Xamarin Evolve 2014

Building a Modern DevOps Solution for your App

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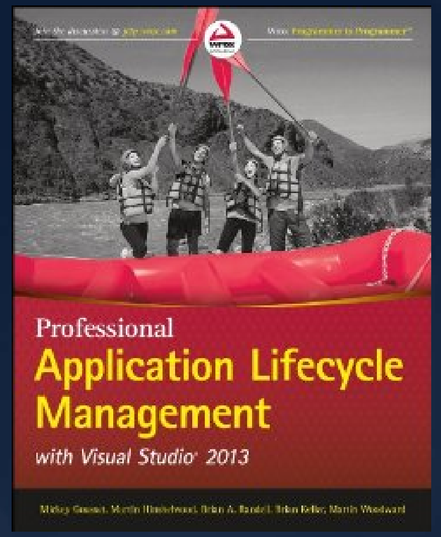
Who am I?

Brian A. Randell

- **Partner with MCW Technologies**
- **Microsoft MVP for Visual Studio ALM**
- **Member of Pluralsight's Technical Staff**
- **Co-author Pro ALM 2013 from Wrox**

http://bri.gd/bcazba01



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MCW TECHNOLOGIES

MVP Microsoft Most Valuable Professional

pluralsight hardcore developer training

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Slides and links?

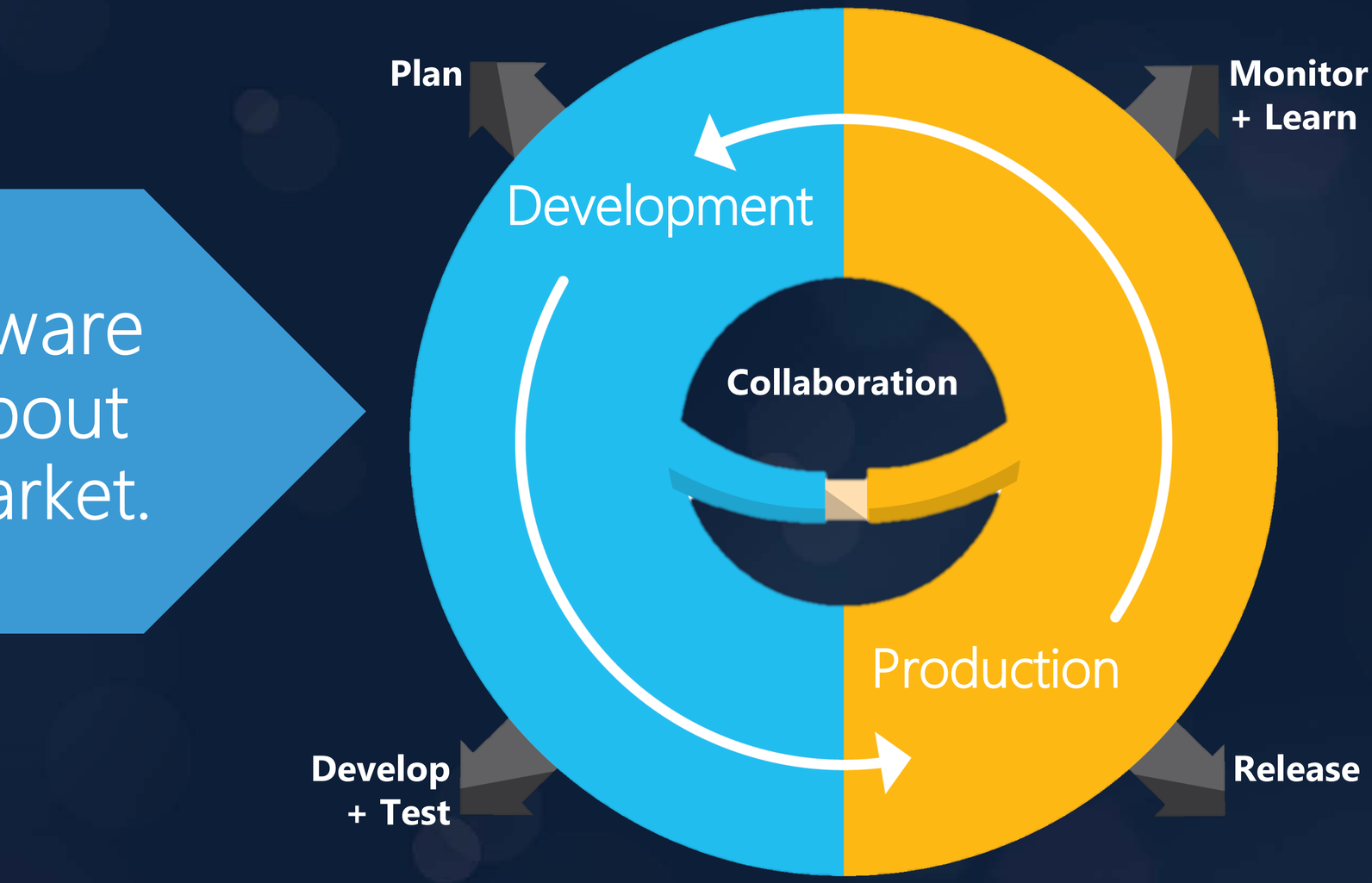
http://bri.gd/brxe14content

(will take you to my GitHub repo)

Who are you?

