Developer Experience is more than just Productivity metrics

DevEx disasters…

```
git push heroku main
```

Deploy to Heroku

Jeremy Meiss

Director, DevEx & DevRel

OneStream Software

DevOpsDays KC Organizer

DEVELOPER EXPERIENCE
DEVEX
PLANNING
Pb
CODING
DEVEX
CODING
CODING
CODING
PARNING
CODING
TESTING
TESTING
Software Development Lifecycle
Software
Deployment
Deploseycle
Deploytion

Developer Experience vs Developer Productivity

Developer Experience

_"...the **journey** of developers as they learn and deploy technology, which if successful, focuses on eliminating obstacles that hinder a developer or practitioner from achieving success in their endeavors."

-**Jessica West**, Director of Education & Customer Experience (Chronosphere)

Developer Productivity

"Developer productivity refers to the effectiveness and efficiency with which software developers produce high-quality code and complete projects.""

LinearB

Developer Experience != Developer Productivity

🎵 More than a metric.... 🎵

Experience is the **Cause**

🌳

The Roots: DevEx

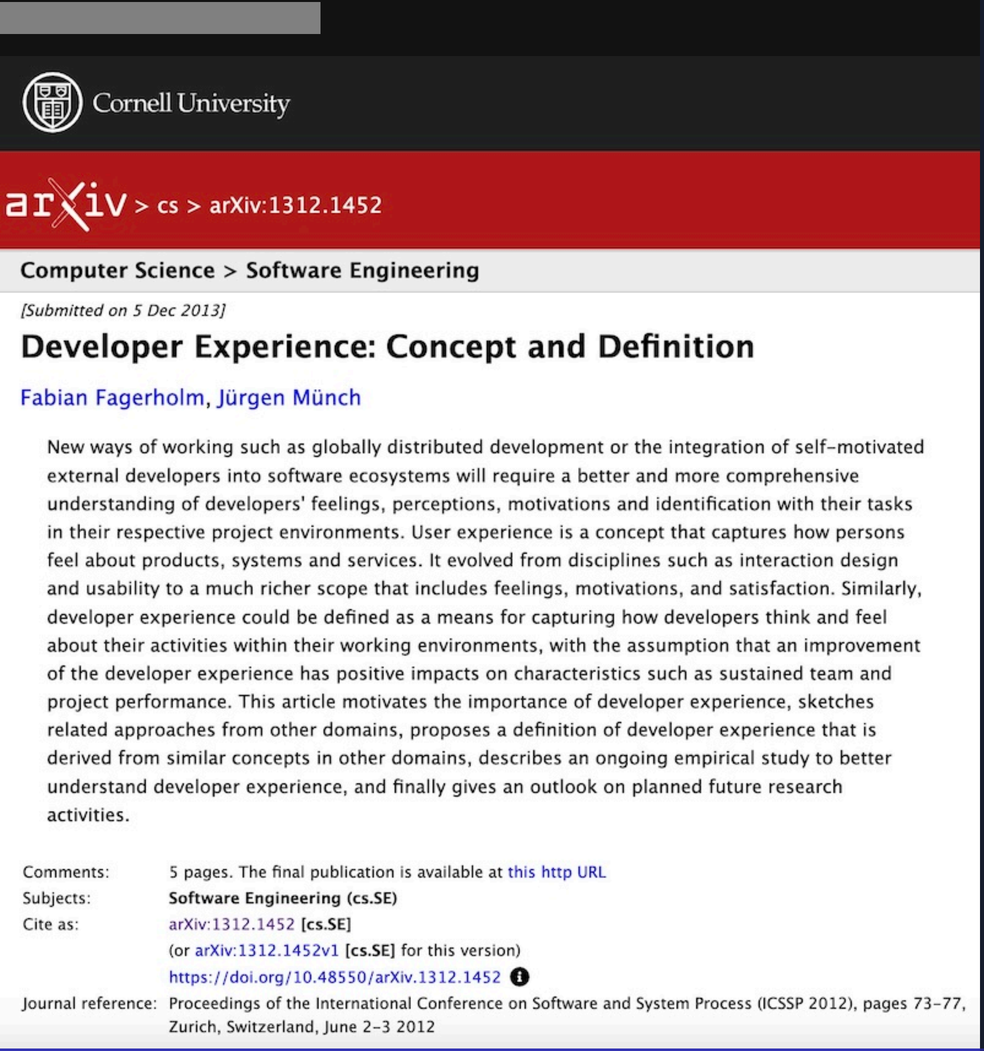
The daily journey: tools, processes, cognitive load, and flow state.

