

# Prairie.Code() 2019

**September 11 - 13**

**an Amegala Conference**



**Holiday Inn Convention Center • 6111 Fleur Dr. • Des Moines, IA 50321**

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# Attendee Letter

Dear Prairie.Code() Attendees,

We are so excited to be back hosting Iowa's largest software development conference. We want to welcome all the new faces here today and heartily greet all the familiar ones who have supported us the past several years.

We hope you enjoy our new venue here at the Holiday Inn Des Moines Airport Hotel and Conference Center! We have 4 terrific keynotes, 7 fantastic workshops and over 60 great breakout sessions. We also have some incredible supporters here; with Robert Half Technology, Corteva Agriscience, Object Computing and Pillar Technology on site. Along with these fine organizations, we are immensely grateful for the support of Welty Automation, Cardboard Caucus, Des Moines Web Geeks, Gravitare Coworking and the Technology Association of Iowa.

Prairie.Code() remains a community-driven and organized event, and it is our continued goal to help grow and support the local software development community. We are incredibly honored to have the engagement and collaboration of so many home-grown companies and user groups, who recognize that we are working hard to offer quality education and networking opportunities at our conference. We could not do what we do here without the support of the fore mentioned organizations, so please stop by and introduce yourselves to them and show them some love.

Please do not be shy---we value your honesty and feedback. We want to hear from you, our attendees, about what worked well, what did not, and what we could do differently, or better. Please share your feedback with the speakers. And, please find us on social media and hashtag #PrairieCode. We are active on Twitter, Facebook, Instagram and LinkedIn, where you can get up-to-date information regarding the next conference, openings for Call-for-Presenters, full speaker biographies, and more.

Please do take this opportunity at Prairie.Code() to network and mingle with your peers, meet new individuals and learn about what they doing. Visit the sponsor booths and have them scan your badge for a chance to win amazing prizes.

Finally, please partake in the fun and join us this Thursday, September 14th in the hotel courtyard from 5:00PM-8:00PM for a Hawaiian luau-style feast with a whole roast pig and plenty of vegetarian-friendly sides, drinks and mingling! Organizers of Cardboard Caucus will be on hand with a nice selection of tabletop games to borrow and teach!

If you have any questions, comments, or concerns, please let me or any volunteer know. We will be happy to assist.

Thank you!  
Ken Versaw







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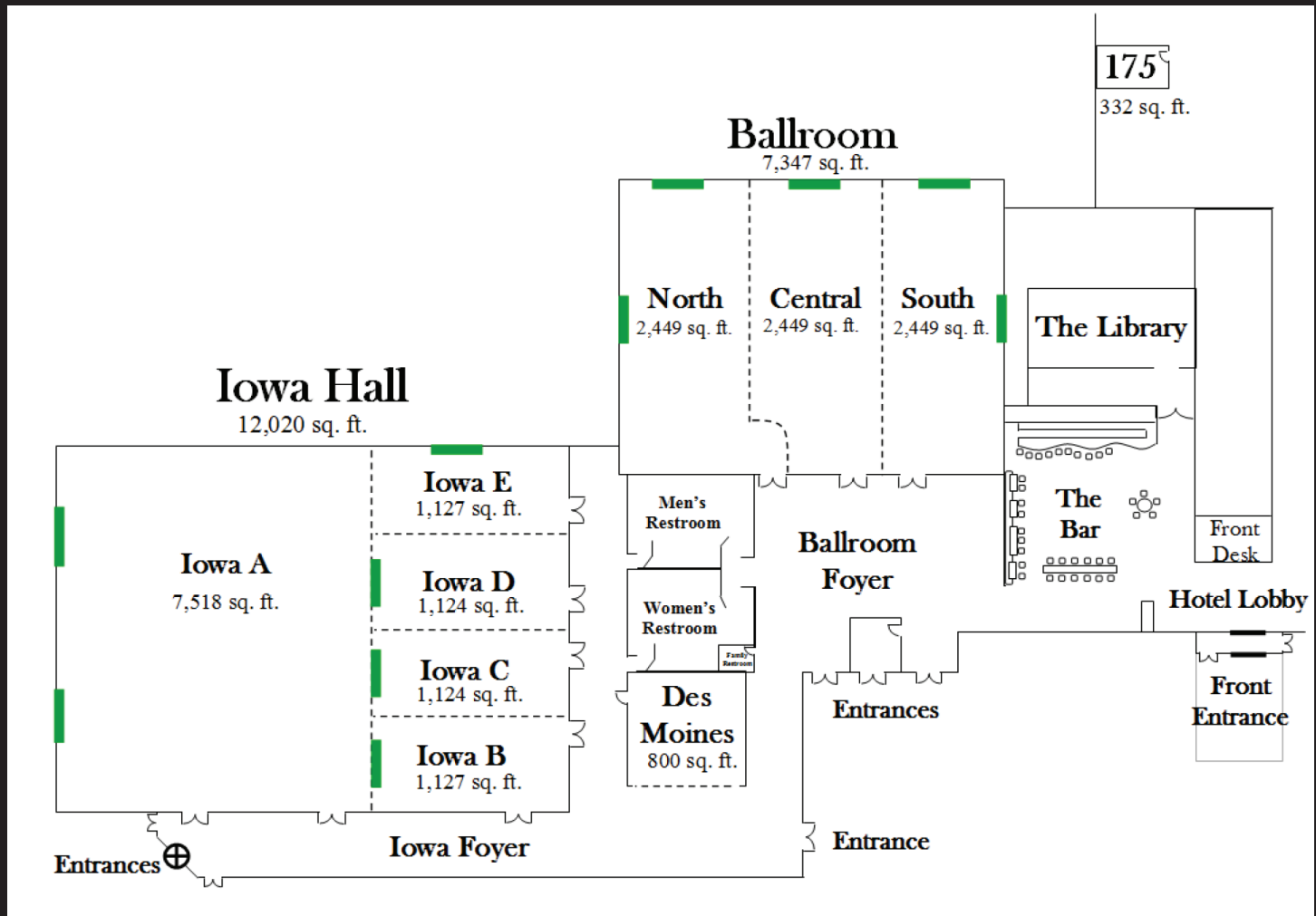
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## Holiday Inn Conference Center Map



## Be Social. Win prizes!

Let us, & your friends, & the WORLD know about your experiences at Prairie.Code(). Post pics or text about your favorite session, speakers, food, hallway conversation or that perfect selfie with your co-workers to facebook, twitter or instagram. Make sure to mention or tag us for a chance to win great prizes!



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# General Info & Map



This Session was a valuable use of my time.



got some value out of attending this Session.



This Session had little to no value to me.

## Evaluation Rating Legend

The color system helps the speaker & organizers get a quick general feeling of how the session went, but the real value comes from your feedback in the comments section.

Please provide the green/yellow/red rating for each session you attend & consider leaving constructive comments as well.

## Evaluations

Your feedback on the sessions you attend is very beneficial to the speakers as well as the organizers.

We have a simple evaluation system to help you easily participate.

To sweeten the pot, we'll also be drawing for great prizes from those of you who submit your evaluations.

Here's how the Evaluation system works:

1. Log in to your account on [prairiecode.amegala.com](http://prairiecode.amegala.com)
2. Navigate to the schedule page & select a session
3. Give the session a green, yellow or red rating
4. Leave some constructive comments to elaborate on your rating

Please respond to the survey - we read every piece of feedback you provide, & consider it as we plan the next Prairie.Code().

Don't forget to tag your experiences, photos, & fun with [#prairiecode](https://twitter.com/prairiecode)



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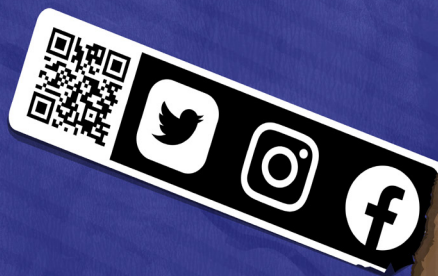
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BY THE MEEPLE  
FOR THE  
MEEPLE



Don't forget to join us  
for the  
**Prairie.Code()**  
2019 Attendee Party  
on Thursday from 5 - 8pm

**Hawaiian Luau  
&  
Board Games  
in the Courtyard**

**Have fun! Socialize!  
Meet new friends.**



Don't forget to tag your  
experiences, photos, &  
fun with:

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# Schedule

## Wednesday

7:30am	Registration
8:30am	Workshops
10:00am	Break
10:30am	Workshops
12:00pm	Lunch
1:00pm	Workshops
2:30pm	Break
3:00pm	Workshops
4:30pm	Workshops
	End



## Thursday

7:30am	Registration
8:15am	Opening Remarks
8:25am	Break
8:30am	Keynote
9:10am	Break
9:15am	Keynote
9:55am	Break
10:00am	Session 1
11:00am	Break
11:15am	Session 2
12:15pm	Lunch
1:15pm	Session 3
2:15pm	Break
2:30pm	Session 4
3:30pm	Break
3:45pm	Session 5
5:00pm	Attendee Party

## Friday

7:30am	Registration
8:30am	Keynote
9:10am	Break
9:15am	Keynote
9:55am	Break
10:00am	Session 6
11:00am	Break
11:15am	Session 7
12:15pm	Lunch
1:15pm	Session 8
2:15pm	Break
2:30pm	Session 9
3:30pm	Break
3:45pm	Session 10
4:45pm	End

DSM Web Geeks is a community for web developers, hobbyists, & enthusiasts interested in learning new skills in web trends & technologies.

Our events are held on the second Monday, & third Wednesday of every month.

Format varies between lecture style, round table discussion, & "hackathon" style events.

Common topics we focus on are JavaScript frameworks, project management, mobile development, web design, etc.



DSMWEBGEEKS.COM

If we aren't talking about a topic you enjoy let us know & we'll incorporate it into our next event.

You can become a Web Geek if you're interested in anything related to web development.

<https://www.dsmwebgeeks.com/>



# On the Menu

## Wednesday

### Breakfast

- Breakfast will be muffins and danishes, whole fruit, and coffee.

### Lunch (12:00pm)

- Lunch will be the market deli buffet.

Break will include sodas and desert.

## Thursday

### Breakfast

- Breakfast will be bagels with cream cheese and scones, whole fruit, and coffee.

### Lunch (12:15pm)

- Lunch will be the potato bar with baked potatoes, chili and diced chicken.

Break will include sodas and desert.

## Friday

### Breakfast

- Breakfast will be donuts and pastries, whole fruit, coffee by the gallon.

### Lunch (12:15pm)

- Lunch will be the fajita bar.

Break will include sodas and desert.

Don't forget to tag your experiences, photos, & fun with #prairiecode



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# Attendee Party

Tons of sessions from leading industry experts is only HALF of the Amegala Conference Experience.

You might be asking yourself "So, what is the other half?"

The Attendee Party, of course!

Please join us for the fun with board games provided by the Cardboard Caucus and some delicious Hawaiian luau-style fare!

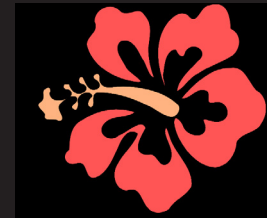


**WHEN:** Thursday, September 12th from 5:00 pm - 8:00 pm - Head on over after your last session!

**WHERE:** In the Holiday Inn courtyard

**WHY:** You'll have a great time & get to meet some amazing new people.

- Meet our awesome speakers
- Network with your fellow Prairie.Code() attendees
- Make new friends



**hawaiian**  
**Luau**  
in the courtyard

Thursday evening  
5:00 pm until 8:00pm

Pig Roast  and Board Games

Have fun! Socialize! Make new friends!

## Be Social. Win prizes!

Let us, & your friends, & the WORLD know about your experiences at Prairie.Code().

Post pics or text about your favorite session, speakers, food, hallway conversation or that perfect selfie with your co-workers to facebook, twitter or instagram. Make sure to mention or tag us for a chance to win great prizes!

