better.

Topics include:
• The six step process for hacking the brain in order to work better and create more
• The neuroscience behind creativity
• Recognizing and expanding idea generating and capturing styles
• Shifting your brain into the state where one accesses information and ideates best
• Leveraging the relationship between collaboration and playing games to foment creative inspiration
You'll get tools to aid with:
• Managing time and eliminating distractions to achieve optimal rightbrained productivity
• Busting the biggest blocks and inhibitors of creativity
• Creating a repository of inspiration sources to kick-start the creative thinking and innovation process
• Finishing products faster
The goal of the workshop is to help participants:
• Reconfigure standard approaches to work in order to be more innovative and creatively productive
• Transform negative stress into eustress to spur creative productivity
• Structure time and workspaces to be more productive
• Generate new ideas when most needed

9:00am – 5:00pm	W **Elton Stoneman - Docker on Windows: From 101 to Production**	7. Omega

Speakers: Elton Stoneman

Docker is a platform for running applications in lightweight units of compute called containers. You can run new and old apps in containers, and get increased portability, security and efficiency for your software. The platform supports the full development and deployment lifecycle - with Docker you can build, ship and run any app anywhere.

Docker has production support for containers on Windows Server 2016, and Windows containers don't need separate licencing. Migrating your apps to Docker is a great way to increase utilization in your datacenter, or to prepare for a move to the cloud. When your app is running in Docker, it's easy to break features out and run them in separate containers, so you can deploy updates to your app without a full regression test.

In this full-day workshop you'll use Docker EE on Windows Server 2016* and learn:

- how Docker containers work on Windows
- how to package existing .NET apps using Docker
- how to break features out from a monolith into separate containers
- how to add monitoring to your containers
- how Docker supports resilience and scale on a single server
- how to run a full CI pipeline using Docker
- how Docker swarm mode provides production-grade orchestration.

* - you don't need your own Windows Server machine, you'll be provided with a VM in the cloud. You just need a Remote Desktop client so you can connect.

| 9:00am –
5:00pm | W | **Sam Newman - Building Microservices Workshop** | 5. Zeta |

Speakers: Sam Newman

There is lots of theory out there about microservice architecture, but how often do you get to put that knowledge into practice? It's not feasible to re-architect your real system often, and certainly not in a single day, or is it? This brand new workshop from the author of Building Microservices gives you a safe space to explore ideas behind microservice architectures with peers from other organisations.

In this workshop, we'll share some framing for micro service architectures that explore the various forces that can drive the design and evolution of microservices, and then you'll participate in a series of interactive architectural kata exercises to put your new found knowledge to the test. Afterwards, you'll have a series of tools to take back to your own organisations to put into practice.

This workshop will cover

- What makes a good microservice
- How to use concepts from domain driven design to define service boundaries
- Explore how to plan and manage a migration from a monolith to the microservice architecture
- Understand how technical choices can impact the architecture itself
- How to manage change and governance in a microservice environment

Audience

People who are in the process of moving to micro services, or are already on the path should get a lot out of the event. It's primarily aimed at people in technical leadership positions like tech leads and architects, but should be of use to any developer or operations person interested in how to move to microservices. Prior knowledge of service oriented architectures generally or microservices specifically is useful, but by no means essential.

Attendee Requirements

This is a participatory workshop. You won't get to just sit there and watch - the more you participate in the workshop, the more you'll get out!

| 9:00am –
5:00pm | W | **Yan Cui - Production-Ready Serverless: operational patterns and practices** | 8. Epsilon |

Speakers: Yan Cui

Getting started with AWS Lambda is easy, but understanding the operational challenges and tradeoffs is a much more nuanced topic, and one that you need to grasp before you can be confident in operating a serverless architecture responsibly. Come to this workshop and learn all about Serverless ops.