Productivity is the **Effect**

🍎

The Fruit: Productivity

The outcome: high-quality, impactful software that drives business value.


Cornell University

arXiv > cs > arXiv:1312.1452

Computer Science > Software Engineering

[Submitted on 5 Dec 2013]

Developer Experience: Concept and Definition

Fabian Fagerholm, Jürgen Münch

New ways of working such as globally distributed development or the integration of self-motivated external developers into software ecosystems will require a better and more comprehensive understanding of developers' feelings, perceptions, motivations and identification with their tasks in their respective project environments. User experience is a concept that captures how persons feel about products, systems and services. It evolved from disciplines such as interaction design and usability to a much richer scope that includes feelings, motivations, and satisfaction. Similarly, developer experience could be defined as a means for capturing how developers think and feel about their activities within their working environments, with the assumption that an improvement of the developer experience has positive impacts on characteristics such as sustained team and project performance. This article motivates the importance of developer experience, sketches related approaches from other domains, proposes a definition of developer experience that is derived from similar concepts in other domains, describes an ongoing empirical study to better understand developer experience, and finally gives an outlook on planned future research activities.

Comments:	5 pages. The final publication is available at this http URL
Subjects:	Software Engineering (cs.SE)
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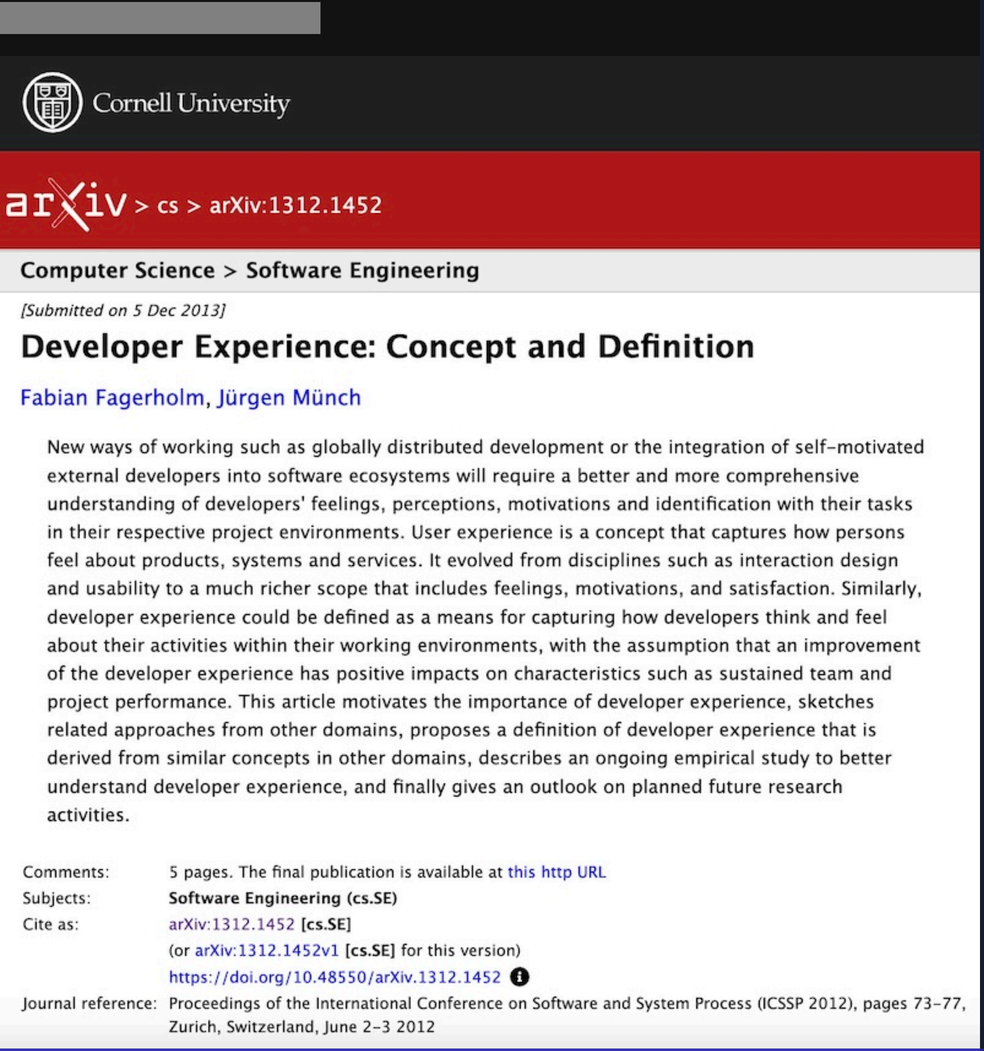
DevEx isn't new