Don't forget to tag your experiences, photos, & fun with:

**#prairiecode**



# Keynotes

Thursday, 8:30 AM - 9:10 AM

The Tribe: Metachallenges in Software Development...

Billy Hollis

Thursday, 9:15 AM - 9:55 AM

What's up with UX?

Ash Banaszek

Friday, 8:30 AM - 9:10 AM

Open Source Software and you

Jeff Scott Brown

Friday, 9:15 AM - 9:55 AM

Focus on People

Nate Taylor

## The Tribe: Metachallenges in Software Development in the Next Ten Years

Billy Hollis

Just how fast are your current platforms and processes becoming obsolete? Possibly faster than you imagine. New platforms, such as Google Flutter, the Uno Platform, and Zoho Creator, are challenging the monolithic way we produce apps now. New cloud-based capabilities promise to transform the architecture of your apps, and allow capabilities in them that would have been impossible just a few years ago. In this session, Billy Hollis will ask you to question just about everything you do in developing apps, and help you see some of the ways you can prepare for the inevitable changes coming in software development. And he'll do it with his trademark humor, so that you'll have fun along the way.

## What's up with UX?

Ash Banaszek

UX is an expanding and evolving field. You'll see UX titles like Generalist, Strategist, Researcher, Designer, or Architect. Who are these people? What do they do? And why is any of this needed anyway? In this talk, Ash will introduce you to the field of user experience, why it exists, what roles there are, and how to get a better experience out of your products.

## Open Source Software And You

Jeff Scott Brown

Open Source Software (OSS) has been part of our industry for decades. It is so ubiquitous that in certain domains it is practically impossible to develop application without using OSS. You probably use OSS every day and often may not even think about it. Taking a more active role in OSS can help you be more productive and can help others do the same. This involvement doesn't have to mean quitting your day job and spending most of your time contributing OSS software to the community (though you can, and it can be an awesome experience). Your involvement can be minimal or can be the primary focus of your development efforts. Many developers are surprised to learn the ways that they can contribute to making OSS better and not all of them demand a lot of time or effort.

In this session I will discuss a career I have spent dedicated to developing and managing OSS projects. I will address and clarify some misconceptions that folks often have about OSS and will discuss ways that all of us can help OSS continue to be successful and help OSS be a more integral part of our industry.

## Focus on People

Nate Taylor

In 2008 my mom was diagnosed with ALS. Over the next 18 months, ALS stole more and more abilities from my mom, including her ability to speak. But what ALS took, software was able to help restore.

While not everyone will receive an ALS diagnosis, most of us will interact with software on a regular basis. As a result, software engineers need to approach writing software with this in mind.

This talk explores the role of software engineering in human flourishing. You'll learn how the software you write today impacts the lives of your users, and how you can make that better. You'll also learn ways to improve interactions with your team, considering them not just as coworkers but also people.



# Wednesday Workshops

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Intro to Arduino  
MICRONAUT FROM IOT TO GCP  
.NET Unit Testing Beginner Bootcamp  
Usability Studies: The \$1 Fix to the \$100 Problem  
ASP.NET Core Development Workshop with CI/CD  
From Zero to App: A React Workshop  
Front-end Web Development with Angular and TypeScript

Bailey Steinfadt  
Jeff Scott Brown  
John Wright  
Ash Banaszek  
Mitchel Sellers  
Joel Lord  
Kevin Grossnicklaus

## Intro to Arduino

Bailey Steinfadt

Arduino is a beginner friendly introduction to microcontrollers that allows you to easily and quickly get started on your own projects. In this class we'll learn the basics of Arduino with a dash of electrical engineering. You'll work hands on the entire session to build devices with motors, lights, sensors, and more. This class should set you well on your way to being confident in the THING part of your first IoT project. Participants should bring: Laptop (Mac, Windows, or Linux)

## MICRONAUT FROM IOT TO GCP

Jeff Scott Brown

In this deep dive workshop, you'll learn how to use the new Micronaut Framework in concert with Google Cloud Platform services, such as Cloud SQL, Kubernetes, and Google's Instance Metadata Server. Discover an easier way to build fast, lightweight JVM microservices and deploy them to Google Cloud. OVERVIEW Google Cloud Platform (GCP), offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products, such as Google Search and YouTube. Micronaut is a modern, JVM-based, full-stack framework for building modular, easily testable microservice and serverless applications, with an emphasis on developer productivity and code simplicity. Micronaut provides great support for simplifying the development and deployment of microservices to GCP.

This workshop explores Micronaut's high-productivity capabilities and includes a hands-on demonstration of how to build a suite of services with the new framework, deploy them to Raspberry Pi edge devices and GCP, and get the whole architecture wired together with minimal effort. COMPLIMENTARY HARDWARE Each participant will receive a Raspberry Pi Zero W device and the necessary, related hardware to complete the lab exercises. Participants may keep the hardware after completing the course!

The following topics are covered in this workshop:

\* Controllers \* Compile Time Dependency Injection \* Application Configuration \* HTTP Client \* Service Discovery \* Testing \* Bidirectional JSON \* Server Events \* Databases \* Management Endpoints \* Aspect-Oriented Programming \* Static-File Resolution \* Security \* Configurations \* Web Sockets \* Polyglot Micronaut \* Distributed Tracing \* Serverless Functions \* Stand Alone CLI Apps \* Deploying To GCP \* Google Cloud SQL \* Kubernetes on GCP

## .NET Unit Testing Beginner Bootcamp

John Wright

As a professional software developer, quality and maintainability are fundamental job responsibilities, and well written unit tests are key aspect of achieving these goals. But getting started with unit testing can be daunting, and knowing what to test can be overwhelming.

Whether you're a senior .NET dev that just never got into unit tests, or you're just starting your .NET

journey, I'll cover tactical and strategic guides and share my experiences to get you started and prepared for the path ahead.

In this workshop, we'll talk through the topics you need to know to get up and running with unit testing, coupled with hands-on coding activities to practice the topics covered. Laptops are required for all attendees due to the coding exercises.

Topics covered in this workshop:

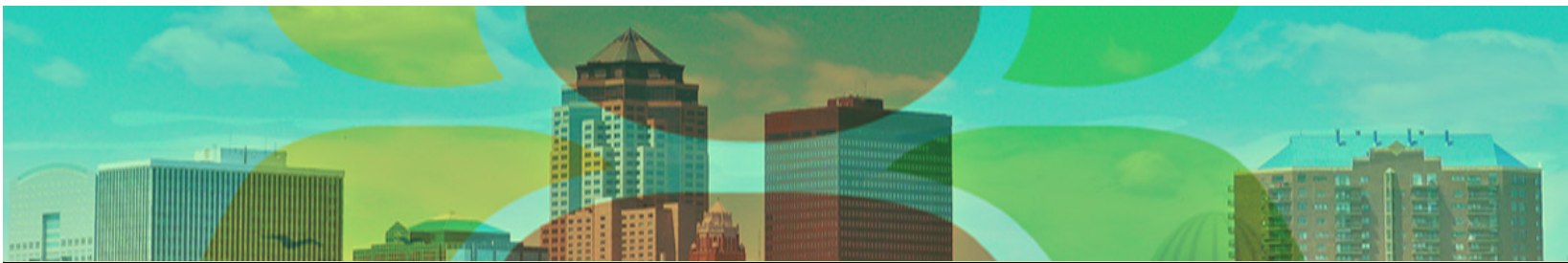
- Fundamentals of unit testing and basic structure of a unit test / test suite
- Features of popular testing frameworks and tooling
- Tips and strategies for writing tests that provide long-term value
- Differences between writing tests for new code vs writing tests for existing code
- Unit Tests vs Integration Test: advantages and disadvantages of each
- Using mocking frameworks
- Integration with CI/build servers
- Pros & cons of Code Coverage tools
- Advanced integrations with testing frameworks -- using the framework SDKs to extend and enhance

## Usability Studies: The \$1 Fix to the \$100 Problem

Ash Banaszek

Back by popular demand... Usability and User Experience are hot topics on the minds of both project stakeholders and customers. Many businesses are without dedicated UX professionals, committed to the research and design of key projects. As a developer, project manager, or business analyst, what can you do to improve the usability of your project? The answer: usability studies. Usability studies are an easy technique to learn and hard technique to master.





Iowa B  
Iowa C  
Iowa D  
Iowa E  
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From Zero to App: A React Workshop  
Front-end Web Development with Angular and TypeScript

Bailey Steinfadt  
Jeff Scott Brown  
John Wright  
Ash Banaszek  
Mitchel Sellers  
Joel Lord  
Kevin Grossnicklaus

Join Ash Banaszek, Sr UX Project Consultant at Union Pacific, as she walks you through the basics of usability studies to start finding real, actionable results to improve your applications. In this session Banaszek will take you through: \* What are usability studies and why should we use them? \* Pinpointing what parts of the app to study \* Finding the right medium to test \* Creating tasks and identifying users \* Running a study \* Interpreting results \* Applying results to your design \* Communicating results with stakeholders At the end of this workshop, participants have the ability to apply your knowledge by testing your own applications or an application the instructor provides. If you would like to test your own app, please be prepared to bring it and share.

## ASP.NET Core Development Workshop with CI/CD

Mitchel Sellers

Sometimes all you need is a little push to make a leap to a new technology stack, but the learning curve can after push back against a desire to move forward. In this full-day workshop we will work through the entire software development lifecycle of a project created with ASP.NET Core, Entity Framework, and Azure DevOps. In this full day session we will cover. \* Basic project Architecture \* Code Re-Use and Dependency Injection \* Entity Framework Core Basics, including database migrations/deployment \* Unit Testing Implementation & Limitations \* Response and Object Caching \* Azure DevOps Builds & Deployment At the end of the day attendees will be able to create their own projects from end-to-end with a solid platform including Continuous Integration/Continuous Development practices and unit testing.

## From Zero to App: A React Workshop

Joel Lord

You've heard about it. Maybe you even started looking at it, but you abandoned when you saw that you needed to re-learn all you thought you knew about JS. When starting to do your first steps in React, the learning curve can seem really steep. In this workshop, the attendees will be guided through the fundamental concepts behind React and will learn how to build a full application using those technologies. Covering packaging with webpack, routing, form manipulation and authentication, this workshop will get the attendees up to speed with this trendy framework that React is.

## Front-end Web Development with Angular and TypeScript

Kevin Grossnicklaus

The all-day session will walk developers through the setup and development of a powerful web application built on some of the most modern web tools and technologies available including TypeScript and Angular2. At the end of the session all attendees will have had the opportunity to utilize a wide number of modern web-development tools and technologies to set up a complete application.

This session will be very fast paced and all attendees will be encouraged to follow along as the instructor demonstrates every aspect of:

- Setting up a new web solution and configuring all necessary package and module management tools (we will focus on NPM and Angular CLI)
- Configuring your development environment with

the right plug-ins & extensions to optimize the development process

- Setting up a robust project structure to manage all assets & code
  - Utilizing TypeScript to build a rich & manageable client-side application using the Object Oriented constructs & patterns you are familiar with from other languages such as C#
  - Integrating your Angular application with a server-side API
  - Setting up an Angular application & designing a robust UI built around Angular2 components.
  - Utilizing the Angular syntax & directives for building robust HTML applications
  - Working with Angular routing to build an efficient means of navigation between pages
  - Utilizing RxJS & Observables to work asynchronously & easily communicate back to the server's API
  - Debugging& testing a component-based Angular app
- Requirements for attendees:

Have a laptop with either Visual Studio, Web Storm, or Visual Studio Code.

Have Google Chrome included on the laptop. Be highly proficient in C# and JavaScript and be very familiar with current Microsoft web development technologies such as ASP.NET WebForms or MVC. Have the ability to work quickly and absorb the presented information while working through the setup on their own laptop Beyond a development environment and Google Chrome, attendees will be asked to install additional tools and extensions into their development environment throughout the session.

All sample code and resources for this session will be shared via a GitHub repository at the start of the session.