Every company is also
a software company!

Today, modern software development is all about agility and time to market.

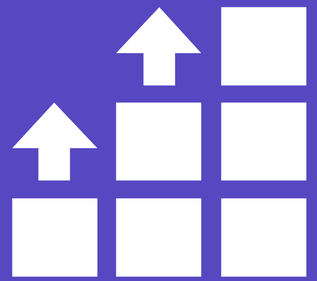


What's DevOps?

DevOps is a full lifecycle investment

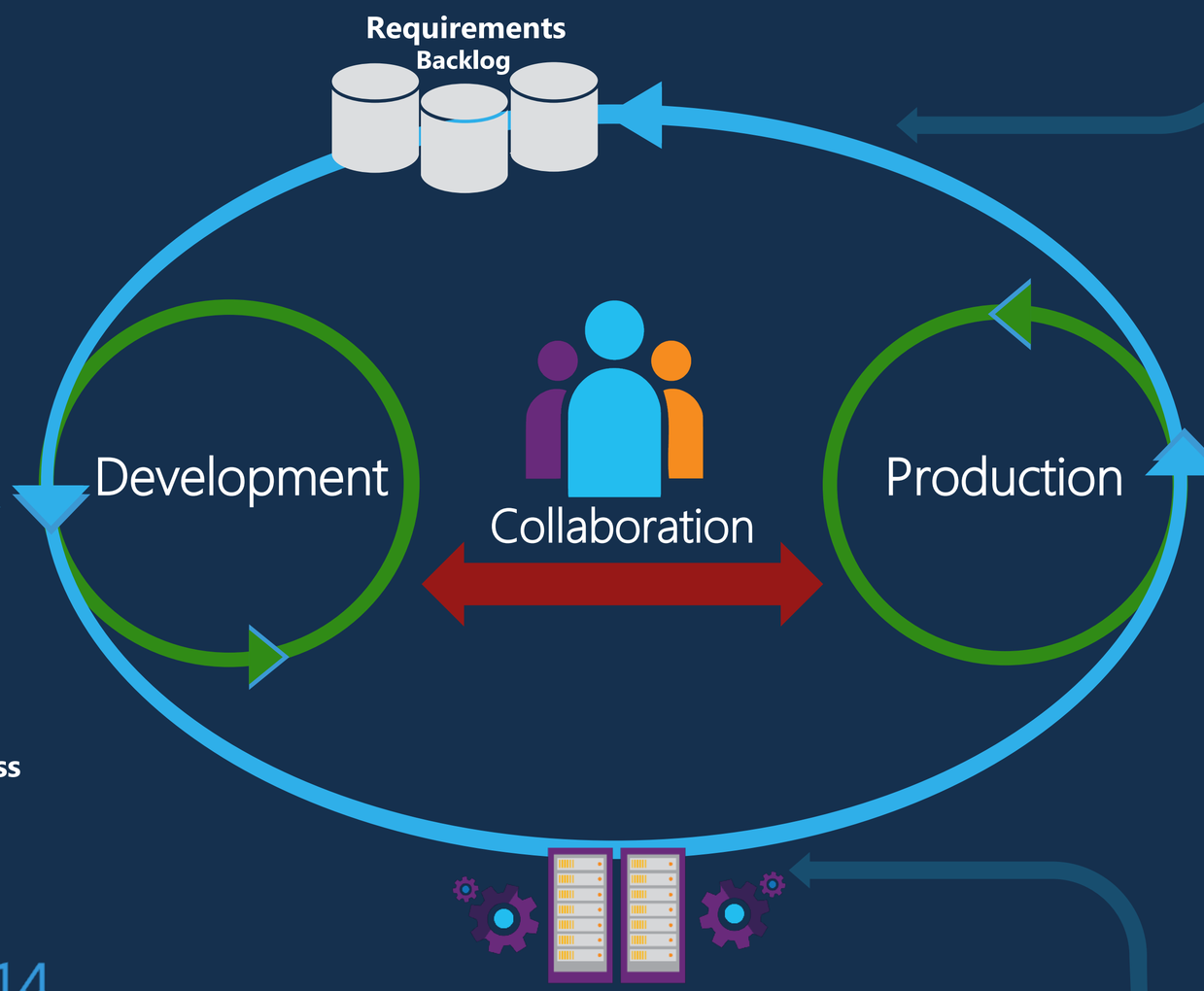
DevOps is a team undertaking

DevOps enables better software development and delivery practices



DevOps accelerates the last mile of continuous delivery

What's driving DevOps?



