

A River Runs Through It

What I've learned
about DevOps
ecologies while
standing in cold
water



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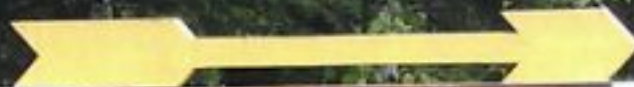
Who Am I?

- Brian Walter
- 27+ yrs building tech teams
- 4 Startups, 6 Enterprises
- Complex architectures
- Extreme scale
- CEO & CoFounder
@OpenContextInc



Wilson River, Oregon





Visitors Welcome

TILLAMOOK ANGLERS
WHISKEY  CREEK
HATCHERY
VOLUNTEER PROJECT



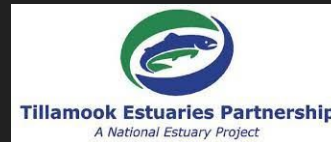
How many groups care? - LOTS!



NOAA
FISHERIES

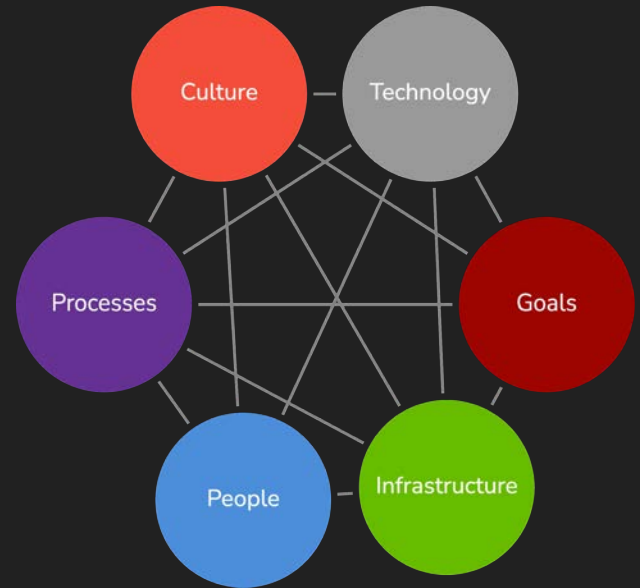


North Coast
Salmon & Steelhead
Enhancement Fund



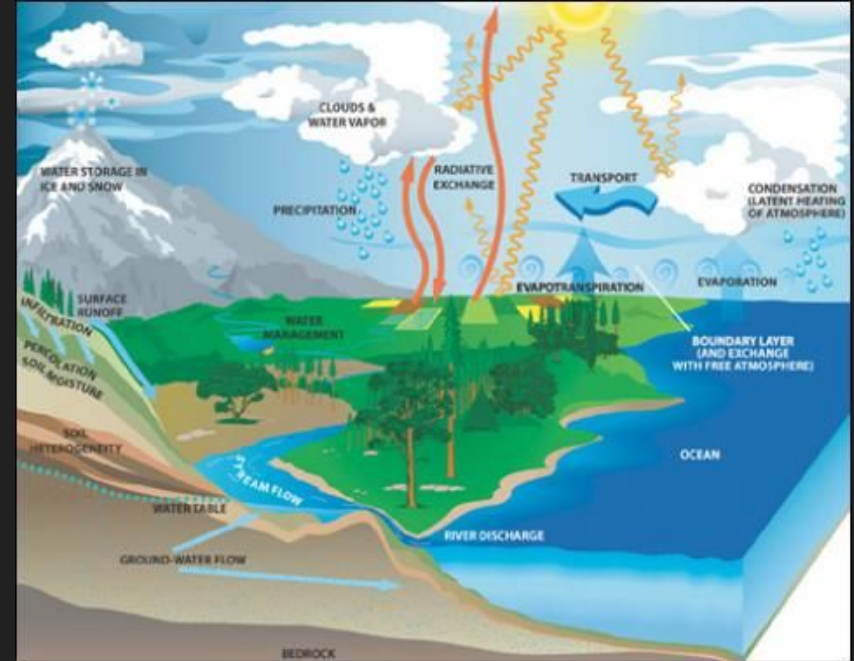
Sociotechnical Systems Theory

- Holistic systems view
- Feedback loops and continuous learning
- Collaboration, Shared Knowledge, and furthering the craft
- Adaptive Design and Evolution
- Resilience and Anticipatory measures
- Ethics and human values



Sociotechnical Systems Theory

In essence, sociotechnical engineering underscores the intertwined nature of technology and human systems, urging DevOps practitioners to ensure that both are in harmony for optimal outcomes.



Introverted, Me?

Introvert



A wide-angle landscape photograph of a mountain lake. The water is exceptionally clear, revealing a rocky riverbed. The sky is a vibrant blue with large, white, fluffy clouds. The surrounding mountains are covered in dense green forests, and some peaks are visible in the distance. The overall scene is peaceful and natural.

Fly fishing and DevOps principles



A wide-angle landscape photograph of a mountain lake. The water is exceptionally clear, revealing a rocky shoreline in the foreground and the reflection of the sky and surrounding environment. The sky is a vibrant blue, filled with large, fluffy white clouds. In the background, rugged mountains rise, some with patches of green vegetation. A dense forest of evergreen trees lines the far shore of the lake. The overall scene is peaceful and majestic.