# Thursday 10:00am

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Beautiful SDK Design in Java for APIs  
Baby Got Backend: To Server, Serverless or Headless CMS?  
The Dungeon Master's Guide to DevOps  
What's New in C#8  
Building Large, Yet Maintainable, ASP.NET Applications  
Docker: From Development to Production  
Introduction to Angular 8

Micah Silverman  
Michael Leners  
Bill Dinger  
Jason Bock  
Scott Sauber  
Kelly Andrews  
Alain Chautard

## Beautiful SDK Design in Java for APIs

Micah Silverman

### Abstract

Often times Java SDKs for APIs look more like the API they represent than idiomatic Java.

This talk examines how great SDKs are built using design patterns.

It covers: enforced separation of Java api and implementation, use of generics, a caching layer and hiding network traffic.

### Description

The (now defunct) Stormpath SDK had a great design approach from its original author, Les Hazlewood.

It has an enforced separation of api and implementation. It does this by using the api module as a compile time dependency and the implementation module as a runtime dependency. It has a DataStore interface that makes heavy use of generics to support CRUD operations for all objects represented in the API. The implementation hides the actual network traffic and includes rich support for retry with backoff and error handling. Developers only ever have to deal with the DataStore, POJOs and method calls to "interact" with the API.

It also has a rich, interface-based caching layer. The default implementation is robust and suitable for single-JVM environments. It's easy to drop in a distributed caching layer, such as Redis or Hazelcast. All of this combined makes this one of the best designed SDKs in Java. In this talk, all these secrets are revealed against a completely different API: DigitalOcean's Droplet API. There's a few slides and lots of code, including some live-coding.

## Baby Got Backend: To Server, Serverless, or Headless CMS?

Michael Leners

As Sir Mix-a-lot once said, "My API don't want none unless you off-prem, hun." Let's take cloud-deployed code one step further and ask: Do we need to spin up a full server to create a REST API? This talk will be an interactive discussion around the joys of deploying backend code and new alternatives. We will start by looking at Heroku as an alternative to AWS and DigitalOcean for deploying backend code.

Then we'll dive into using backends as a service (BaaS) like Firebase and wrap up with a demo of headless CMS platforms like Contentful. Backend references will include NodeJS, .Net Core and Django. Demos of frontend clients will be in Vue and Angular.

## The Dungeon Master's Guide to DevOps

Bill Dinger

Every good Dungeon Master needs a guide to help their party adventure through the world of DevOps. From the tools necessary to common monsters found along the way. Help your party succeed at a critical part of delivering quality software.

We'll go over the full CI/CD cycle: builds, commit hooks, static code analysis, pull request review tools, automated linting, QA/Security/Release automation and build automation. Gained from years of practical experience I'll share what has worked best on projects cross industry and from teams ranging for 2 to 140.

## What's New in C#8

Jason Bock

C# is an open-source, mature object oriented language, used by millions of .NET developers, yet its evolution is still underway. In this session, we'll cover the latest features that have been added to C#8 and how they work in detail so you'll know when to use them effectively in your new .NET projects. You'll also see the direction C# may be going with future versions of C#.

## Building Large, Yet Maintainable ASP.NET Applications

Scott Sauber

As an application adds more and more features, if you're not careful, it can quickly spiral into becoming the application no one on the team enjoys working on. This talk is structured as a series of lightning talks on various topics to help you improve the maintainability of your ASP.NET applications. We'll discuss libraries and best

practices to help with folder structure, validation, ORM's, unit testing, code flow, profiling, and more. By the end, you should be able to take at least one thing away that you can start implementing immediately when you get back to the office.

## Docker: From Development to Production

Kelly Andrews

Building applications across an organization can be a difficult process sometimes. Developer machines can have variation that can end up causing confusion and difficulty at deployment time. This can not only be problematic for the developers, but also the DevOps team as well.

Moving application development to containers can reduce friction across all teams by simplifying the process in which new developers build and ship those applications.

In this talk, Kelly will walk through utilizing Docker through the entire development lifecycle, from development to production of a containerized application. If you haven't started using containers, now is the time to learn how.

## Introduction to Angular 8

Alain Chautard

Alain Chautard will go through an introduction to the Angular framework. If you don't know anything about Angular, that's a perfect opportunity to learn all of the basics and get you started with the framework and front-end development! Alain will talk about TypeScript, components, services, pipes, and how to work with Angular CLI through live coding.

More specifically, we are going to understand how Angular works and how it runs in a browser. We're also going to talk about Angular CLI, a tool to help scaffold an Angular application.

This workshop will be packed with examples and code labs to help understand how easy it is to write Angular web applications.



# Thursday 11:15am

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Embrace an Experimentation Mindset  
Building Component Libraries with a Monorepo  
What does your Instagram say about you?...  
Pair Programming: Back to the Basics  
Mocking .NET Without Hurting Its Feelings  
Easing Into Continuous Deployment  
Javascript / Not Javascript

Diana Williams  
Lee Robinson  
R. Hochstetler, C. Seeman  
Jeremy Suing  
John Wright  
Seth Larson  
Devin Kelly-Collins

## Embrace an Experimentation Mindset Diana Williams

Organizations undergoing change must embrace the idea of experimentation. Those that only change vocabularies and not behaviors wonder why they quickly fall back into old habits, why the changes did not 'stick'. Those organizations failed to embrace or misunderstood the objectives of experimenting. Organizational learning happens when people begin questioning the way things are done, they begin trying out different ideas together and share those learnings. Join me as we explore what it means to have an experimentation mindset.

## Building Component Libraries with a Monorepo Lee Robinson

Learn why your organization needs a component library and discover the best practices for building, scaling, and adopting it across all platforms. We'll be using industry-standard technology (React, JavaScript, Storybook) alongside cutting-edge solutions (CSS-in-JS, Monorepo).

## What does your Instagram say about you? Exploring Google Cloud Vision AI & Machine Learning Products Ryan Hochstetler & Christine Seeman

Attendees will get to explore application development with Google Cloud Vision API which can categorize photos, detect objects, identify landmarks, and extract corporate logos from images. From there, the sky's the limit with exploring the detected labels. We'll check out different photo sharing accounts, and see what we can know about them all through their photos. This will use Google Cloud Platform, Ruby, with JSON formatted labels that are translated into a tag cloud with what activities are being displayed through the images and shows a cross-section of different technologies.

## Pair Programming: Back to the Basics Jeremy Suing

Pair Programming is a highly recommended but seldom utilized agile development practice. Primarily originating and associated with Extreme Programming, Pair Programming is often

misunderstood and therefore left by the way side when agile teams get going with development. I want to go back to the basics of pair programming and show why it should be a practice every team employs. In Design Studio and Senior Design, we manage nearly 40 projects with more than 200 student team members combined. Pair Programming can greatly impact these students' careers in software development once they have realized its power and taken advantage of its benefits. Let's bring it back down to the basics to remind you of this great opportunity.

## Mocking .NET Without Hurting Its Feelings John Wright

Unit testing has become an accepted part of our lives as .NET programmers. To help focus our tests to only the code we want to validate, Mocking Frameworks are a powerful tool in our toolbox. Like many tools, if you have an understanding of how the tool works under the hood, you can bend it to your will (and also know where it'll break if you bend too much).

In this session, you'll learn about the two main types of mocking frameworks: constrained frameworks (like RhinoMocks and Moq) and unconstrained frameworks (such as Typemock Isolator and Telerik JustMock). I'll dig into how the two actually do their magic and we'll discuss the pros, cons, and limits of both. We'll look at examples of how to use the frameworks in your tests, mocking out dependencies from your own code and even third-party logic.

You'll get the most out of this session if you're comfortable reading C# code and have a general understanding of class inheritance in .NET, along with some experience writing and running unit tests. Prior experience using mocking frameworks is not necessary.

## Easing Into Continuous Deployment Seth Larson

Have the confidence to deploy any time of the week? I've definitely been places where doing so would make everyone cringe. Let's talk about some lightweight tools and processes to greatly reduce that risk. We'll discuss feature flags, trunk based development, pairing on critical sections,

and other ways to help you have confidence in your deployment pipeline.

## Javascript / Not Javascript Devin Kelly-Collins

If you have been using Typescript for a while you may have missed out on some of the new features in Javascript. Language features you thought were unique to Typescript may be available in Javascript as well. So just how different are these two today? Let's test your knowledge of the Javascript and Typescript by looking at code snippets and determining if it is Javascript or Not Javascript. You may even learn about a few new features in the process!

Don't forget to join us  
for the  
**Prairie.Code()**  
2019 Attendee Party  
on Thursday  
from 5 - 8pm

Hawaiian Luau  
and Board Games  
in the Courtyard



Have fun! Socialize!  
Meet new friends.

# Thursday 1:15pm

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Restful Grails  
I Don't Care About Security (And Neither Should You)  
Getting Started with Azure DevOps  
Blending Product Thinking with Architecture  
Enterprise Project Architecture with .NET Core  
Robust, Strongly Typed, Documented API's using NestJS...  
Rock-Solid Components with TypeScript and GraphQL

Jeff Scott Brown  
Joel Lord  
Chad Green  
Joel Tosi  
Mitchel Sellers  
Kevin Grossnicklaus  
Mat Warger

## Restful Grails

Jeff Scott Brown

Grails includes a lot of features and functionality related to building RESTful services. These include a really powerful data binding system, runtime & compile time metaprogramming which greatly reduce the amount of code required in your RESTful services, a rich set of content negotiation tools & more. In this session Jeff will discuss & demonstrate many of the powerful REST features in Grails.

## I don't Care About Security (And Neither Should You)

Joel Lord

Remember when setting up an auth system was easy? Me neither. From the signup form, the login form, password reset form, & all the validation in between it can easily take weeks if not months to get something basic up & running. Then you have to deal with all the security considerations. No thanks. During this presentation, the attendees will be introduced to OpenID & OAuth. They will learn how to leverage these technologies to create secure applications, but most importantly, they will learn why & how to delegate authorization & authentication so they can focus on their real work & forget about all that security stuff.

## Getting Started with Azure DevOps

Chad Green

DevOps is about people, process, & products; DevOps is about continually getting better in delivering value to your customers. Getting it right requires a lot of effort, but the benefits to your organization & customers are tremendous. Microsoft has a fantastic set of products that can help you get the most out of the cloud & help in deploying your application to any platform. In this demo-heavy session, Chad shows you how to go from zero to DevOps & how to being the transformation of your team to a well-oiled machine that is constantly making the customers happy.

## Blending Product Thinking with Architecture

Joel Tosi

Too much design up front and you are bumping into the design all of the time (and losing time). Not enough design and your system can crumble in reality.

How do you blend architecture so you have the right decisions at the right time, and give them enough due diligence? How do you embrace cloud and microservices and not risk getting into different failure scenarios or overly complicated maintenance and ripple effects?

In this session we will walk through visualizations that help teams blend product thinking with architecture. Along the way, we will look at microservices and domain modeling as well as chaos engineering and fault tolerance - blending all of these into a context that is consumable by all and gives the right emphasis at the right time.

Leave this session with simple visualizations & approaches that you can apply immediately to start blending product with architecture, especially if you are looking to run in a cloud world.

## Enterprise Project Architecture with .NET Core

Mitchel Sellers

Samples and documentation for ASP.NET Core are some of the best that we have seen in the .NET ecosystem in the past few years. However, even with that, I see many developers struggle to expand from the templates into a real-world application with full separation of concerns as well as modularity. This session will look at a few different architecture approaches and showcase tips and tricks to migrate from the examples into a more traditional architecture supportive of larger application development projects.

Highlights of the session will include: managing dependency injection across assemblies, managing logging and configuration information, creating a re-usable database context that can be used for web and other projects as needed, and general project cleanup/production readiness..

## Robust, Strongly Typed, Documented API's Using NestJS, TypeScript, and Swagger

Kevin Grossnicklaus

This session will introduce developers to the tools and architectures necessary to easily develop powerful API's built on NodeJS. All API development

will be done using TypeScript and an open source framework called NestJS (in addition to some other very handy NPM modules).