REF: F. Fagerholm and J. Münch, "Developer experience: Concept and definition," 2012 International Conference on Software and System Process (ICSSP), Zurich, Switzerland, 2012.



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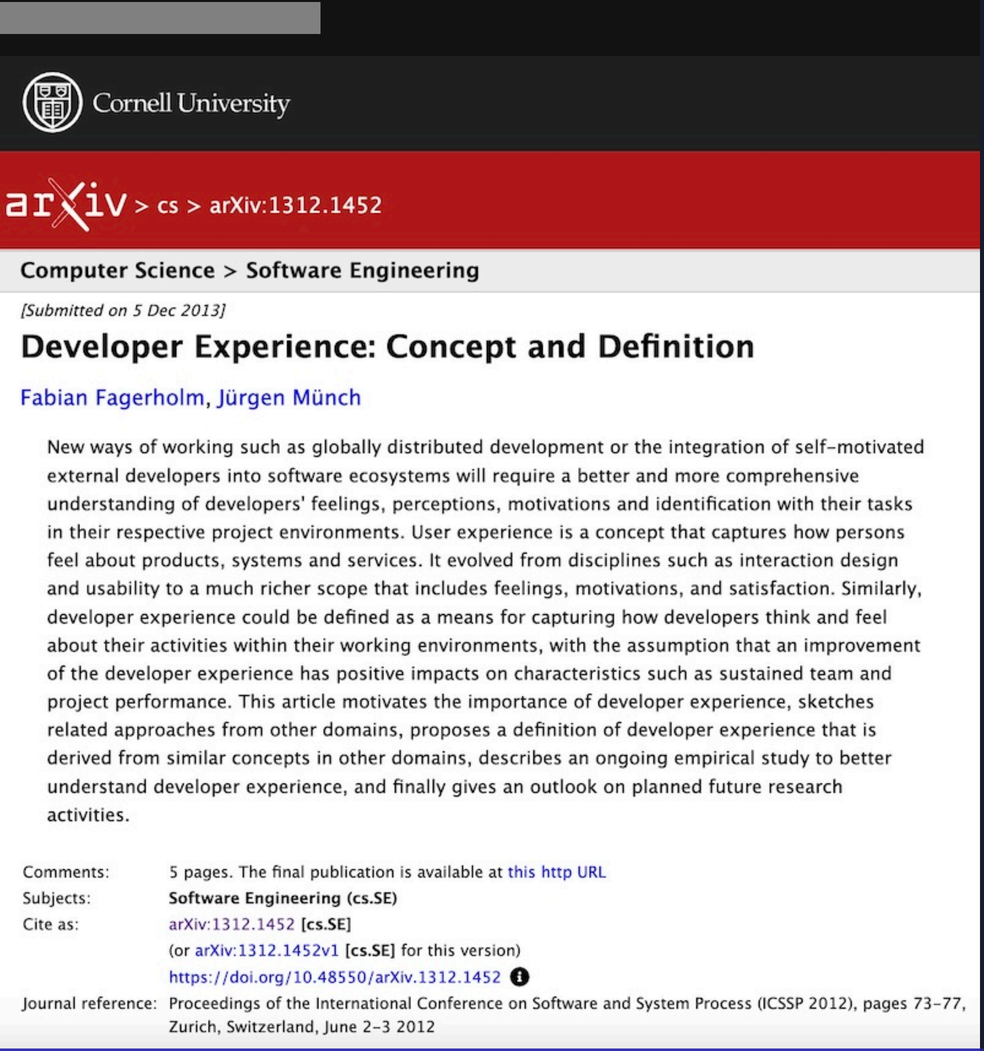
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From Lines of Code to Value Streams