Usage should determine the next set of priorities and learnings

Availability and performance issues are hard to troubleshoot in this fast-changing world with distributed applications

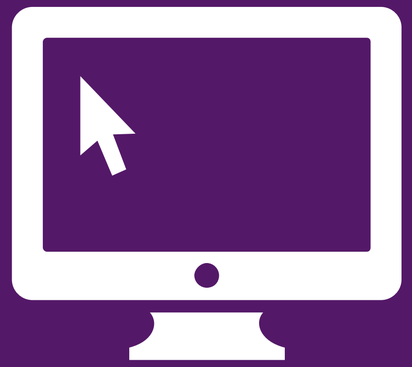
The agile methodologies are accelerating the construction process

An automated release pipeline is needed to deliver at the pace of development with full traceability

DevOps flavors

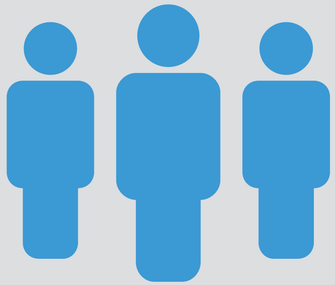
WebOps

Google, Amazon, Twitter, Facebook, Xbox Live, etc.



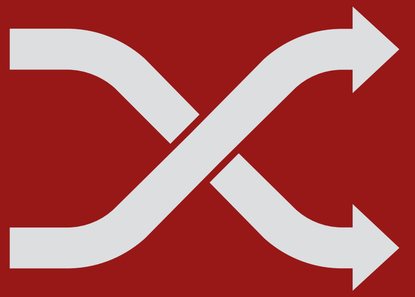
NoOps

Small web teams, start-ups



Enterprise DevOps

Cross-functional organizations



10+ deploys per day

10+ deploys a day

- Automated Infrastructure
- Shared Version Control
- One Step Build and Deploy
- Feature Flags / Branches
- Shared Metrics
- Communication

People

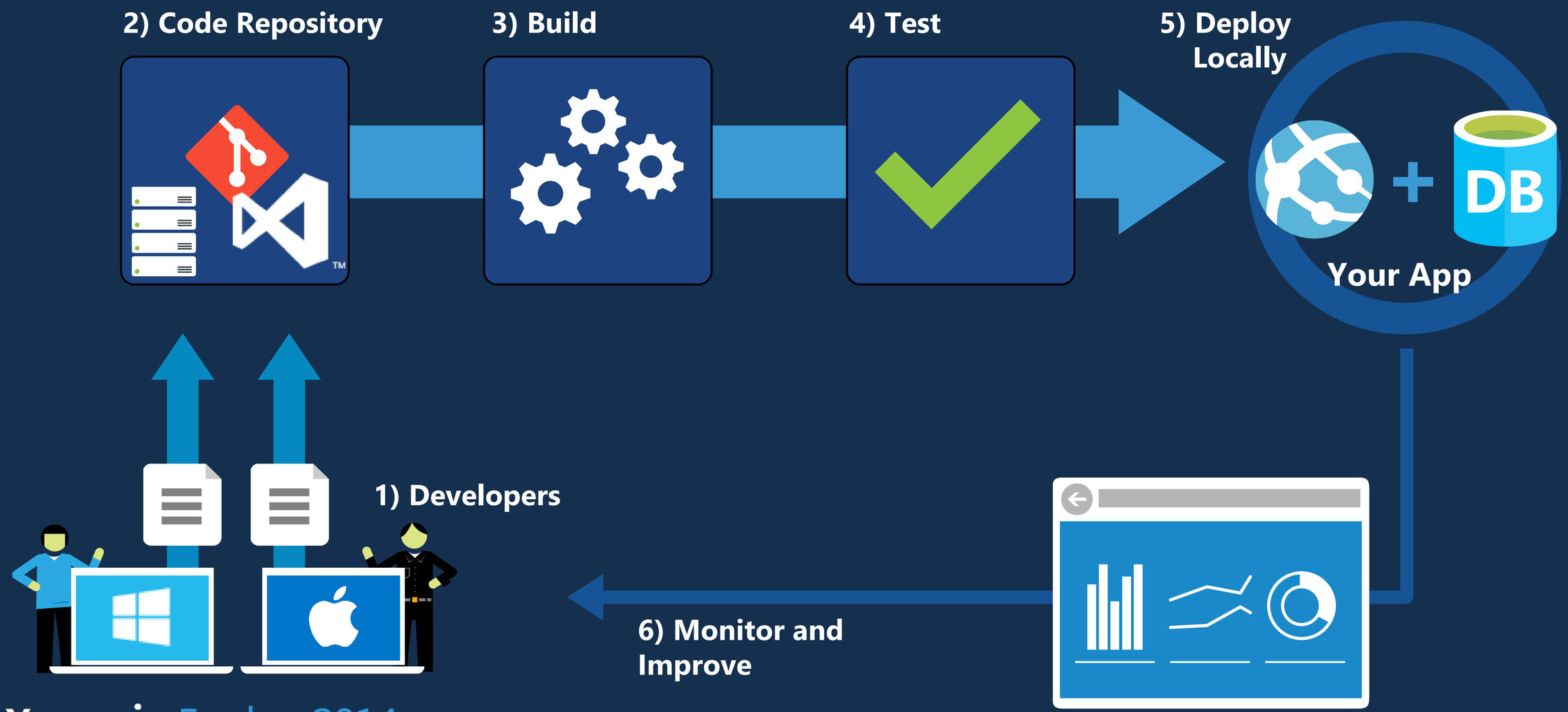
Can’t we all get along?