Front-end developers interested in learning to create and manage their own back-end with minimal learning curve. The NestJS framework will feel very familiar to any developers currently using Angular and TypeScript for their client-side application development. It provides a server-side experience that is built to mirror the client-side architecture of Angular.

.NET back-end developers looking to broaden their expertise in a new strongly typed framework. The overall development ecosystem is built to allow for a rapid API development process.

Ultimately, any developer who's curious about full stack development yet feels intimidated by learning multiple frameworks would all benefit from this session. Developers utilizing NestJS can leverage the same IDE they utilize for client-side development.

For this talk we will demonstrate how API's are built on this platform and discuss tooling, development processes, deployment options/best practices, and then leave attendees with a large number of resources to leverage.

We will discuss:

- Project Setup and Tools
- Swagger/OpenAPI
- Security
- Validation
- Optimization/Caching
- Performance
- Deployment
- Testing

All development will be demonstrated using JetBrains's WebStorm IDE and, for purposes of demonstration, we will utilize MongoDB as a data store and Redis Cache.

## Rock-Solid Components with TypeScript and GraphQL

Mat Warger

Most recent javascript frameworks bring a solid component model to modern web development, but how can you guarantee that your components work correctly? In this session, you learn how the features of Typescript can be leveraged to bring clarity and dependability when constructing components with React. Using Typescript can help to catch errors early in the development life-cycle. GraphQL and its type system can ensure confidence in your components while fetching remote data. This comprehensive approach ensures that your components behave as you expect, and allows you to eliminate run-time errors. Learn how using types can keep your users happy!





# Thursday 2:30pm

Iowa B  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Micronaut For Simplifying Microservices On GCP  
Hacking JWT's  
Mapping the User's Journey  
Blazing the Web - Building Web Applications in C#  
Uni Testing Apps With Ease  
Managing state in React

Jeff Scott Brown  
Joel Lord  
Courtney Heitman  
Jason Bock  
Duane Newman  
Devin Kelly-Collins

## Micronaut For Simplifying Microservices On GCP

Jeff Scott Brown

Google Cloud provides a powerful and highly scalable platform for delivering microservices and serverless applications, with a variety of tools to help developers make the most of the opportunities it offers. A new tool, the Micronaut framework, was designed from the ground up to simplify the architectural development and deployment of microservices, and it comes with built-in support for GCP services and hosting. In this session, we demonstrate in real time how to build a suite of lightweight microservices, wire them together in support of the intended architecture, and deploy the solution to GCP with minimal complexity and effort. Demonstrations will include deploying to Google App Engine Flex as well as the recently announced Google Cloud Run serverless environment.

## Hacking JWTs

Joel Lord

So you've finally secured your APIs. And it uses JWT because everyone else does. But is it secure? JWTs are the new great thing that everyone is talking about, but you need to use them correctly. During this talk, we will see how we can use various attacks to hack into OAuth systems that use JWTs as a token mechanism. From token validation to brute forcing HS256, by seeing the attackers' point of view the attendees will learn how to better defend themselves and make more secure servers.

## Mapping the User's Journey

Courtney Heitman

Do you feel like you don't actually know your users? Do they struggle through the flow of your website, and you don't know why? This session will introduce you to empathy mapping, and how it will help you to relate to your users better. Once we have some empathy (mapping), we'll go over user journey mapping, so we can better understand what questions and pain points our users are having as they move through a website or application.

## Blazing the Web - Building Web Applications in C#

Jason Bock

With WebAssembly, creating web applications can be built with any programming language; JavaScript is no longer the only choice. In this session, you'll see how you can use Blazor to run C# natively in the browser. We'll also cover Razor Components, JavaScript interop, server-side Blazor, and so much more!

## Uni Testing Apps With Ease

Duane Newman

Do you want to skip all the setup ceremony and get straight to the actual testing when writing unit tests? Using dependency injection and an IoC container makes it easy to create apps that are modular and testable, but all that dependency injection magic can make our test code seem overly complex and cluttered with a lot of ceremony just to create a testable instance of a object and its dependencies. I've learned to embrace the magic of IoC and DI, along with mock objects, to lower the friction of writing and maintaining unit tests. We'll look at the open-source library, Ease, and see how it taps into the life-cycle of our unit testing framework with an IoC container and object mocking framework to make sure each test has clean dependencies and keep us from ever directly instantiating our ViewModels or their dependencies again. We'll focus on how it can be applied to a Xamarin. Forms and Prism based app, but the same tools and techniques can be used in any code written against an IoC container. A great side-effect is that our tests become more resilient against changing dependencies that do not concern the test. What are you waiting for? Stop the ceremony, and start testing!

## Managing state in React

Devin Kelly-Collins

Should I use local or global state to manage my components. Do I need actions and reducers for my menus? What about forms? Should I be using providers instead? If you have asked yourself any

of these questions, you're not alone. Managing state in an application is no longer a simple task. Join us as we look at the three popular ways to manage state, with component state, providers, and through Redux. We'll take a look at the advantages of each method and when you may want to use them.



Don't forget to tag your experiences, photos, & fun with:

#prairiecode

# Thursday 3:45pm

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Securing Java Microservices with Java JWT  
Let's Get JAMming: An introduction to static site generators  
I Feel the Need for Web Page Speed  
Metrics - Moving from what is easy to what matters  
Conceptualizing OAuth, OpenID and Implementation...  
Have You Adapted Your AppSec?  
Hack your brain - Ways to improve your thought processes

Micah Silverman  
Dennis Stepp  
Bill Dinger  
Joel Tosi  
Ashish Pandey  
David Lindner  
Christine Seeman

## Securing Java Microservices with Java JWT

Micah Silverman

I will take you on a token based journey. The talk covers what tokens are, looking at cryptographically signed tokens, using the JJWT library to create JWTs, mitigating CSRF attacks using JWTs and establishing trust between microservices using JWTs. Some slides and lots of code.

This is a popular talk that I gave during my motorcycle road trip up and down the east coast. While I work for Stormpath, there are no Stormpath dependencies in the code. It's an example that uses Spring Boot with Spring Security and the open-source JJWT.

In the first part of the talk, I introduce JWTs and their utility by replacing the default CSRF functionality in Spring Security with a custom one that uses JWT. It demonstrates how, in addition to doing a "dumb" equals match for the submitted token and the one on record, a JWT can be inspected for expiration. This makes it so that you can have a form, protected by CSRF, that must be submitted within a certain period of time.

In the second part of the talk, I have a Spring Boot microservices example. I run two instances of the example and demonstrate how they initially do not trust signed JWT messages between each other. I then discuss how to establish trust between these microservices (by registering the public keys of each with each other) and then show how they now will trust messages. Finally, I talk about and demonstrate a more modern approach to microservices using Kafka messaging as the backbone rather than HTTP.

## Let's Get JAMming: An Introduction to static site generators

Dennis Stepp

Static site generators are awesome. In under an hour you can build your blog, project documentation, or even a very basic eCommerce site. We'll explore the JAMstack and bare bones implementations of these types of sites.

We'll build a couple of sites with different site generators and show off automated deployment with GitHub hooks and Netlify CDN.

## I Feel the Need for Web Page Speed

Bill Dinger

We demand high performance web applications. To build them we need every single piece of information to help us find actionable ways of speeding up our applications. In this session learn how to use the performance API together with common browser performance tooling to determine down to the method level how long our pages take to perform operations. We'll also touch briefly on instrumenting up popular frameworks such as React & Angular, running performance checks on mobile browsers, and free open source tools that can help you diagnose and monitor performance.

## Metric - Moving from what is easy to what matters

Joel Tosi

Metrics are a good thing when we ground them in decisions we want to make. Metrics for the sake of having metrics loses its purpose.

In this session, we will walk through a simple way of grouping metrics - from easy to collect, to directional, to impactful. Along the way, we will give examples of metrics in each group - what they mean, why they are good, where they fall apart. All along working towards better metrics and the approach to collecting and using them.

Additionally we will introduce and show process behavior charts - a technique that looks at data and helps separate noise from signal.

Leave this session with simple ways to group metrics and ways to interpret if your changes (product, process, or people) are making a difference.

## Conceptualizing OAuth, OpenID & Implementation of the Identity Server

Ashish Pandey

In dealing with web security, the most common thing for a developer is to think like an attacker while writing his/her code.

For everyone, the standard of development is not bound to just deploy and fix the bugs, but to ensure every developer understands these concepts and helps his/her team for building a better and secure product.

This presentation will start with using some good secured services like OAuth and OpenId based IdentityServer, and understanding how to call it via our application.

## Have You Adapted Your AppSec?

David Lindner

In the ever-evolving, fast-paced development world, application security has not scaled well. Incorporating application security and testing into the current development process is difficult, leading to incomplete tooling or unorthodox stoppages due to the required manual security assessments. Development teams are working with a backlog of stories, stories that are typically focused on features and functionality instead of security. Traditionally, security was viewed as a prevention of progress, but there are ways to incorporate security activities without hindering development. There are many types of security activities you can bake into your current development lifecycles—tooling, assessments, stories, scrums, iterative reviews, repo and bug tracking integrations—every organization has a unique solution and there are positives and negatives to each of them. David will talk through the various solutions using his experiences to help build security into the development process.

## Hack your brain - Ways to improve your thought processes

Christine Seeman

As developers we are always looking at improving and optimizing our workflows, but why don't we also do that with our thoughts? This talk will explore ways to improve those thought processes through looking at techniques like mindfulness, having a growth mindset, implementing new habits like how you do a sprint and even why speed reading might be for you!



# Friday 10:00am

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

**Presentations, Storytelling, and How Not to Suck at it**  
**The Slurm Framework: Toxic Company Cultures...**  
**Saving 60 Million Dollars: Steps Towards GDPR...**  
**Where Did These Story Requirements Come From?**  
**.NET Development Yesterday, Today and Tomorrow**  
**A Recipe for Infrastructure as Code**  
**Introduction to Typescript**

Ash Banaszek  
Dennis Stepp  
Harley Waldstein  
Lindsey Schacherer  
Javier Lozano  
Dave Woodward  
Alain Chautard

## Presentations, Storytelling, and How Not to Suck at it

Ash Banaszek

Learn from UX Associate Ash Banaszek on how to give impactful and interesting technical talks. Ash is consistently rated highly by conference-goers as an informative and entertaining speaker, and is a decorated Toastmaster winning awards at Area and Division levels for humorous, impromptu, tall tales, and international speaking categories. In this talk, Ash will share her tips on organizing presentations, increasing engagement, when to add humor, how to fold a story into your tech talk, and using images effectively. Want to be a better presenter? After this talk you may not be a keynoter, but you definitely will "not suck at it."

## The Slurm Framework: Toxic Company Cultures and How to Survive Them

Believe it or not, a Futurama episode and my experiences have led me to create the SLURM Framework which I believe will help you navigate toxic waters of a company's culture. In this talk I provide tips for Sensing the environment, Learning the telltale signs of negative and dangerous behaviors, Understanding how to cope and combat disruptive processes, Refactoring the norms and continuously improving, and when it's time to Move on. Let's open up the floor for a serious conversation about what I think is the single most important aspect of any company: culture.

## Saving 60 Million Dollars: Steps Towards GDPR Compliance

Harley Waldstein

A deep dive into finding and deleting your users' data. Data privacy is becoming a priority on the political landscape. Legislation like the EU's General Data Protection Regulation (GDPR) imposes hefty fines on companies that mishandle their users' data. GDPR allows users to request a copy of their data, and to request that their data be deleted. For existing and legacy applications, this can be a non-trivial task. This talk discusses a first implementation of tools for finding and deleting user data, as well as more advanced approaches that can be used in new and actively developed projects.