!!!

Leaders agree that traditional metrics like LOC are ineffective.

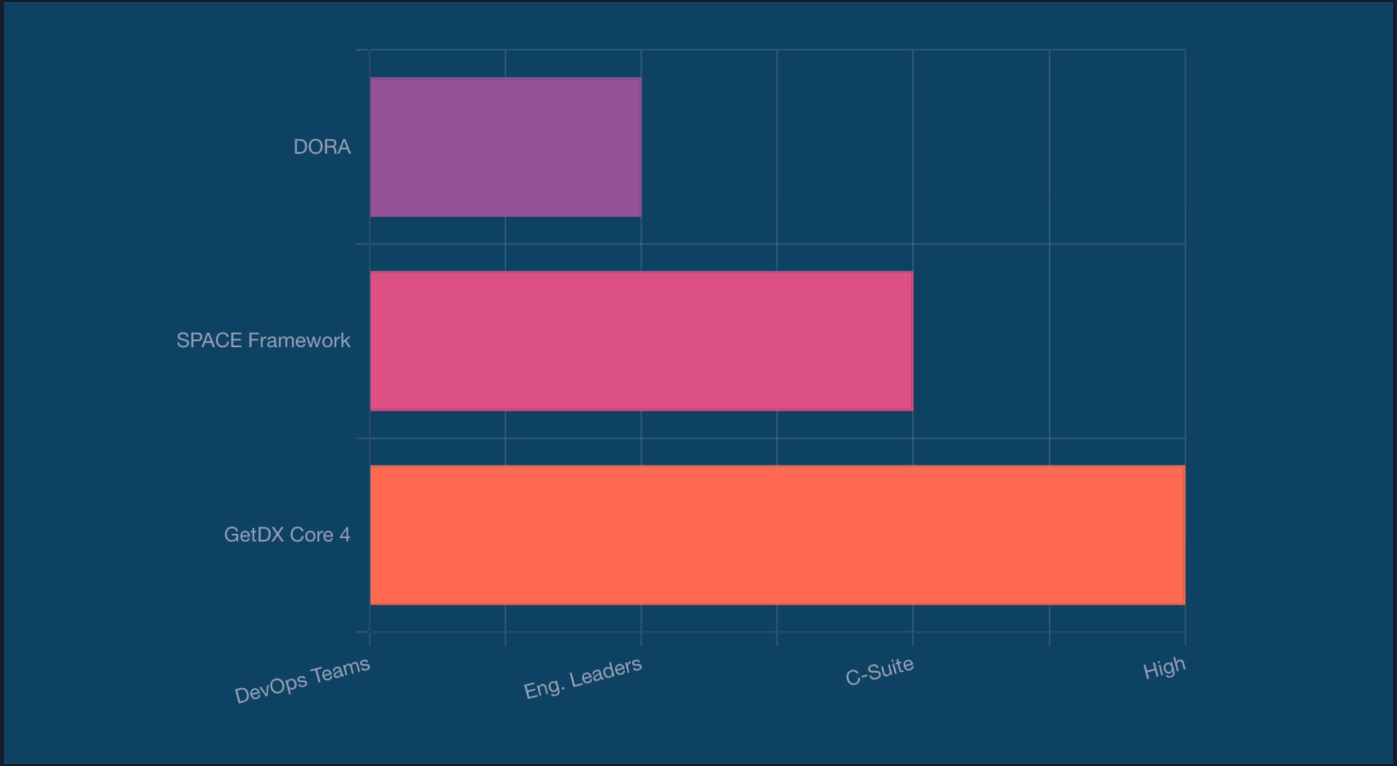
1st

Principle of modern measurement: Focus on systems, not just individuals.

