My awesome journey with Open Source

Adam Sitnik

About myself

Open Source:

- BenchmarkDotNet (contributor => maintainer)

- Awesome .NET Performance (maintainer)

- Core CLR (contributor)

- corefxlab (contributor)

- & more: Exceptionless.Net, ImageProcessor, protobuff-net, SignalR, Autofac, ServiceStack.Redis, LinqOptimizer

Agenda

- State of the .NET OSS
- How to start?
- The Advantages
- The Disadvantages
- The Best Moments

The History of Open Source

You can make your own history!

Open your eyes!

Adam Sitnik @SitnikAdam · 23.07.2015

to me this was an eye-opening post

.NET/FRINGE/ @dotnetfringe
This post also explains why, even though Microsoft is hard core OSS these days, they're still not very present bit.ly/1gQCnGU

What small startup did for .NET OSS to develop a single app?

- Added full CQL3 collisions support to FluentCasandra
- Invented **Helios**, a high performance **server-side socket** library
- **Ported Akka to .NET**
- Implemented Marmur3 and HyperLogLog algorithms in C#

Some good questions

*„in the ~15 year history of .NET, no one built **a reactive, server-side socket library that's actively maintained?**"*

(it was 2014)

„Why in the hell did it fall on one developer working at a startup in LA and one independent developer in Sweden to port one of the major, major cornerstones of distributed computing to .NET?"

(it was before Orleans)

We are capable of so much more than this

„The shortcomings of .NET's open source ecosystem **are your fault and my fault, not Microsoft's**"

„the truth is that it's **our own intellectual laziness** that created a ghetto of our OSS ecosystem"

„There are brilliant developers like the Akka.NET contributors, the Mono team, Chris Patterson, and others who work on solving hard problems with .NET. **YOU CAN BE ONE OF THEM.**"

„You don't need Ruby, Node.JS, or even Java to build amazing products. You can do it in .NET."

Are you using any OSS?

xUnit SeriLog
Dapper
Autofac
JSON.NET
NHibernate
Quarz.NET
Ninject
SignalR NLog

Have you ever…

- Maintained OSS project?
- Implemented a new feature?
- Fixed a bug?
- Improved the performance?
- Improved the docs?
- Reported a bug? with a nice repro case?
- Or maybe introduced a bug ?

Summary: State of the .NET OSS

- Everybody is using Open Source Software
- Very few .NET developers contribute
- Microsoft is not responsible for that
- Our own intellectual laziness is!
- We are capable of so much more than this!
- You can make your own history of OSS!

At this point of time

- I was anonymous .NET developer
- I knew I wanted to contribute to make a difference
- I had no idea how to start
- I did not know any contributors
- I was burning out as a developer
- I wasn't even dreaming about speaking at the Big Conferences…
- Not to speak about drinking a beer with my Gurus!

When your Guru starts a new project..

My first contribution: what it was

- Build the benchmark in the Release mode
- Perform the Jit Warmup
- Cleanup the memory after every iteration
- One micro optimization

Follow the coding standards (CONTRIBUTING.md)

joeduffy commented on `src/Slice.cs` in `a97bb49` on 19 Jul 2015

Style nitpick, indentation looks off; maybe a tabs vs. spaces issue?

joeduffy commented on `src/Slice.cs` in `a97bb49` on 19 Jul 2015

Style nitpick, errant spaces.

You can get a code review from your Guru!!!

Choose the right Project

- Look for something that excites you!
- Prefer tools that you are familiar with
- Make sure they are looking for help!
- Make sure it's active!
- Make sure you are ok with the license!
- Your own? Make sure you don't duplicate successful project!

How to grab an issue?