- Break down barriers
- Break down organizations
- Yes, start with a virtual team
- Move to “real” devops teams

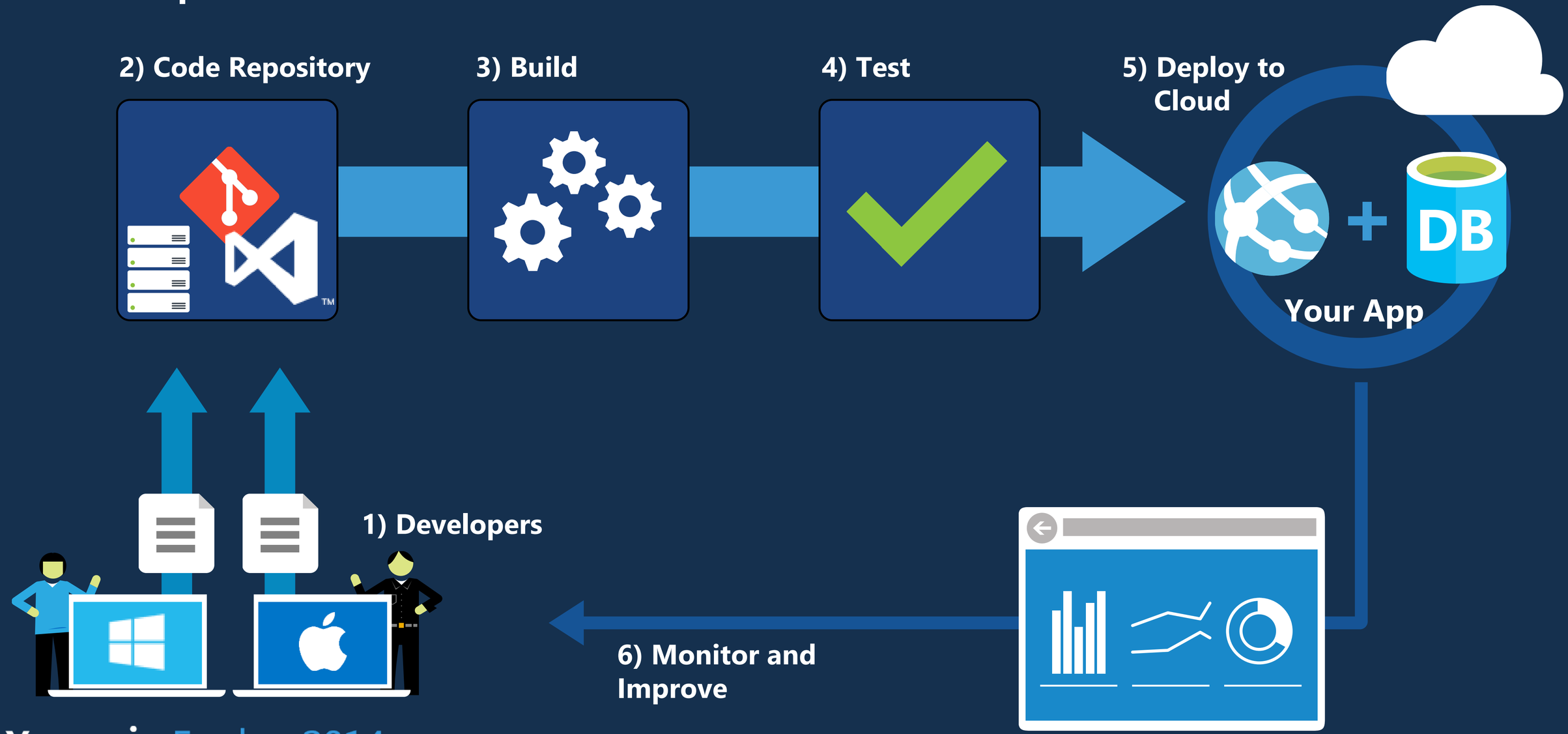
Interactions

Shorten cycle times

DevOps


2) Code Repository
3) Build
4) Test
5) Deploy Locally
DB
Your App
1) Developers
6) Monitor and Improve

DevOps


2) Code Repository
3) Build
4) Test
5) Deploy to Cloud
DB
Your App
1) Developers
6) Monitor and Improve

What do you want?