## Where Did These Story Requirements Come From?

Lindsey Schacherer

Have you ever wondered where your next chunk of work comes from? What goes into those user acceptance criteria that tell you what needs to be developed? The business analyst on your team has gathered those specifications and requirements from the product owner so that your team can deliver software to the business that will make their jobs and days easier! The role of the business analyst (BA) is to keep the team in line with the product vision and established timelines. The BA does this by working closely with the product owner, subject matter experts, and support members to understand the business workflow, needs, and challenges. The BA must understand the high-level features and goals of the project and break those down into manageable chunks of work. Documentation of the requirements may include wireframes, process maps, and use cases. The BA's responsibility is to understand the business's critical goals and fit those goals into software solutions. Attendees will leave this session with a better understanding of how Agile stories are investigated, created, and refined so the team can build a product that will thrill their business partners.

## .NET Development Yesterday, Today, and Tomorrow

Javier Lozano

Trying to make sense of .NET Core and .NET Standard? Looking for ways to reuse your current .NET Framework code? In this session we will cover how you can take your existing .NET Framework code and reuse it in your .NET Standard/Core applications with ease.

## A Recipe for Infrastructure as Code

Dave Woodward

Humans. No matter what we might wish, we have to work with them to get stuff done. Unfortunately, when we join a team it doesn't come with a manual. Figuring out how to get things done and get everyone pulling in the same direction can be a nightmare. But it doesn't have to be! In this example-driven

talk you'll learn what a personality type is, you'll learn some methods for communicating better with others, and you'll dip a toe into the psychology of team dynamics - all without having to read a huge textbook or a bunch of manager-focused books trying to sell you something. You'll come away with tools you can use to be a better teammate and to create a stronger team, regardless of your role. Let's get started actually working together!

## Introduction to Typescript

Alain Chautard

JavaScript is the language that enables all of the dynamic aspects of the web, such as real time updates, notifications, as well as more advanced features in the browser. TypeScript, a superset of JavaScript, enables great tooling and better structuring of large JavaScript applications. In this session, we will cover the next big thing in modern web development: Typescript, which brings types, decorators and many more features on top of what JavaScript already does.

**Don't forget to join us  
for the  
Prairie.Code()  
2019 Attendee Party  
on Thursday  
from 5 - 8pm**

**Hawaiian Luau & Board Games  
in the courtyard**



**Have fun! Socialize!**

# Friday 11:15am

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

♪ Come Pair Away With Me ♪  
Migrating to .NET Core  
To retry or not to retry? That is the question  
Test Driven Development: Back to the Basics  
Tools of the trade: Error Logging, Web Request Tracing...  
Reactive for the Impatient...  
Hacking JWTs

Ross Sickora  
Javier Lozano  
Avery Regier  
Jeremy Suing  
Brian Gorman  
Mary Grygleski  
Joel Lord

## ♪ Come Pair Away With Me ♪

Ross Sickora

Let's sail away on a journey to build software as a pair. In this session one lucky audience member will do some live coding with me as we demonstrate pair programming, discuss what effective pairing looks like, and how to appropriately support pairing in your organization.

## Migrating to .NET Core

Javier Lozano

Wanting to know how to migrate your application to .NET Core? Well, the old answer of "it depends" always applies. In this session, we will go through a pretty basic process for converting an ASP.NET MVC 5 application to ASP.NET Core. Come join the discussion, and busy work, as we move to a new platform!

## To retry or not to retry? That is the question

Avery Regier

So your system gets a failure calling a downstream dependency. What do you do? Should you retry? How often? Should we wait? How long?

While those are all good questions, they often miss the point. And if you stop at those questions, 'interesting' system behaviors can result, often leading to overwhelmed systems and downtime or poor performance and unresponsiveness.

Starting with real world analogies, we'll tease out principles that can be applied in most any situation.

## Test Driven Development: Back to the Basics

Jeremy Suing

Test Driven Development (TDD) is a highly recommended but seldom utilized agile development practice. Primarily originating and associated with Extreme Programming, TDD is often misunderstood and therefore left by the way side when agile teams get going with development. I want to go back to the basics of TDD and show why it should be a practice every team employs. In Design Studio and Senior Design,

we manage nearly 40 projects with more than 200 student team members combined. Test Driven Development can greatly impact these students' careers in software development once they have realized its power and taken advantage of its benefits. Let's bring it back down to the basics to remind you of this great opportunity.

## Tools of the trade: Error Logging, Web Request Tracing, and Background Jobs for your .NET applications

Brian Gorman

In this talk, we'll cover basic functionality and usage of three free tools for working with .Net applications.

The first tool we'll use is Hangfire for background jobs. This is an easy-to-add, lightweight tool for processing background work and allowing for us to integrate processes that would have needed a background service in the past. Hangfire is free and has a paid upgrade version available for additional functionality. It's also easy to add to your projects via nuget.

The second tool we'll look at is Elmah for error logging. This tool is available for free as a nuget package, and can be easily wired up to log your errors, as well as other critical application information at the time of the error.

The final tool we'll look at is Stackify Prefix, which is a great tool for looking into your web requests, and can specifically help you recognize instances where you might be overworking your web and database resources.

All of the tools are good for any .Net application, however in this talk we'll be using a default ASP. Net MVC classic application for the purposes of our demonstration. All tools also work with .Net core applications.

## Reactive for the Impatient (A Gentle Intro to Reactive Programming and Systems)

Mary Grygleski

As Java is an object-oriented language that inherently supports the imperative programming style, asynchronicity presents a challenge that can turn the code into nightmare. One way to deal with the complexity of asynchronicity is

to introduce reactivity onto the coding level (reactive programming), and/or to handle it on the design and architecture level (reactive systems design).

This talk presents to the audience a few of the major Java-based reactive frameworks and toolkits in the market today, such as RxJava, Spring Reactor, Akka, and Vert.x. It will start by going over the basic tenets of reactive systems, and some examples of the problems that these systems aim to solve. It will discuss the 2 most commonly used Java frameworks for implementing reactive coding - RxJava and Spring Reactor, and will show some code samples. It will then bring the audience to the next level of 'reactivity' by introducing 2 reactive frameworks - Akka and Vert.x, which are usually used for implementing reactive microservices. It will draw some comparisons between these 2 frameworks and cite some real-life examples of their usages.

The takeaways for the audience will be an understanding of the key differences between reactive programming versus reactive systems, and the strength and weaknesses of each of the surveyed frameworks.

## Hacking JWTs

Joel Lord

So you've finally secured your APIs. And it uses JWT because everyone else does. But is it secure? JWTs are the new great thing that everyone is talking about, but you need to use them correctly. During this talk, we will see how we can use various attacks to hack into OAuth systems that use JWTs as a token mechanism. From token validation to brute forcing HS256, by seeing the attackers' point of view the attendees will learn how to better defend themselves and make more secure servers.



# Friday 1:15pm

Iowa B  
Iowa C  
Iowa D  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Electricity and Electronics for Programmers  
Learn the Basics: Inversion of Control (IoC)  
Website Security for Web Developers: What You Need To Know  
Scrum Master, Beyond the Certification  
Building Great Libraries with .NET Standard  
Packaging your world with NuGet  
Mobile Apps: To SQL or Not to SQL

Bailey Steinfeldt  
Adam Barney  
Mitchel Sellers  
Diana Williams  
Chad Green  
Duane Newman  
Robert Hedgpeth

## Electricity and Electronics for Programmers

Bailey Steinfeldt

If you've been programming for the web or desktop, you've never had to wonder just how the electrons are getting from point A to point B. But if you're starting out in the Internet of Things, you are going to need to know a bit more than how to plug in the USB cord. This talk will cover intro level electrical theory and how it applies to an Internet of Things device. From batteries and mains power to motors and relays, we'll chat about how to keep you and your project safe!

## Learn the Basics: Inversion of Control (IoC)

Adam Barney

What is IOC? You've no doubt heard the term thrown around by seasoned developers. They sing of its usefulness and power – but when you try to learn it, it all seems to go over your head. That was me a few years ago. I finally made a concerted effort to really learn IOC and see what all these smart people were raving about. In this session, I will share my knowledge of IOC and try to help you understand why Inversion of Control is as good as the alpha geeks say it is.

## Website Security for Web Developers: What You Need To Know

Mitchel Sellers

We live in a world full of news articles about hacking attempts, successful hacks, and malware spreading like wildfire. It is important to have an understanding of how, as web developers, we can work to ensure our systems are secure. Often times security, and related, concepts are discussed, but never fully implemented. This session will take a deep dive into considerations, tools, and techniques to ensure that your developed applications are secure, and that you have tools necessary to validate the security. We will review various web security techniques including the proper usage of SSL Certificates, additional HTTP Headers for Browser security support, automation methods of validating integrity of your application, the OWASP Top 10 Issues list, and the role of security assertions from third-party vendors. After this sessions, developers will have a toolbox of items to review, and reference materials to further educate themselves on common security pitfalls that impact developers.

## Scrum Master, Beyond the Certification

Diana Williams

Imagine if your job was to herd elephants, corral monkeys or discuss death defying acts overhead; under the bigtop of Scrum. Maybe a police officer protecting and serving the team working diligently to build potentially shippable products. Or a psychic foretelling of coming fortunes or doom. Most Scrum Masters start with a two day certification, but never learn about the plethora of other roles they need to perform outside of facilitating the events listed in the Scrum Guide. Join this session to find hidden treasures and adventurous roles inside the world of the Scrum Master.

## Building Great Libraries with .NET Standard

Chad Green

For 17 years, the biggest decision was whether it was time to upgrade to the latest .NET framework or not. Not there .NET Framework, .NET Core, and .NET Standard. So many options and it is not completely obviously which one (or ones) you should be using. During this session we will review the different frameworks/standards and talk about where you should be using the different frameworks/standards. Then we will focus on how you can easily support multiple platforms with .NET Standard and no compromises, thanks to multi-targeting. We will also cover the other aspects of building .NET Standard libraries such as versioning, strong naming, and binding redirects.

## Packaging your world with NuGet

Duane Newman

Whether you are creating an open source library or building enterprise app core components, you need to get that functionality into other projects. But developing these resources is usually easier than consuming them. How about a worry free way to distribute and reference those resources in your project that will let you stay up to date, but allow you to avoid problems that may introduce breaking changes or new bugs? NuGet packages to the rescue! We'll also take a look at where you can find NuGet (packages aren't just for code any more) and how to create, distribute,

and maintain your very own package. Then, you'll be ready to share your package with your team, your enterprise, or even... The world!

## Mobile Apps: To SQL or Not to SQL

Robert Hedgpeth

Throughout the course of the mobile apps revolution the world has seen many changes in the technology landscape. What started off with fewer than 500 apps has quickly surpassed the millions mark. As languages, platforms, and styles have come and gone one thing, above all else, has persisted; data.

In this session we'll examine the data usage trends and the different data storage techniques for mobile apps. More specifically, we'll take an in-depth look at the two main database options: SQL and NoSQL. We'll learn what each is, and when to use them. As developers we know when it comes to technology options there's no silver bullet, but you might be surprised how lop-sided the SQL vs. NoSQL debate is as it pertains to mobile.

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# Friday 2:30pm

Iowa B

Iowa C

Iowa D

Iowa E

Ballroom North

Ballroom Central

Ballroom South

Cloud Application Lifecycle Basics

How to Win Friends and Influence...Better Developer Estimates

SQL Server DevOps

Managing Agile Teams: A Servant-Leader Based Approach

Learning MVC and Practical Lessons Learned

Introduction to Reinforcement Learning

Document databases vs. Relational Databases...

Seth Larson

Brian McKeiver

Scott Sauber

Scott Grimes

Kevin Cox

Evan Hennis

Kevin Grossnicklaus

## Cloud Application Lifecycle Basics

Seth Larson

There are a LOT of options out there these days. Depending on if you're on-prem, in AWS, or in Azure you have some very different options available to you. We'll go over how to make the most of what is available. Options for deployment/infrastructure/build automation, logging, config/secrets management, container orchestration, application performance, tracing, event streams and queues. Lets go through these options and show where different platforms really shine.