3

Prominent frameworks now guide the industry: DORA, SPACE, and GetDX Core 4.

Evolution of "Developer Experience" Frameworks



Comparing the Developer Productivity Frameworks

DORA

Scope:
Narrow. The software delivery pipeline (commit to deploy).

Philosophy:
Prescriptive. A clear recipe of 4 key metrics.

Audience:
Technical Leaders. DevOps, SREs, Engineering Managers.

Data:
Quantitative. System data from CI/CD, Git, etc.

SPACE

Scope:
Broad. The entire socio-technical system.

Philosophy:
Flexible. A menu of dimensions to choose from.

Audience:
Engineering Management. Fosters empathetic conversations.

Data:
Hybrid. System data plus qualitative surveys.

GetDX Core 4

Scope:
Hybrid. Bridges engineering activity to business impact.

Philosophy:
Prescriptive. A unified recipe of 4 pillars.

Audience:
The Entire Org. A shared language for engineers and C-suite.

Data:
Hybrid. System data, surveys, and financial data.

The Three Pillars of World-Class DevEx

Fast, High-Quality Feedback Loops

Slow, ambiguous feedback is a primary source of frustration. The speed of the inner loop (local build/test) and outer loop (CI/CD, code review) is critical for maintaining momentum and iterating with confidence.

Low Cognitive Load

Human working memory is limited. When developers must wrestle with complex systems or poor documentation, less mental energy is available for creating solutions. High rework is a strong signal of high cognitive load.

Enabled "Flow State"

Flow, or being "in the zone," is where deep, creative work happens. It requires clear goals, immediate feedback, and protection from interruptions. It can take over 15 minutes to regain focus after a single interruption.

Fast, High-Quality Feedback Loops

1. Automated Visual Regression Testing in CI/CD
2. "Shifting Left" with Static Code Analysis and Linting in the IDE & Pre-Commit Hooks
3. Production "Canary" Deployments & Automated Monitoring with Meaningful Metrics
4. Daily "Mob Programming" or Pair Programming Sessions for Critical/Complex Tasks
5. Dedicated "Bug Bash" Weeks or Sprints with Stakeholder Involvement

Low Cognitive Load

1. Standardize Code Style & Linting Rules
2. Implement Version Control with Meaningful Commit Messages
3. Prioritize and Refactor Technical Debt Incrementally
4. Centralize Documentation and Knowledge Sharing
5. Implement Automated Testing at All Levels

Enabled "Flow State"

1. Implement a High-Signal Notification System & Prioritization
2. Adopt a Streamlined Code Review Process with Contextual Tooling
3. Standardize Development Environments and Automate Setup
4. Implement Short, Focused "Pomodoro" or Timeboxing Sessions
5. Cultivate a Culture of Psychological Safety and Open Communication

So what do we measure?

Avoid the Gamification Trap

Use Metrics for Improvement, Not Judgment

> "when a measure becomes a target, it ceases to be a good measure."

-Goodhart's Law

So what do we measure?

- Cycle Time
- PR Review Time
- Rework Rate
- Meeting Load
- Time to First Commit
- Perceived Focus Time

These are not one-size-fits-all metrics, but a starting point.