- Consistent
- Repeatable
- Automated

Focus on the Flow

- Continuous Integration
- Continuous Testing
- Continuous Deployment
- Continuous Feedback
- Continuous Improvement

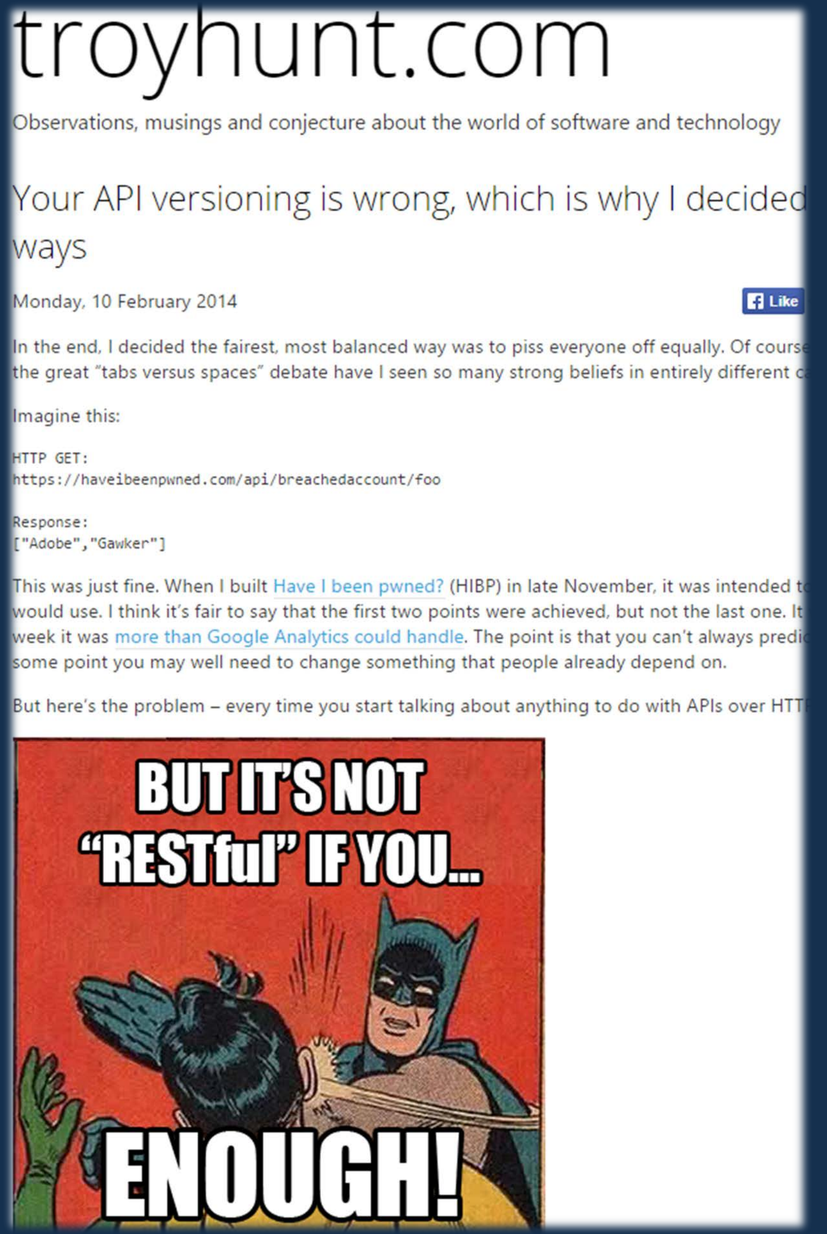
- Continuous Value Delivery

What about App Stores?

- All of the app stores create some kind of friction
- How do you keep your app in sync with your back end services?
- How do I time updates?

Versioning Your REST Services

- URL versioning
  - You add a version number into the URL
  - https://myendpoint.com/api/v2/app/resource
- Custom request header
  - Same URL, but add some header like “api-version: 2”
- Accept header with content type
  - “Accept: application/vnd.myapp.v2+json”



What about databases?

- You need rigor in your change management
  - “Data Architects” and DBAs need to be in full sync with “Service Architects” and developers
- You need to consider data migration as well as schema migration
- You might need to modernize your data models for the 21rst century

Tools

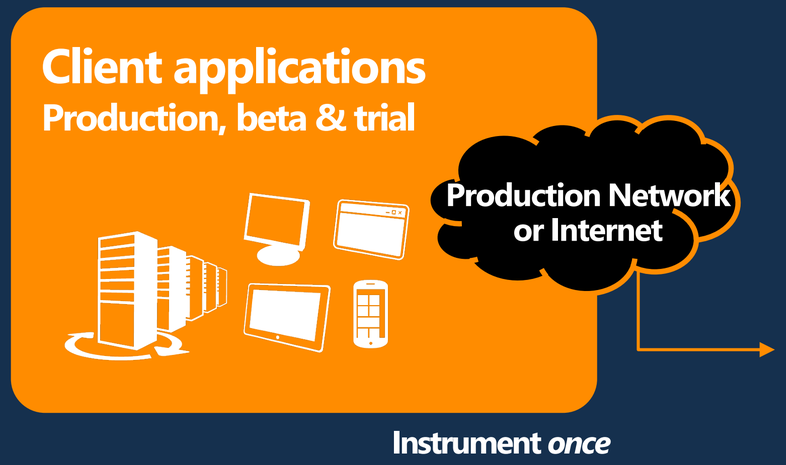
Tooling

- Version Control
- Work Tracking
- Assembling and Packaging
- Deployment
- Monitoring
- Analytics

Demo

PreEmptive Analytics

Consumer, B2B, B2C and distributed enterprises)



APP TYPE (Runtime/Device support)