## How to Win Friends and Influence... Better Developer Estimates

Brian McKeiver

Let's face it, creating estimates for tasks is not an exact science. Whether it is points, hours, level of effort, or whatever else the next fad is, it all mostly boils down to what feels like a shot in the dark.

Join my session to find out a few lessons learned, tips, tricks, and strategies for creating accurate and timely estimates on your developer tasks. I'll share my experiences for creating the majority of estimates at my company for the past 17 years. I'd estimate that the amount of estimates I have created is more than 500 or so..See what I did there?

At the end of the day, if you can create better estimates, than maybe your project managers will end up becoming another one of your long time friends.

## SQL Server DevOps

Scott Sauber

In this session, we'll start from the beginning and discuss the decisions you need to make when deciding how you want to build and deploy SQL Server schema changes. We'll talk about Migration vs Model based approaches and the pros and cons of both. We'll discuss common gotcha's and review the workflows I've gone through to get to a successful build and deploy pipeline up and running in no time (including a SQL Server database that got its start over 25 years ago).

## Managing Agile Teams: A Servant-Leader Based Approach

Scott Grimes

Product Owner, Team Member, Scrum Master, Facilitator, Coach, Manager? The Work done by managers of agile teams can decide the success or failure of any agile initiative. The benefits of Agile adoption have become apparent even one of the biggest waterfall advocates, the Department of Defense is now requiring the adoption of Agile Development Methods. The day-to-day implementation of these initiatives requires the coordination between program management and the teams actually doing the work. The Management team must learn to co-create value for the customer in order to succeed and thrive in today's Agile world. How can management and technical leaders contribute to the success of an agile project at all phases of Agile adoption? How can years of experience, research, and knowledge of management principles be leveraged to meet the Agile goal of providing more value quickly. This presentation will provide a fact-based presentation on leadership, interpreting the results of multiple leadership surveys over the past 30+ years in a way that promotes Agility and empowers teams. This presentation will also provide examples from the Global Adaptive Planning Collaborative Information Environment (GAP CIE), a project which recently won the Aviation Week Program Excellence Award under the supplier aftermarket category for their Agile, Lean, and DevOps adoption on the project designed to support the U.S. Air Force's contingency and crisis action planning operations.

## Learning MVC and Practical Lessons Learned

Kevin Cox

After years of using MVC4, and now MVC5, I would like to share how we've leveraged it in an Enterprise level solution. In this presentation, I'll show to tie together the API layer, standard issues we've had with implementation, and how to keep it secure and fast. We will create an MVC app in Visual Studio to utilize the Scaffolding, and generate a useful tool for teaching this.

## Introduction to Reinforcement Learning

Evan Hennis

Have you ever wondered how Google DeepMind and OpenAI were able to get beyond expert level performance on video games? In this talk I will walk through the evolution of the Q Learning algorithm. From its birth from biology until the current iteration.

## Document Databases vs. Relational Databases: An honest comparison and things to consider

Kevin Grossnicklaus

Many developers still struggle to understand which application scenarios might benefit from utilizing a document database or a relational database. Both of these options are powerful and many vendors have great products ready to build on. Unfortunately not one size fits all and there are definite scenarios where choosing one or the other will give your application architecture a leg up. There are also scenarios where a hybrid of using both a document database and a relational database might be the best choice.

We will discuss the benefits and tradeoffs of each option, how they differ, and give real-world design tips to consider when building on either. We will also discuss the current options available for database platforms in both the relational and document DB space. Many examples of real code and architectures will be given.





# Friday 3:45pm

Iowa B  
Iowa C  
Iowa E  
Ballroom North  
Ballroom Central  
Ballroom South

Secure by Design  
GitHub Pages: An Often Overlooked Web Platform  
Beyond Blinky: Making a real IoT "Thing"  
Deep dive into dependency injection  
Introduction to the R Language and Ecosystem  
Working with PDFs in Python

Matt Busche  
Mike Cole  
Adam Barney  
Yair Segal  
David Body  
Mike Driscoll

## Secure by Design

Matt Busche

As an industry we stand no chance against modern threats with our currently development process and mindset. In this session we'll learn how good design drives security and can help mitigate some vulnerability to outside threats. This includes putting security at the forefront when designing an application by ensuring dependencies are up to date, performing server side validation and sanitation for all inputs, and running checks against our repository regularly, if not on every pull request.

## GitHub Pages: An Often Overlooked Web Platform

Mike Cole

GitHub Pages is a highly scalable web host with world class infrastructure, free SSL, and robust workflow tools. And it's FREE. In this session Mike will explain how to determine if your project is a good fit for GitHub Pages and leave you with enough information to be able to implement from top to bottom. We'll go into the basics of setting up a new site and will cover some built-in functions to add a little dynamicity to your static site. He will show you how to set up a local development environment for you Windows developers out there, several scenarios dealing with different types of publishable content, and we'll look at a few third party services to complement your available toolset.

## Beyond Blinky: Making a real IoT "Thing"

Adam Barney

So you've picked up an Arduino or Raspberry Pi and some LEDs, or maybe splurged and got a starter pack with some sensors and actuators. Hello World is easy - in the IoT world, it's blinking an LED forever in a loop. Now what? It's time to take your newfound hobby and do something real with it. In this session, We'll walk through the creation of a real thing (TBD) and talk about all the considerations that went in to bringing it to fruition, including writing the code, designing the circuits, picking components, maximizing power efficiency, 3D printing enclosures, connecting things to the cloud, and more!

## Deep Dive into dependency Injection

Yair Segal

Why do we need loosely coupled applications. Ways to implement dependency injection. Deep dive into some advanced DI concepts. Talk about some Some of the benefits of using a DI framework. Cover some of the existing DI frameworks in C# with examples

## Introduction to the R Language and Ecosystem

David Body

This session will introduce you to R, a general purpose programming language and software environment that is popular for data analysis and visualization. We will introduce the R language, focusing on examples of the kinds of things that R excels at like data wrangling, exploratory data analysis, statistical computing, machine learning, and data visualization.

We'll also introduce the R ecosystem, including the tidyverse, an opinionated collection of R packages designed to make data science fast, fluent, and fun. We'll see examples of how you can create documents containing code and graphics using tools like R Markdown, as well as creating and publishing interactive data-driven web applications using Shiny.

No prior knowledge of R is required. The emphasis will be on breadth rather than depth. You'll come away with a basic understanding of what R is all about and suggestions for how to learn more.

## Working with PDFs in Python

Mike Driscoll

In this talk, you will learn how to work with PDFs using Python. There are many PDF libraries in Python that allow you to interact with and create PDFs in different ways.

You will learn how to do the following tasks:

Extract metadata from a PDF

Split PDFs

Merge PDFs

Create watermarks

Rotate pages

Add encryption

All these things and more can be done with Python and a little bit of know how!

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# About Amegala

## A little bit about Amegala:

The software industry is one of constant change.

New tools and frameworks are introduced at an ever increasing pace.

Development, Architecture, and Management paradigms shift only to shift back with the next hardware innovation.

The industry itself is growing, doubling in size every 5 years.

Cornerstone industries in the economy, financial, insurance, medical, and government, all rely on software to be efficient and effective.

What this means is everyday we become more dependent on our software systems.

Half the working developers have less than 5 years experience and need training to write quality code. Those with more than 5 years experience are looking for opportunities to learn new, efficient tools while trying to keep up with their backlog of work.

We founded Amegala in 2010 with the belief that software development is an essential industry and the people who develop and manage software have a key role to play in the future of our economy. As responsible members of the software development community we see it as our mission to help grow and improve that community to which we owe so much.

## Don't forget to be social. Win prizes!

Let us, & your friends, & the WORLD know about your experiences at this year's Prairie.Code().

Post pics or text about your favorite session, workshop, speakers, food, hallway conversation or that perfect selfie with your co-workers to facebook, twitter, or instagram.

Make sure to mention or tag us for a chance to win great prizes!



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Prairie.Code() & Amegala Conferences owes a great deal of gratitude to all of our Sponsors, Attendees, & Speakers for making the 2019 conference so successful.

Without the hard work of everyone involved, our entire family of conferences would not be what they are today.

Amegala, Inc. thanks all of the companies & groups that helped sponsor this year's event.

We couldn't have done it without your sponsorship.

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Let us, & your friends, & the WORLD know about your experiences at this year's Prairie.Code(). Post pics or text about your favorite session, workshop, speakers, food, hallway conversation or that perfect selfie with your co-workers to facebook, twitter, or instagram.



Make sure to mention or tag us for a chance to win great prizes!

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# 2019 Speakers

## Kelly Andrews

Kelly J Andrews is a developer advocate for Nexmo and has been tinkering with computers for over 30 years, using BASIC for the first time at the age of 5. It wasn't until building his first webpage in 1997, and trying out JavaScript for the first time that he found a true calling. Kelly now fights for JavaScript, testable code, and fast delivery. In his free time you can find him singing karaoke, performing magic, or cheering for the Fighting Irish.

## Ash Banaszek

I am a senior UXer at Union Pacific in Omaha with over half a decade of experience in the UX field. I love melding psychology and technology; that's why I love the fields of Human-Computer Interaction and User Experience. Whether it be guest lecturing at universities, training co-workers, or speaking at tech conferences, I love to teach and try to keep my sessions as interesting as possible. At my sessions you will be asked thoughtful questions, come away with some useful information, and (perhaps) leave entertained.

## Adam Barney

Adam is a nerd. That kept me humble and nearly friendless (sniff) through school, but he wears it as a badge of honor now. After buying a Commodore 64 with money from his paper route in the 4th grade, he's never stopped learning about computers and how to make these stupid machines do cool things. When he's not slinging code for his 9-to-5 job, he's slinging code for himself to keep current on things, playing with electronics and IoT, 3D printing, and watching far too much TV.

## Jason Bock

Jason Bock is a Practice Lead for Magenic and a Microsoft MVP (C#). He has over 20 years of experience working on a number of business applications using a diverse set of frameworks and languages such as C#, .NET, and JavaScript. He is the author of ".NET Development Using the Compiler API", "Metaprogramming in .NET", and "Applied .NET Attributes". He has written numerous articles on software development issues and has presented at a number of conferences and user groups. He is a leader of the Twin Cities Code Camp. Jason holds a Master's degree in Electrical Engineering from Marquette University. Visit his web site at <http://www.jasonbock.net>.

## David Body

David W. Body is a freelance software developer and data science consultant based in Des Moines, Iowa. He is available for consulting and contract work.

## Jeff Scott Brown

Jeff Scott Brown is a Partner at Object Computing, the home to numerous Open Source Software projects including Micronaut, Grails, and OpenDDS. He is one of the co-founders of the Grails and Micronaut projects and is the Grails and Micronaut

Practice Lead at Object Computing. He has spent almost 25 years actively involved with OSS and has been doing JVM application development for as long as the JVM has existed. He has spent the last decade focused specifically on work related to the Grails framework, is a key contributor to the frameworks' core development and most recently co-founded the Micronaut framework. You can find Jeff on Twitter @jeffscottbrown (<https://twitter.com/jeffscottbrown>).

## Matt Busche

Husband, Dad, programmer, and speaker. Runner. Responsible and Responsive Design enthusiast. Wheel of Fortune expert. Graduate of Northern Iowa.

## Alain Chautard

Alain is a Google Developer Expert in Web Technologies / Angular. His daily mission is to help development teams get started and become fluent with Angular. He is the organizer of the Google Developer Group chapter in Sacramento, California, conference speaker, and published author of several video courses.

## Mike Cole

Mike Cole is a freelance developer living in Cedar Falls, IA. He's been around the proverbial block in the IT profession and has a wide array of experience in many fields. He has several years experience with working remotely and is very familiar with the benefits and drawbacks of working out of your own home. He is incredibly lazy and is always looking for easier and more streamlined ways to solve everyday problems. His passions in life include his family, sarcastic memes, the outdoors, and always having the last word.