Common GIT mistakes: Working without branches

Image from http://stackoverflow.com/a/21717431/5852046

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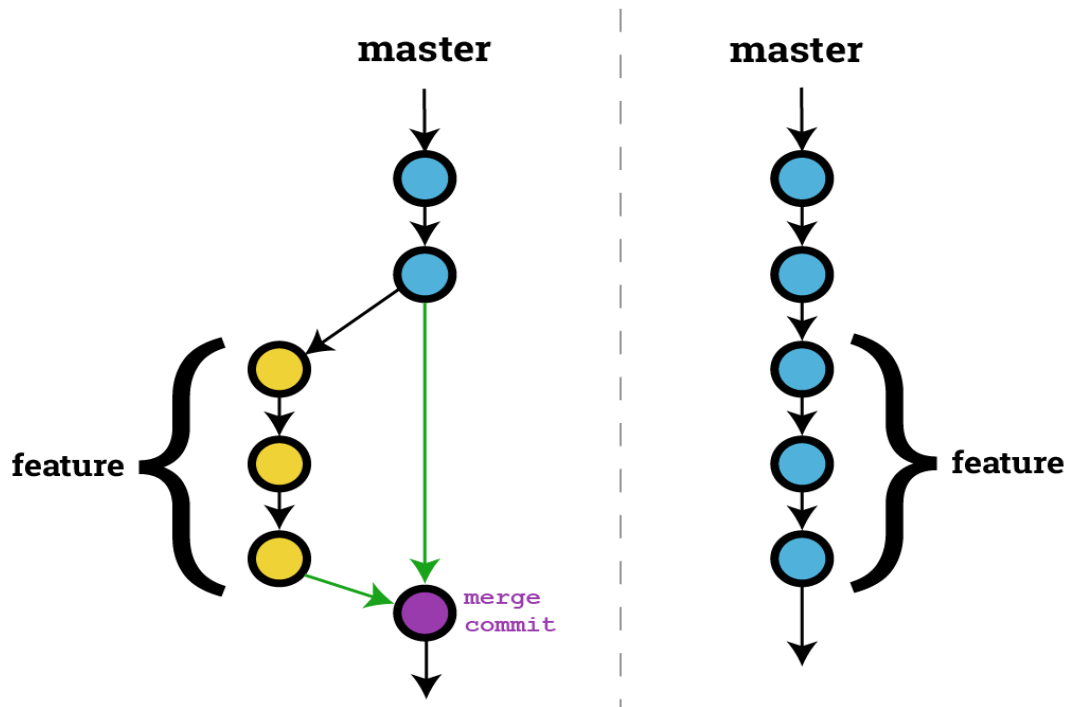
Common GIT mistakes: Wrong email address
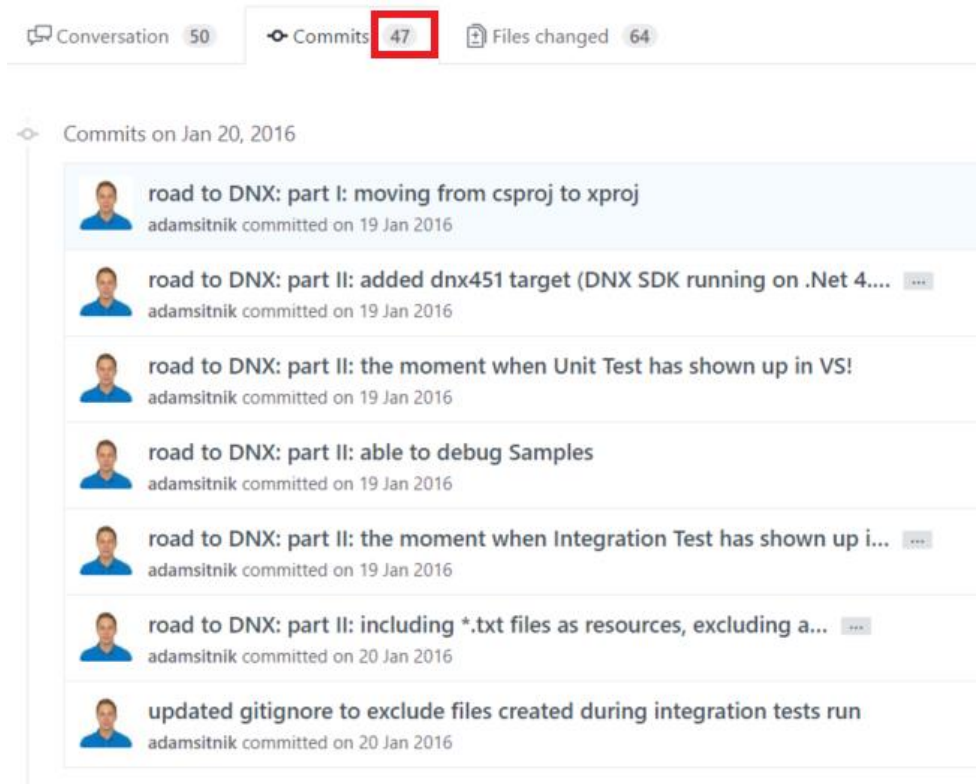
```
$ git config user.email your@github.email
```