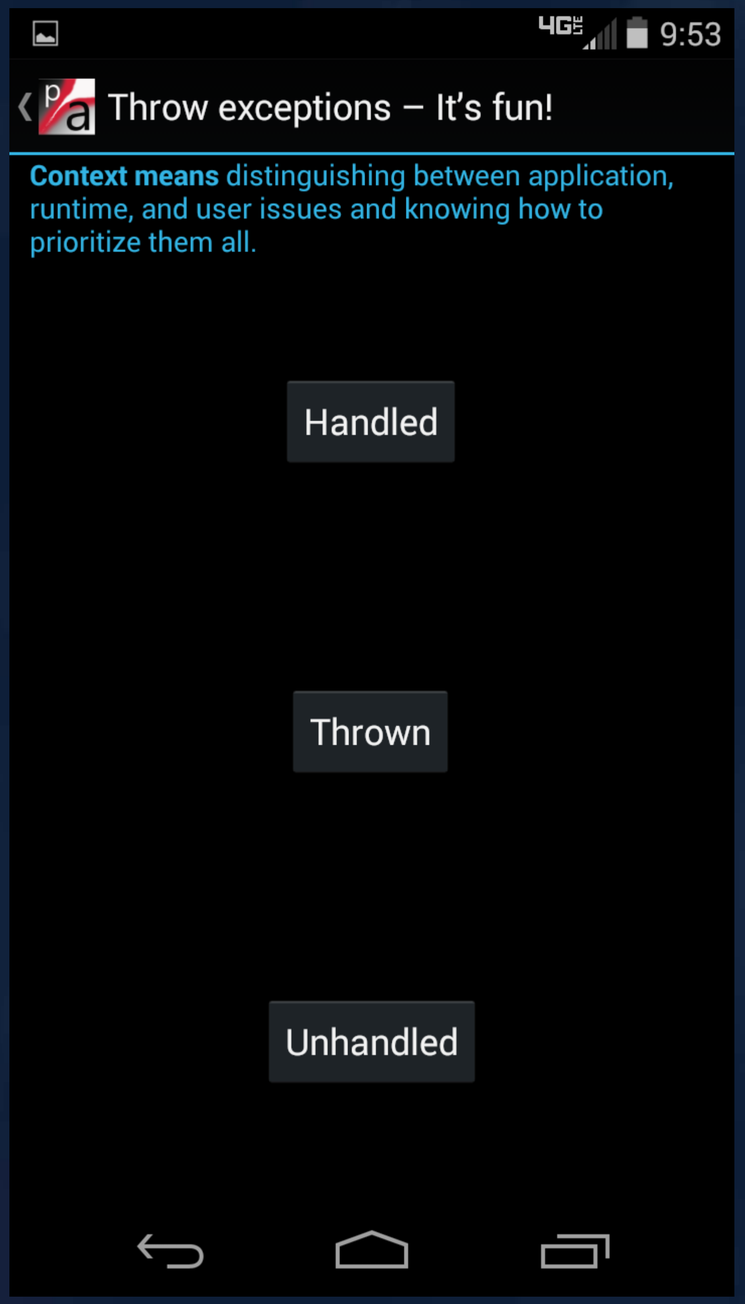
- All existing .NET, C++, and JavaScript Apps
- All MSFT modern surfaces (WinRT, WP, & JavaScript)
- Popular mobile options (iOS & Android)
- Cross-platform dev tools (Xamarin)
- Other non-MSFT runtimes (Java)

USER TYPE (Application "Domain")

- Enterprise LoB
- Business-to-Business and Business-to-Consumer
- Commercial ISV

DEPLOYMENT TYPE (Network infrastructure)

- Public (Internet), Private (corporate), Isolated (remote)


9:53
Throw exceptions – It's fun!
Context means distinguishing between application, runtime, and user issues and knowing how to prioritize them all.
Handled
Thrown
Unhandled

Analytics Workbench

Overview
Critical Activity
Exceptions
Version Adoption
Tamper Notifications
Custom Data
Time and Location
Query Data