## Kevin Cox

I have been a Developer for 10 years, with backgrounds ranging through Visual Basic, C#, F# and multiple Frameworks. For the last several years, I have been working in MVC5 with C# in an Enterprise level. I also run a freelance company, and have covered supporting legacy apps all the way up to modern apps. I have really enjoyed working with MVC, and see a lot of benefits to users that have a lot of shared code, and want to utilize the benefits of simple communication between layers. I also am a Microsoft Certified Software Developer, and am working towards becoming a Microsoft Certified Trainer.

## Bill Dinger

Bill is a Senior Technical Lead working on delivering digital solutions to our clients. Over the last 15 years Bill has worked in enterprise IT starting in the trenches on the help desk. After that, Bill spent almost a decade working in infrastructure support focusing in the Microsoft stack. Over the last 5 years Bill has been developing, architecting and leading teams of software developers with VML.

During that time Bill has done everything from troubleshoot dial up connections in rural Nebraska to building the digital experiences for some of America's most well known brands. When not working, Bill will probably be found on his bike exploring gravel roads in his hometown of Lincoln, Nebraska.

## Mike Driscoll

Mike Driscoll has been programming with the Python language for more than a decade. He has also been an active user and documenter of the wxPython GUI toolkit for almost as long as he's been using Python. When Mike isn't programming for work, he writes about Python on his blog. Mike is also a contributor to Real Python. He has worked with Packt Publishing and No Starch Press as a technical reviewer for their books. Finally, Mike is the author of several books on the Python programming language.

## Brian Gorman

I am an experienced .Net developer with MCSA: Web App Certification, MCSA: App Builder, and MCT certifications. I have a masters of science degree in computer information systems, and a bachelor of science degree in computer science. I also have many years of experience instructing college courses online in SQL databases, C#/VB .Net programming, Java programming, and Microsoft Office. I have created many online technical training courses that can be found on various platforms like O'Reilly/InfiniteSkills, Udemy, and others. I also run MajorGuidanceSolutions, a training and consulting company, while working fulltime as a .Net developer.

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# 2019 Speakers

## Chad Green

Chad Green is a manager, software developer, architect, community leader, and most importantly a father and husband. Chad works as the Data & Solution Architect for ProgressiveHealth where he manages the application development team which is responsible for crafting software solutions for the various company affiliates located across the country, which provides health and wellness solutions in the healthcare and industrial service settings. Over the years, Chad has managed groups from 5 to 63 people and worked on projects in a wide range of markets including healthcare, military, government, workforce management, financial services, chemical research, and electronic commerce.

One of the ways Chad has kept up with technology and development practices is by attending user groups and software development events throughout the country. Being a big believer in giving back and wanting to ensure that there are cool events for other software development professionals, Chad founded and chairs the annual Code PaLOUSA conference, organizes the Louisville .NET Meetup user group and the Monthly Tech Leader Coffee and Discussion, and has helped with other groups like the Louisville Tech Ladies and events like Cincy Day of Agile. Chad also speaks at user groups and conferences about .NET development, DevOps, Serverless, and leadership.

## Scott Grimes

Scott Grimes is a Software Engineer with 19 years of experience on DoD Projects working in the Omaha area as a Software Engineer and Product Owner, and is an experienced Agile software developer. Scott is a Co-Organizer of the Agile for Defense group in Bellevue, NE, and an advocate for Agile practices. Scott works as the Chief Product Owner for the Global Adaptive Planning project at USSTRATCOM, and is a ScrumAlliance Certified Scrum Professional (CSP-SM and CSP-PO), as well as a PMI-Agile Certified Professional. Scott has a MS in Computer Science from University of Nebraska, Omaha, and a BS in Computer Science from Iowa State University.

## Kevin Grossnicklaus

At one point in his career Kevin was the youngster on most development teams. He got his start developing with Visual Studio and managed .NET code during the early beta cycles in 2001. As a technical author, his first writing experience was for the Visual Basic.NET Bible released in 2002. He has been recognized as a Microsoft MVP since 2009 and is a member of the ASPInsiders program. He is also very active in the local St. Louis development community.

In 2009, Kevin Grossnicklaus started his own software product development firm called ArchitectNow ([www.architectnow.net](http://www.architectnow.net)).

At ArchitectNow, Kevin and his team specialize in a wide variety of tools and technologies and take pride in helping their customers deliver great solutions on a variety of platforms. As expected (and necessary) today, they are always on the lookout for the "next big thing" in the software or technology space while guiding customers through the waves of new technology.

Born in rural Nebraska, he has spent the last 20 years in St. Louis, Missouri where he lives with his wife Lynda and their three daughters: Alexis, Emily, and Hanna. He is an avid guitar player, home brewer, and gamer including everything from retro arcade games, to board games, to role playing games. When not spending time on any of those hobby's he waits patiently for a second season of Firefly.

## Mary Grygleski

Mary is currently a Java Developer Advocate for IBM Cognitive Applications Group, specializing in Reactive Java systems. She has been riding the software tech waves since 1989, starting with Unix and C, then set sail for Java, open source, and web in the new Millennium, and now venturing into reactive, mobile, and the DevOps space. In her previous incarnations, she worked for several technology product companies in the Route 128 Boston Technology Corridor as well the San Francisco Bay Area. She now resides in the Greater Chicago area, and is an Executive Board member and the Director of Meetings for the Chicago Java Users Group (CJUG). Mary continues to be amazed by how software innovations can dramatically transform our lives. She can't wait to see what the next tech wave will be like.

## Robert Hedgpeth

Rob Hedgpeth has been slinging code since the early 2000's. Like many others, he started his journey by building pretty horrendous looking websites. Fortunately, for the world, he has since evolved and has branched out to a variety of projects across web, desktop, mobile, and IoT. During his time at Xamarin and Microsoft he contributed to the architecture and development of many mobile apps using native and cross-platform development platforms. Now as a developer advocate for Couchbase, Rob gets to combine his love for technology with his mission to fuel developers' curiosity and passion. In his free time you can find Rob failing to control his dogs, getting utterly dismantled at Overwatch, or trying to convince himself that he actually enjoys working out.

## Courtney Heitman

Courtney's passion for the web all started with teaching her 11-year-old self how to write CSS on a dial-up internet connection on a farm in rural Iowa. Since then she has been in a myriad of positions including a Flash developer for several higher ed

institutions, a Joomla developer, a brief stint as a server admin, a designer, a full stack developer, and a project manager. Currently, Courtney is a UX Developer, Scrum Master, and Accessibility Compliance Specialist for Gallup in Omaha, Nebraska. Her passion is making a web that is usable and accessible to all.

## Evan Hennis

Evan is a Google Developer Expert in Machine learning. He has a computer science degree from Iowa State and a master's degree from Georgia Tech with a specialization in machine learning. He has been writing .NET code for the last 15 years.

## Ryan Hochstetler

No Bio Provided.

## Billy Hollis

Billy Hollis is recognized as a trailblazer in user experience design (UX). He believes superior UX design contributes to an organization's competitive position, bringing both tangible, measurable value and intangible value. He developed a process with formulas that quantify UX benefits, and his Next Version Systems' team applies this process for every project.

Billy and his team go beyond traditional user experience design by having deep technical expertise. They can both ideate and create modern innovative user experiences, providing seamless development from initial exploration to finished product.

Billy quite literally wrote the book on .NET programming, writing the first chapter of the first book published on .NET. He is well-versed in the full Microsoft stack and other technology ecosystems—singularly positioning Next Version to help you make platform decisions, design and architect your new applications, and then deliver a software solution with high and lasting ROI.

Billy speaks frequently at major conferences, and is widely regarded as an influential voice on technology directions, best practices, effective architectures, and helping developers achieve their potential. He works with multiple teams at Microsoft to help them design and craft products, and has been recognized by Microsoft both in their prestigious, business oriented Regional Director program and their technical Most Valuable Professional (MVP) program.

Billy Hollis may very well be second-to-none in his ability to train development and design teams to reach their greatest potential.

Billy brings tremendous passion for helping teams become better at their jobs. Guiding dev teams to stay on the right path. Never limiting the scope of what you can achieve. He is not satisfied to train a team on the minutia of technology. He insists on challenging them to be better developers who create more valuable applications faster.

# 2019 Speakers

## Devin Kelly-Collins

Devin is a full-stack engineer with a passion for learning new approaches to problems. In working at Artisan he has been involved in wide variety of projects that used various technologies and frameworks. His favorite area to work in is the front-end but he hasn't been able to pick between Angular, React, or Elm as his favorite framework.

## Seth Larson

A software engineer in the Ag industry with experience working on web applications/services, IoT, and embedded applications. Organizer of South Dakota Code Camp and Sioux Falls Developer's Group. Currently focused on keeping a team moving forward, modernizing and instrumenting a cloud products codebase spanning multiple languages and platforms.

## Michael Leners

I am a Development Consultant through Source Allies. Formerly I taught physics at Grand View University and I have a Master's in Chemical Engineering. Before transitioning to web development, I considered data analysis. Web Development has captured my heart and keeps me engaged with the growth and learning potential it offers. I am originally from outside of Seattle, WA. I moved to Iowa for graduate school in 2013 - it's probably time for me to get an "Iowa Captive" bumper sticker.

Additional to my passion for data analysis, I am drawn more towards front end development. I have worked professionally with Ember, Angular, Django, Dotnet Core, AWS and Azure. On my own, I enjoy experimenting with Vue and Gatsby and "back end as a service" options. I am a strong advocate for accessibility and diversity in tech. I continually strive to become a better ally in these areas.

## David Lindner

David Lindner is the Director, Application Security at Contrast Security. David is an experienced Application Security Professional with over 18 years of experience in the computer security industry. During this time, David has worked within multiple disciplines in the security field, from application development, network architecture design and support, IT security and consulting, security training, and application security. Over the past 10+ years, David has specialized in all things related to mobile applications and securing them. David has supported many different clients including financial, government, automobile, healthcare, and retail. In his spare time, David hones his Mobile and IoT testing skills by participating in numerous bug bounties.

## Joel Lord

Joel Lord is passionate about web and technology in general. He likes to learn new things but most of all, he likes to share his discoveries. He does so by traveling at various conferences all across the globe.

He graduated from college in computer programming in the last millennium. Apart for a little break to get his BSc in computational astrophysics, he was always in the industry. As a Developer Advocate at Red Hat OpenShift, he meets with developers to help them make the web a better place. During his free time, he is usually found stargazing in a camping site somewhere.

## Javier Lozano

Javier is CEO and Founder of Lozanotek, Inc., a .NET focused software development boutique based in Des Moines, IA. His specializations are in ASP.NET, Azure, system design, and developer mentoring. Javier is also a Certified Scrum Master (CSM), Certified Scrum Product Owner (CSPO), GitHub Certified Trainer, an ASP.NET Insider, Azure Insider, and has been awarded the Microsoft MVP Award for over 14 years for all of his contributions to products and community. For fun, Javier runs and manages the popular .NET Conf virtual conference and the Iowa .NET User Group. He's is an avid supporter of the community and likes to give back by speaking at user groups, local/regional/national .NET events. In his spare time, Javier loves spending time with his family and enjoys writing about himself in the third person.

## Brian McKeiver

Brian McKeiver is Co-Owner & Solutions Architect at BizStream, a software development company in Allendale, MI. He has over 17 years of experience leading his agency of more than 30+ employees, about a hundred clients spread out across North America, and one heck of an interesting story of how it all started from a two-person team. In addition to his expertise in web development, integration, and digital marketing, Brian is active with the tech community via his blog at Mcbeev.com.

## Duane Newman

Duane is Co-Founder of Alien Arc Technologies, LLC where he focuses on creating apps targeting mobile devices, modern desktops, and the Internet of Things. As a Microsoft MVP and technology enthusiast with a passion for good software he strives to bring solutions that improve or eliminate costly duplication and repetitive processes so more important things can be done. He enjoys teaching others through his random blog posts and by speaking at conferences on topics ranging from DevOps to Xamarin. When not behind a computer screen he can be found sharing his love of SCUBA and all things underwater with new divers at the pool or through his underwater videos and photos.