Personal settings
Profile
Account
Emails
Notifications

Email

adam.sitnik@gmail.com `Primary` `Public`

adam.sitnik@powel.com

Common GIT mistakes: Too many/few commits

Part of a daily job routine

Found a bug in OSS library?

- Report it!
- **Provide a repro case!**
- Is it blocking your job?
- If so, can you fix it?

Need new feature?

- The existing code base saved your company a LOT of time.
- So why don't you extend it?

Just do it!

Eventually apologize later ;)

Don't give up!

Ben Adams contributions to Kestrel HTTP Server (as of 2017-05-20 13:30)
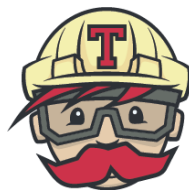

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Summary: How to Start?

- Choose exciting, active and truly open Project
- Pick one of the issues marked as „up-for-grabs"
- Or wait until something bites you at work
- Or just wait for the right moment!
- Avoid common GIT mistakes
- Follow the coding standards (CONTRIBUTING.md)
- You will get rejected. Don't give up!

Use the tools that are free for the Contributors

Writing libraries for other developers

- Backward compatibility
- Supporting .NET/Mono/.NET Core
- Supporting Linux/MacOS
- Versioning
- Release notes
- Docs. Good docs ;)

Challenge yourself!

- I ported BenchmarkDotNet to .NET Core
  - At the beginning I had no idea what .NET Core really was
  - I had to become dnx/dotnet cli/MS build expert
  - There was literally no resources available
- Contributing to Core CLR
  - How to build the Virtual Machine?
  - Use C++ to generate CIL to make C# better language ;)
  - How to debug CLR?
  - How to build .NET program that uses local CLR build?

Be the Worst!

I had the pleasure to learn from:

- Joe Duffy – Concurrency Guru
- Vladimir Sadov – Core Engineer at Roslyn team
- Krzysztof Cwalina – Principal Architect at Microsoft
- Andrey Akinshin – Software Engineer at Jetbrains
- Jan Kotas – Core Engineer at CLR team
- & more!

What if you are the average of the five people you spend the most time with?
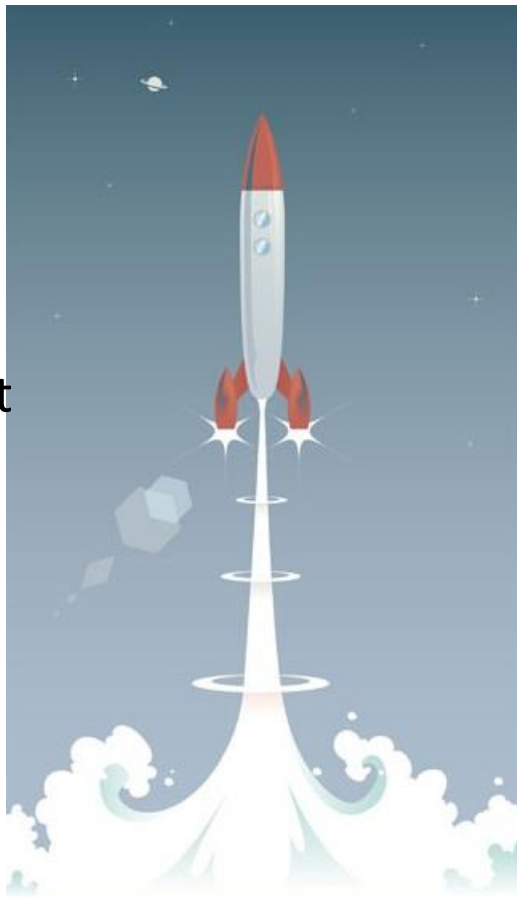
Believe in yourself