9/9/14 to 10/8/14 | All Applications | Refresh | Print | Share

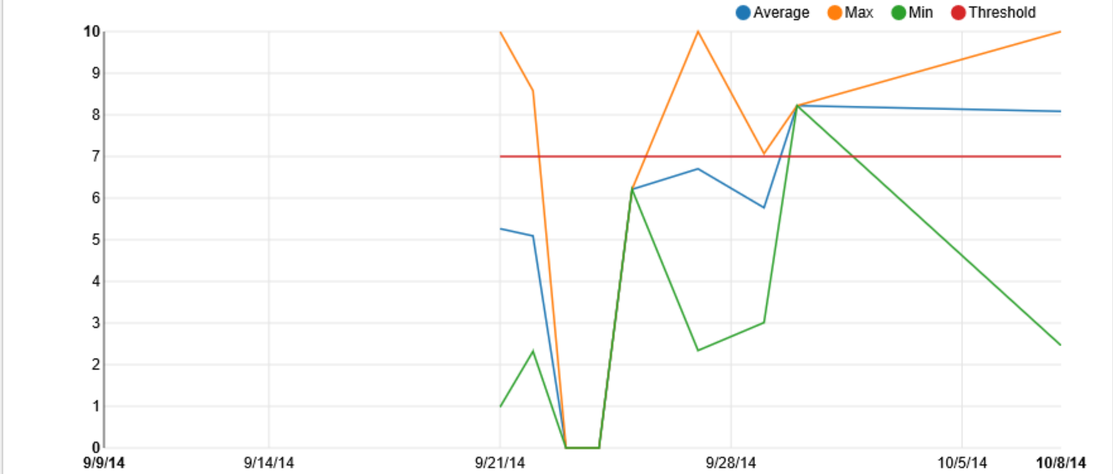
Customer Activity

Customer	Total Sessions	Thrown Count	Unhandled Count	Caught Count	Unique Users
ABC Security	49	3	0	2	5
Contoso Medical	19	6	5	2	6
Up And Away Inc.	20	16	2	4	6
Ma's Garage	9	2	0	1	4
Solutions Inc.	12	1	0	4	6

Activity by Role

Department	Total Sessions	Thrown Count	Unhandled Count	Caught Count	Unique Users
Support	6	2	0	1	3
VIP	10	7	0	2	3
Finance	44	10	0	4	4
Marketing	21	4	1	3	6
Evaluation	6	3	4	0	2
Executive Management	2	0	0	0	2
Sales	12	2	2	3	4
IT Operations	2	0	0	0	2
Human Resources	6	0	0	0	5

Happiness by Day



Service Level

Session Locations

Top 10 Colors

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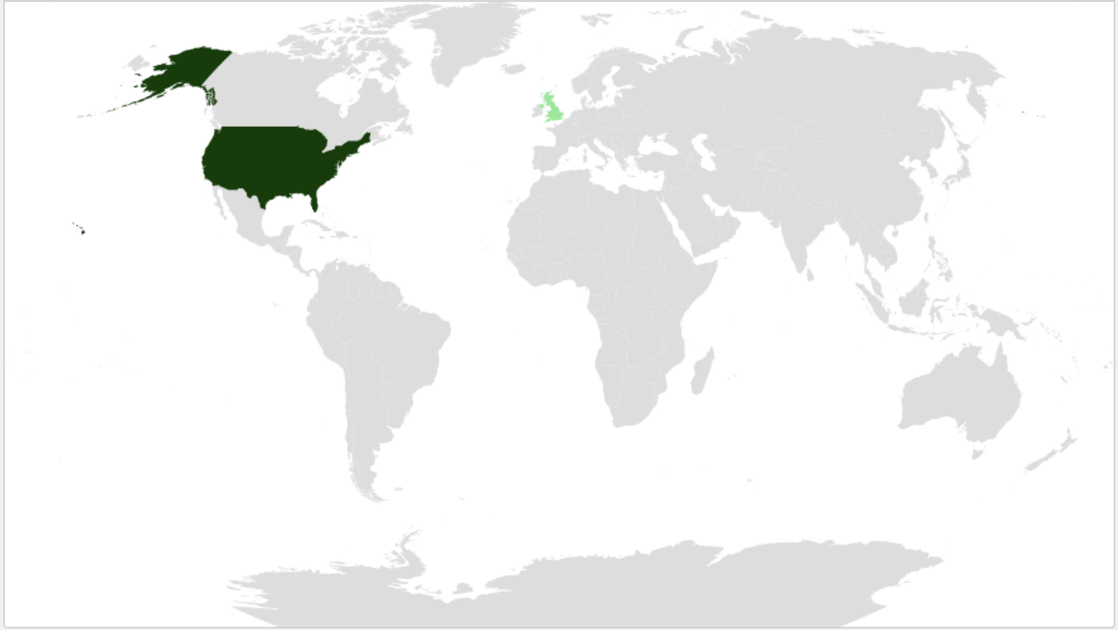
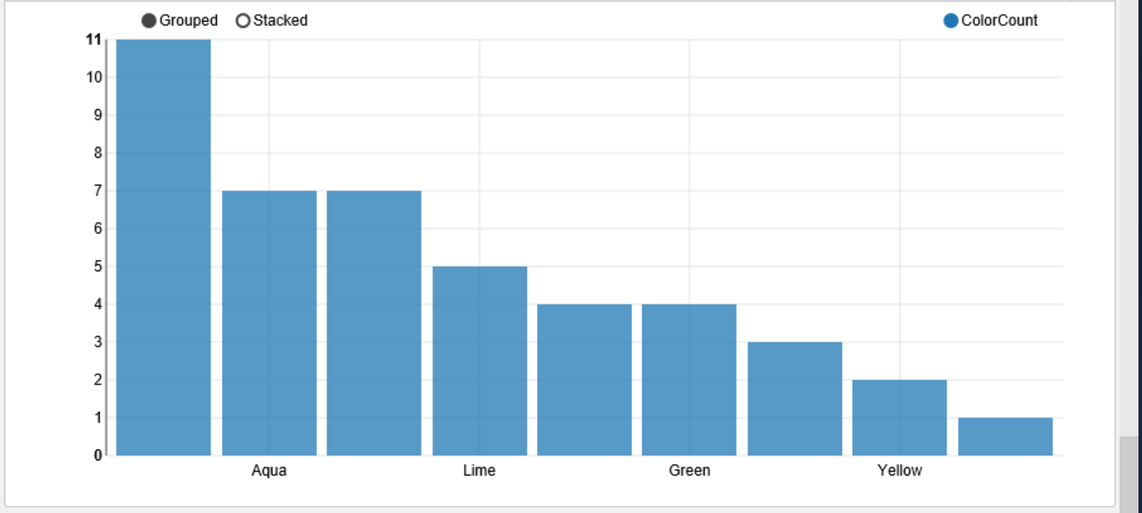
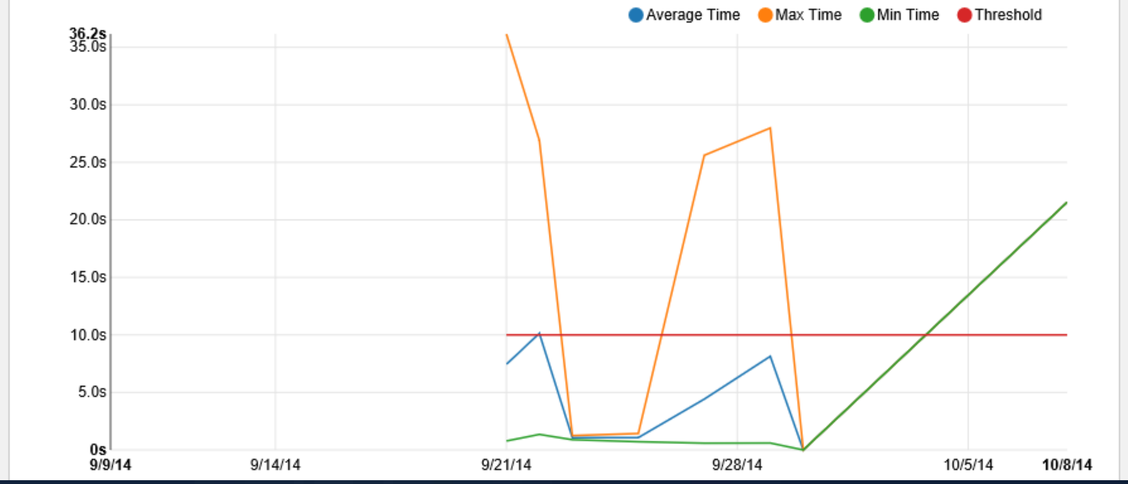
Session Locations