Cycle Time ⏱️

- Implement and enforce "Small Batch" Size Approach
- Invest in Test Automation and CI/CD Pipelines
- Improve Dev Environment Setup and Standardization
- Proactively Identify and Remove Blocking Issues

PR Review Time 🔄

- Enforce "Small PR" Guidelines and Automation
- Implement a Reviewer Rotation and/or "Reviewer Roulette" System
- Mandate Clear and Concise PR Descriptions and Context
- Establish and Make Visible SLAs for PR Reviews

Rework Rate ✍️

- Refine User Stories with Clearer Acceptance Criteria and Examples
- Invest in Better Tooling and Automation for Testing
- Implement a Robust Definition of Done (DoD) and **Enforce** It
- Improve Feedback Loops and Communication

Meeting Load 🧠

- Implement a "Meeting-Free Day" (or Half-Day) Policy
- Audit Meeting Invitations and Participation
- Standardize Meeting Agendas and Timeboxing
- Promote Asynchronous Communication Tools & Practices
- Implement a "Meeting Budget" or "Meeting Credit" System

Time to First Commit 🚀

- Provide Ready-to-Run Starter Projects/Templates
- Automate Environment Setup and Onboarding
- Simplify Code Contribution with Clear Guidelines and Tooling
- Offer Short, Focused "First Contribution" Tasks
- Provide Active Mentorship and Support (paired with tooling)

Perceived Focus Time 💡

- Optimize Build Times with Incremental Builds and Caching
- Prioritize and Reduce Notification Overload
- Automate Repetitive Tasks with Scripting or Tools
- Improve Error Messaging and Debugging Tools

Cycle Time

PR Review Time

Rework Rate

Meeting Load

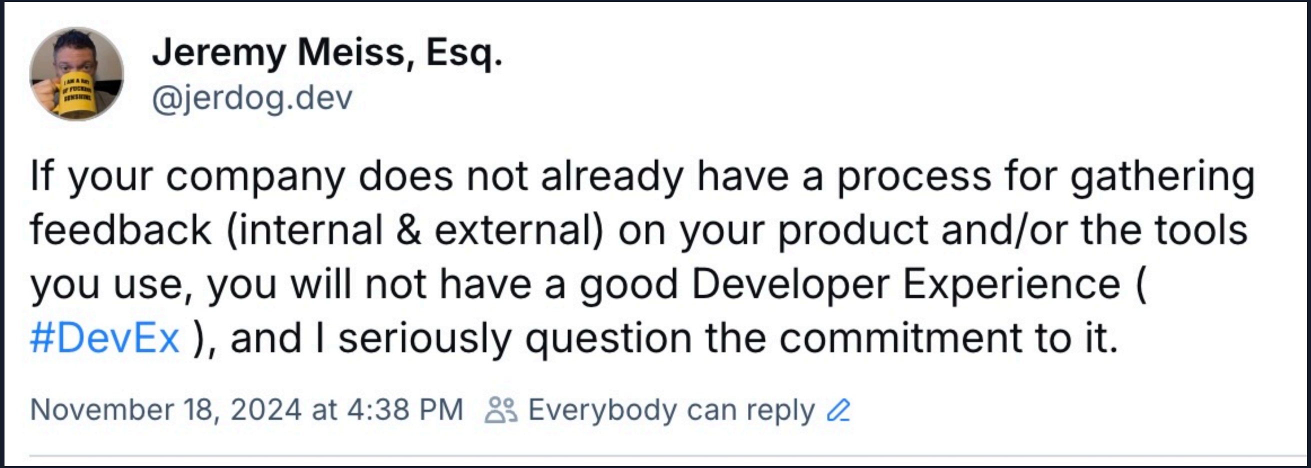
Time to First Commit

Perceived Focus Time

Build a Healthy Measurement Culture

- No framework is a silver bullet
- Continuous improvement, not judgment
- Communicate the 'why'
- Involve your team
- Focus on trends, not absolutes
- Combine quantitative data with qualitative human insights

Conclusion



Jeremy Meiss, Esq.
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If your company does not already have a process for gathering feedback (internal & external) on your product and/or the tools you use, you will not have a good Developer Experience (#DevEx), and I seriously question the commitment to it.

November 18, 2024 at 4:38 PM Everybody can reply

DevEx is...

> "ruthlessly eliminating barriers (and blockers) that keep your practitioners from being successful"

Thank you!

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END