## Ashish Pandey

Ashish Pandey, a systems application developer at Gallup and a graduate from Northwest Missouri State University, have gained experience for around 4+ years working on various technologies and .NET, I have always been fascinated towards the security

of networks and practicing to be an expert in understanding and prohibiting the possible flaws while developing code in this fast-paced technological world. Apart from that, I keep interests in writing poems, painting, adventuring, volunteering, giving talks and I admire astrophysics as I see there are a lot of questions yet to be answered.

## Avery Regier

Avery has been building and supporting large systems for two decades. His recent focus has been on finding themes for why systems fail, and building practical solutions.

## Lee Robinson

Lee Robinson is a developer, writer, and UI/UX enthusiast. He works at Hy-Vee, a \$10 billion dollar grocery chain in the Midwest. His primary focus is developing Aisles Online, Hy-Vee's e-commerce grocery shopping platform, which serves millions of customers every year.

Outside of his normal work as an engineer, he helps attract and recruit the best talent to support Hy-Vee's ambitious growth. Prior to Hy-Vee, Lee worked as an engineer at Workiva (NYSE:WK) - a cloud provider of connected data, reporting, and compliance solutions. Lee enjoys all things technology, music, and photography/videography.

## Scott Sauber

I'm a Professional Software Consultant at Lean TECHniques using ASP.NET Core, JavaScript, and forgetting how to vertically align stuff in CSS. I'm a consistently inconsistent blogger at scottsauber.com.

## Lindsey Schacherer

Bio Not Provided.

## Christine Seeman

Christine is from Omaha, Nebraska where she works as a full stack Ruby on Rails engineer at Flywheel, WordPress hosting for creatives. She has 12 years experience as a Java software engineer with a focus on APIs, micro-services, and incorporating security through the whole SDLC and took the plunge into Ruby last year. In her spare time she is an avid long form reader, lover of all true-crime podcasts and is attempting to work through the primary Ashtanga yoga series. @tech\_christine

## Yair Segal

Yair Segal CEO/ Chief Architect Peach Software Inc. Kansas City, MO Yair has been coding since 2nd grade in Basic. For the past 10 years Yair has been developing web and mobile applications using C# and C++. As a passionate coder you can often find him coding at 4AM on weekends. He has a bachelor in electrical engineering from Georgia Tech. In 2008 after moving into a manager position





# 2019 Speakers

Yair started Peach Software Inc. to provide residual income (Motorcycle Money) and keep his coding skills up to date. Since 2010 he is the chief software architect and CEO of Peach Software Inc. In addition to his work, Yair is a regular contributor/sponsor to several local tech events and conferences. In his free time Yair likes to ride his motorcycle, play basketball, cross fit training, and obstacle mud runs. He can be reached at: ysegal@mypeachsoftware.com

## Mitchel Sellers

Mitchel Sellers, Microsoft MVP, ASPInsider, is the CEO of IowaComputerGurus, Inc. an Ankeny, Iowa based software consulting organization. Mitchel enjoys sharing his experiences with others at local events and conferences. As a consultant and former educator, Mitchel tries to take a real-world approach to software development presentations. When not working with code you will find him flying around the US.

## Ross Sickora

I just like to learn stuff. I work with teams at Principal Financial Group to cultivate a more curious nature to the way we build our products. I enjoy sharing experiences rather than lessons. I've spent the last 7 years of my career in software engineering, and I'm a huge people nerd. I love learning more about people, how they work best together, and helping them get the most from each other.

## Micah Silverman

Micah Silverman is a Senior Developer Advocate for Okta. With 24 years of Java Experience (yup, that's from the beginning), he's authored numerous articles, co-authored a Java EE book and spoken at many conferences. He's a maker, who's built full size MAME arcade cabinets and repaired old electronic games. He brings his love of all things Java and Developer Evangelism to a conference near you!

## Bailey Steinfadt

Longtime computer and electrical engineer in the ag industry that recently started her own consulting and contracting business. She can prototype, consult, or train on embedded systems and custom electronics.

## Dennis Stepp

I am a Product Owner at Lirio in Knoxville, TN. I'm also a game/web developer with Unibear Studio, and stage manager/web developer with the Earl Park Fall Festival Foundation. My interests include: process and workflow optimization, automation, JAMstack technologies, software architecture, object oriented languages, and game development. I also collect retro PC/console video games, dabble in gardening and woodworking. I have a passion for craft beer. I play recreational hockey to get my aggression out.

## Jeremy Suing

Jeremy Suing is the Jeffrey S. Raikes School Senior Project Manager for Design Studio and a Lecturer in the Department of Computer Science and Engineering at the University of Nebraska-Lincoln. Mr. Suing has been involved in management and development of enterprise software systems for more than 20 years, working in both large corporate and educational environments. He has been with the Raikes School since 2005 and has helped manage more than 200 projects with nearly 100 unique sponsoring entities. Mr. Suing has received the Certified Scrum Master, Certified Product Owner, and Certified Scrum Developer designations from the ScrumAlliance. Prior to joining the Raikes School, Mr. Suing had 7 years of software engineering and project management experience working directly with ERP software solutions for Oracle USA, Inc. (formerly J.D. Edwards & Company and then PeopleSoft, Inc.). He has a Master of Science in Computer Science from the University of Colorado at Denver and received his Bachelor of Science in Computer Science and Mathematics from the University of Nebraska at Kearney.

## Nate Taylor

Armed with over 15 years of experience and a passion for his profession, Nate is no stranger to developing quality software applications. He applies his expertise in C++, Java, .Net and JavaScript, and his focus on test driven development (TDD) and clean code, to write revenue-generating applications. Nate has the expertise to work solo and the personality to work alongside a larger team. His work positively impacts a variety of industries, from small startups to Fortune 50 businesses. When he's not working at Aviture, speaking at a conference, or creating courses on Pluralsight, you can find Nate training in Brazilian Jiu Jitsu and spending time with his wife, kids and herds of cats, rabbits and other pets at home.

## Joel Tosi

Just a dude trying to help out people and teams that are trying to learn and create interesting products. With experience in dev, architecture, management, and product - I try to help teams communicate more effectively and build their products in a maintainable way that allows room for product discovery.

## Harley Waldstein

Harley is a software developer at Gallup, a company that provides analytics and advice about everything that matters. He has been a developer for 5 years. During that time he has written miles of C# and SQL, built a self-driving boat, created several toy programming languages, and otherwise earned his geek credentials. While not at work he enjoys reading sci-fi and fantasy, scraping web sites to do weird data science, and singing in choirs.

## Mat Warger

Mat Warger is a senior consultant with Keyhole Software. He enjoys learning new concepts and has leveraged this curiosity in positions ranging from startups to the enterprise over the past decade. He can be found chasing the latest and (sometimes) greatest in a wide range of languages and platforms, including React, GraphQL, and the cloud. Find him on twitter @mwarger.

## Diana Williams

Diana Williams is an experienced Agile Coach and Trainer with Project Brilliant. She has worked in both the public and private sectors, providing enterprise level Agile coaching. She is a passionate learner and teacher. Diana oversaw systems that had several billions of dollars' flow through them. Her teams have recognized significant productivity gains, improved quality, and better predictability. She is empathic with her teams and stakeholders, helping them achieve things they did not realize were possible. She has received numerous praise from her clients and teams. When Diana is not coaching teams or leading projects, she is very family focused. She especially loves spending time with her grandchildren. As a mother and grandmother, she is an advocate for women working in technology.

## Dave Woodward

I am a career technologist with a passion for learning as well as teaching and mentoring others. In my 22 years in the business, I have served in a variety of roles and worked with a wide range of technologies. In the past 12 years I have led Enterprise Architecture for two large organizations in the financial services sector. In both cases, I led very action-oriented teams that provided equal amounts of thought and execution leadership. In my most recent position, there were simultaneous pushes to move certain applications to the public cloud, embrace infrastructure as code, and fully-automate application deployments. As a result, I played a key role in establishing an initial IT Strategy for leveraging and governing the use of the public cloud, establishing a framework for infrastructure automation, and designing a CI/CD Reference Architecture to support the company's desire to embrace DevOps. In all three cases, my role was not simply to design, document, and socialize. Rather, I embraced a hands-on role and personally developed several reference implementations as a way to validate my designs and educate those who came behind me. Similarly, in another recent assignment where I served as Chief Architect, I led the evaluation, selection and onboarding of both an enterprise service bus and an API gateway platform; including implementing end to end security and seamless integration with the company's SSO infrastructure. My hands-on approach to each of these situations has enabled me to gain a lot of practical insight into what works well, what doesn't, and why.



It has also given me some perspective on the tools and technologies that work well and how best to apply them to a given situation. Over the past 12 years I've spent a lot of time sharing these insights and perspectives internally through special training events and lunch and learns. Now, as I seek to become more entrepreneurial, I am looking for opportunities to share them with the broader IT community here in central Iowa and beyond.

#### John Wright

John M. Wright has been a professional software developer for about 18 years, gaining experience ranging from "shrink-wrapped" software to large, distributed networks using multiple platforms and technologies. His experience spans the entire software lifecycle and though he has experience in a management role, his passion lives in writing high-quality, clean code while providing leadership through technical direction and mentorship. He enjoys sharing his experiences with automated testing, mocking frameworks, and static analysis tools, or guiding other developers through the darker crevices of the .NET framework, while also learning from his peers' experiences -- helping everyone "level up" as a team. He has a pragmatic approach to and a heavy interest in continuous improvement of people, process, and product. He's currently applying that experience as a Senior Software Developer at Stack Overflow on the Internal Development team.

**Don't forget to join us  
for the  
Prairie.Code()  
2019 Attendee Party  
on Thursday,  
from 5pm - 8pm**

**Hawaiian Luau  
and Board Games  
in the courtyard**

**Have fun! Socialize!  
Meet new friends.**



## Amegala Code of Conduct

Amegala recognizes the importance of a harassment-free conference experience for everyone, regardless of gender, gender identity & expression, sexual orientation, disability, physical appearance, body size, race, age or religion. We expect anyone at an Amegala Event, including but not limited to organizers, volunteers, attendees, speakers, venue staff, sponsors, exhibitors, caterers, & guests, to treat each other with respect and to not engage in behavior deemed harassing in nature.

Harassment includes verbal comments that reinforce social structures of domination related to gender, gender identity & expression, sexual orientation, disability, physical appearance, body size, race, age, religion, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, & unwelcome sexual attention.

Exhibitors in sponsor or vendor booths, or similar activities are also subject to the anti-harassment policy. In particular, exhibitors should not use sexualized images, activities, or other material. Booth staff (including volunteers) should not use sexualized clothing/uniforms/costumes, or otherwise create a sexualized environment.

We expect participants to follow these rules at all conference venues and conference-related social events.

## Don't forget to be social.

Let us, & your friends, & the WORLD know about your experiences at this year's Prairie.Code().

Post pics or text about your favorite session, workshop, speakers, food, hallway conversation or that perfect selfie with your co-workers to facebook, twitter, or instagram.

Make sure to mention or tag us for a chance to win great prizes!



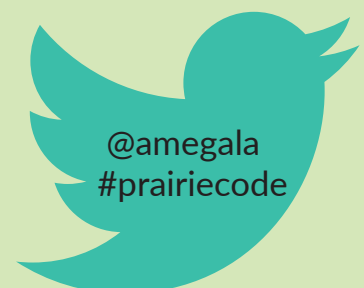
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# Notes

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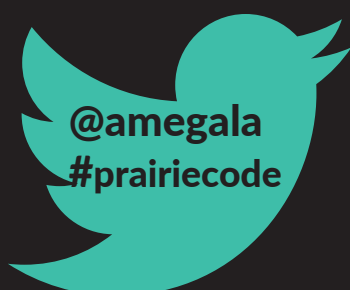
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Be Social. Win prizes! Tag us using  
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