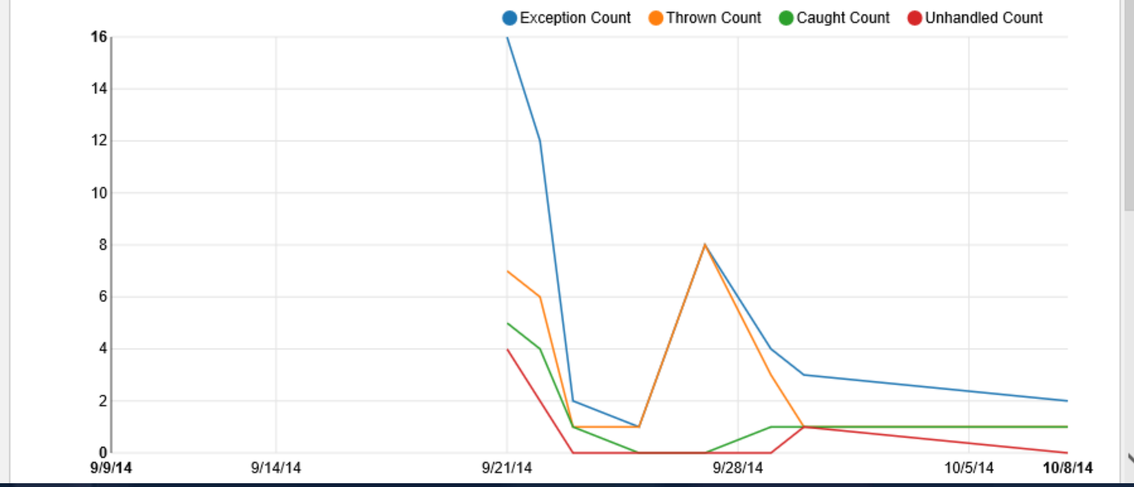
Top 10 Colors



Performance Times by Day



Exceptions by Day



Slides and links?

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(will take you to my GitHub repo)

Final thoughts

- Modern DevOps is about People, their Interactions, and finally Tools
- Think about your mobile solutions holistically—your apps PLUS services
- Continue to evolve

thank you

modern

devops

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contact me

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- Images on slide 7
  - All from Office Online: search angry
- Content on slides 8-12, graphic on 18 & 35
  - Matt Nunn, Microsoft
- Thanks to Preemptive Solutions for the demo app
  - http://www.preemptive.com/