Systems thinking





Feedback and iterative improvement





Collaboration and shared
knowledge





Adaptability and Continuous Learning





Resilience Through Problem Solving





Ethics, Community, and Sustainability



Essence of Systems Thinking



Systems thinking

The River

- A system: water flow, fish behavior, insect life cycles.
- An ecosystem: from the type of insects fish might eat to water temperature and clarity.
- An environment: Before setting out, anglers often check weather conditions, understand the types of fish in a given location, and select the right gear.

The Organization

- A system: from ideation to deployment.
- An ecosystem: understanding both development and operational aspects.
- An environment: Before deploying code or changes, teams prepare by understanding the environment, selecting the right tools, and setting up monitoring and alerts



Systems Thinking

- Sociotechnical Connection
 - How both domains require an understanding of complex systems and the intricate interplay between various components.



Feedback and Iterative Improvement



Feedback and Iterative Improvement

- Fly Fishing

- Adjusting techniques based on successes and failures; understanding fish reactions to different flies.
- Not every cast results in a catch. Anglers need patience and the willingness to try different techniques.
- Anglers constantly observe water currents, fish behavior, and the effectiveness of their lures, adjusting their techniques accordingly.

- DevOps

- Continuous monitoring, testing, and iterative development in response to system feedback.
- Not every deployment is smooth. Teams might face challenges, but they persist, troubleshoot, and iteratively improve processes.
- Continuous monitoring and feedback are crucial. Teams adapt their code and infrastructure based on performance data, user feedback, and system alerts.



Feedback and Iterative Improvement

- Sociotechnical Connection
 - Emphasizing the dynamic relationship between tools/equipment (technical) and human decisions/actions (social) based on feedback.



Collaboration and Shared Knowledge



Collaboration and Shared Knowledge

- Fly Fishing
 - Anglers sharing knowledge about good fishing spots, fly patterns, and techniques.
 - Tying flies and maintaining equipment is a craft, often honed over many years.
 - While fishing itself can be a solitary activity, anglers often share tips, favorite fishing spots, and techniques with their community.
- DevOps
 - Continuous monitoring, testing, and iterative development in response to system feedback.
 - Not every deployment is smooth. Teams might face challenges, but they persist, troubleshoot, and iteratively improve processes.
 - Continuous monitoring and feedback are crucial. Teams adapt their code and infrastructure based on performance data, user feedback, and system alerts.



Collaboration and Shared Knowledge

- Sociotechnical connection
 - How both the tools/platforms for sharing (technical) and the culture of collaboration (social) influence outcomes.



Adaptability and Continuous Learning



Conditions Change



Adaptability and Continuous Learning

- Fly Fishing
 - Modifying strategies based on changing environmental conditions and learned experiences.
 - Anglers often experiment with different flies, casting techniques, or fishing locations.
 - Depending on the time of day, type of fish, and water conditions, anglers change lures and tactics.
- DevOps
 - Continuous monitoring, testing, and iterative development in response to system feedback.
 - Not every deployment is smooth. Teams might face challenges, but they persist, troubleshoot, and iteratively improve processes.
 - Continuous monitoring and feedback are crucial. Teams adapt their code and infrastructure based on performance data, user feedback, and system alerts.



Adaptability and Continuous Learning

- Sociotechnical Connection
 - Continuous learning and adaptability as the intersection of evolving technical systems and the people operating within them.



Resilience Through Problem Solving



Resilience Through Problem Solving

- Fly Fishing
 - Overcoming challenges like unfavorable weather, poor water conditions, elusive fish, or equipment malfunctions.
 - Or picky fish that just won't bite!
- DevOps
 - Anticipating, mitigating, and quickly recovering from system failures or bugs.



Resilience Through Problem Solving

- Sociotechnical Connection
 - Building robust systems not just through technical measures but also by leveraging human creativity and problem-solving.



Ethics, Community, and Sustainability



Ethics, Community, and Sustainability

- Fly Fishing

- Ethical anglers practice catch and release, ensuring minimal impact on fish populations and impact on the watershed.
- Sports people are the greatest contributors to conservation in the United States by an order of magnitude above any other groups.
- We take care of our resources

- DevOps

- Ethical considerations in software development such as data privacy, security, and user trust.
- Teams respect their operational environment, ensuring minimal downtime, rapid recovery from failures, and sustainable work practices.
- Encourage empathy for your coworkers and the team.
- We're all in this together



Ethics, Community, and Sustainability

- Sociotechnical Connection
 - Navigating the ethical landscape using both technical tools/policies and human judgment.



So, why do I care about this stuff?

CoFounder @ OpenContext

- Autodiscovered Sociotechnical graph of the systems, software, infrastructure, **and people** in your tech stack.
- We're in early access, and need feedback from DevOps people. We believe we're solving a hard problem and we'd love to have you try it out.
- Free beta @ opencontext.com



Conclusion

- Sociotechnical Engineering is everywhere
 - Permeates so many different aspects of our lives.
 - Not just DevOps
- Free beta @ opencontext.com



Go Fishing!



Why are we here?

- Sociotechnical Systems Theory
- DevOps Principles
- Fly Fishing
- Hopefully some fun!