- How do you know if you are good or not?
- Would you like to get a dream job?
- Fork a project of your dream job company
- Pick up an issue
- Just solve it!
- Create PR
- Or compare your solution with what regular employee got

You get invited to speak at Conferences

Gmail

Adam Sitnik <adam.sitnik@gmail.com>

You have been selected to speak at NDC Oslo 2017

2 messages

NDC Oslo <info@ndcoslo.com>

2 March 2017 at 16:26

Reply-To: NDC Oslo <info@ndcoslo.com>

Yes, You still get rejected ;)

Pair programming with the best

cesarbs on 28 Jan Member

@adamsitnik Would be glad to collaborate with you to get this more generalized and into BenchmarkDotNet 😄

👍 1

adamsitnik on 28 Jan

This week I am in Redmond for the MS LEAP, so we can even meet in person and talk about it ;) btw were you able to run this auto-generated dll? When I tried similar approach (to execute

cesarbs on 30 Jan • edited Member

Awesome! I'll send you an email so we can arrange when and where to meet.

.NET Foundation #dotnetlovesme

You get behind the closed doors

Advantages for the employer

- You learn new things all the time
- You use new things at work to do better job
- You build a network which helps you when you are in need
- You can promote your company by doing great things in public

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Summary: The Advantages

- You constantly learn a LOT
- You step out of your comfort zone
- You challenge yourself
- You start to believe in yourself
- You are building a HUGE Network
- You can have a beer with your Guru(s)!

When you become the maintainer

- Never be an asshole
- Respond fast
- Fix the bugs first
- Write the docs
- Don't forget about the release notes

The bad part of being the maintainer

- Expectations
- Responsibility
- Eventual failures are public
- The „special" users

When's the last time you had a decent night's sleep?

Afraid To Ask

- Do contributors loose motivation for the boring tasks?
- Do contributors do OSS at work?
- Do contributors get a lot of job offers?
- Will it be easier to get a better job?
- Will you get a MVP award?
- Will you get paid for OSS?

Summary: The Disadvantages

- It consumes a lot of free time
- People have huge expectations
- You do this for free
- You have to write docs and the release notes ;)

Getting the write access to your favorite tool

M Gmail   Adam Sitnik <adam.sitnik@gmail.com>

AndreyAkinshin added you to BenchmarkDotNet
1 message

Andrey Akinshin <noreply@github.com>   20 January 2016 at 11:22
To: Adam Sitnik <adam.sitnik@gmail.com>

You can now push to this repository.

View it on GitHub:
https://github.com/PerfDotNet/BenchmarkDotNet

When Guru use the feature you implemented

Seeing your Big Impact

Framework	Best performance (higher is better)	
■ libreactor	3,730,467	100.0%
■ echo-prefork	3,602,407	96.6%
■ ulib	3,184,526	85.4%
■ colossus	3,054,880	81.9%
■ undertow	2,914,627	78.1%
■ fasthttp-mysql-prefo	2,850,705	76.4%
■ netty	2,795,049	74.9%
■ cpoll_cppsp	2,306,470	61.8%
■ lwan	1,925,941	51.6%
■ aspnetcore-linux	1,822,366	48.9%
■ h2o	1,549,273	41.5%
■ s-server	1,535,029	41.1%
■ revenj.jvm	1,195,781	32.1%
■ servlet	1,156,604	31.0%
■ vertx	1,109,323	29.7%
■ vertx-web	1,072,510	28.8%
■ gin	1,044,907	28.0%
■ ngx_mruby	993,518	26.6%

Summary

- Plan minimum: report well described bugs.
- Contribute to something exciting at least once.
- Contributing should be a part of your daily job routine.
- Everybody gets rejected, so will you.
- You can benefit a LOT!
- You can sky rocket your experience and knowledge!
- You are not going to get paid for it.

Sources

- [The Profound Weakness of the .NET OSS Ecosystem](#)
- [Free Services & Tools for Open Source .NET Projects](#)
- [All Pull Requests by Ben Adams to Kestrel](#)
- [What it feels like to be an open-source maintainer](#)
- [up-for-grabs.net](#)

Questions?

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