DevOps for Defense

August 2019

Software Factory
Part 2: Documentation

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https://www.meetup.com/DevOps-for-Defense/
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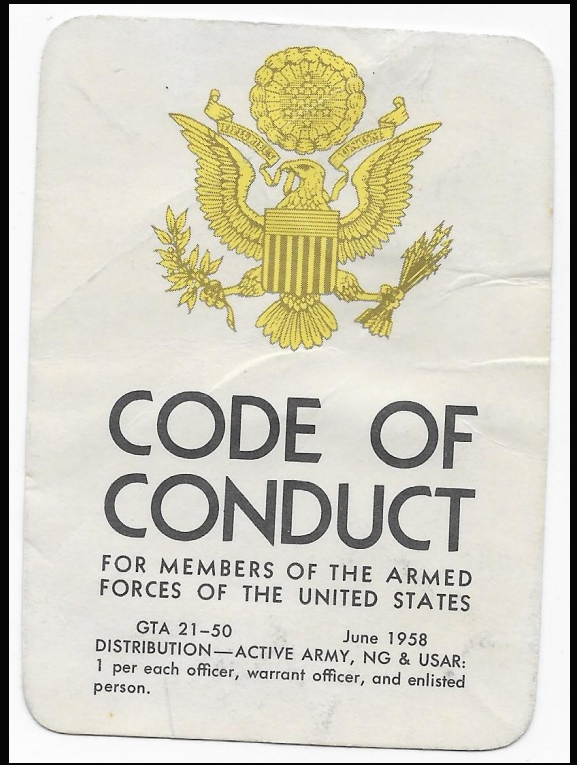
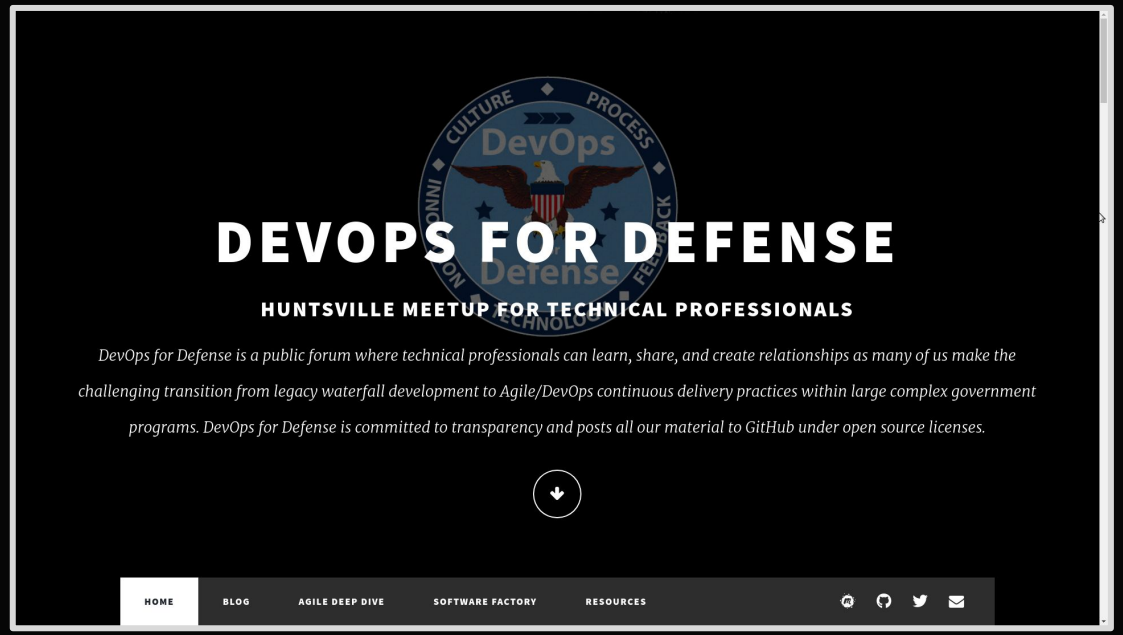
Sponsored by: TEKsystems Own change

DevOps for Defense Meetup: Code of Conduct

- UNCLASSIFIED ONLY!!!!
- Treat each other with respect and professionalism.
- Do not talk about private, sensitive, or proprietary work.
- Do talk about your experiences, needs, desires to improve work in our domain.
- Do share your thoughts.
- Do learn from others.
- Do respect & tip your bartenders!



Meetup Web Site is Live!



devopsfordefense.org

- Hosted using GitHub Pages from our Meetup Repository, Generated using Jekyll from simple MarkDown & Images
- Follow on Twitter @devops4defense for Notifications
- Contribute Blog Post, Meetup Summary, or DevOps Resource to our GitHub via Pull Request
- Request your Company Allow Access

DevOps 1st Way

Systems Thinking

"Emphasize the performance of the entire system, as opposed to the performance of a specific silo of work or department."

- Gene Kim (2012)

Flow

"Accelerate the delivery of work from Development to Operations to our customers."

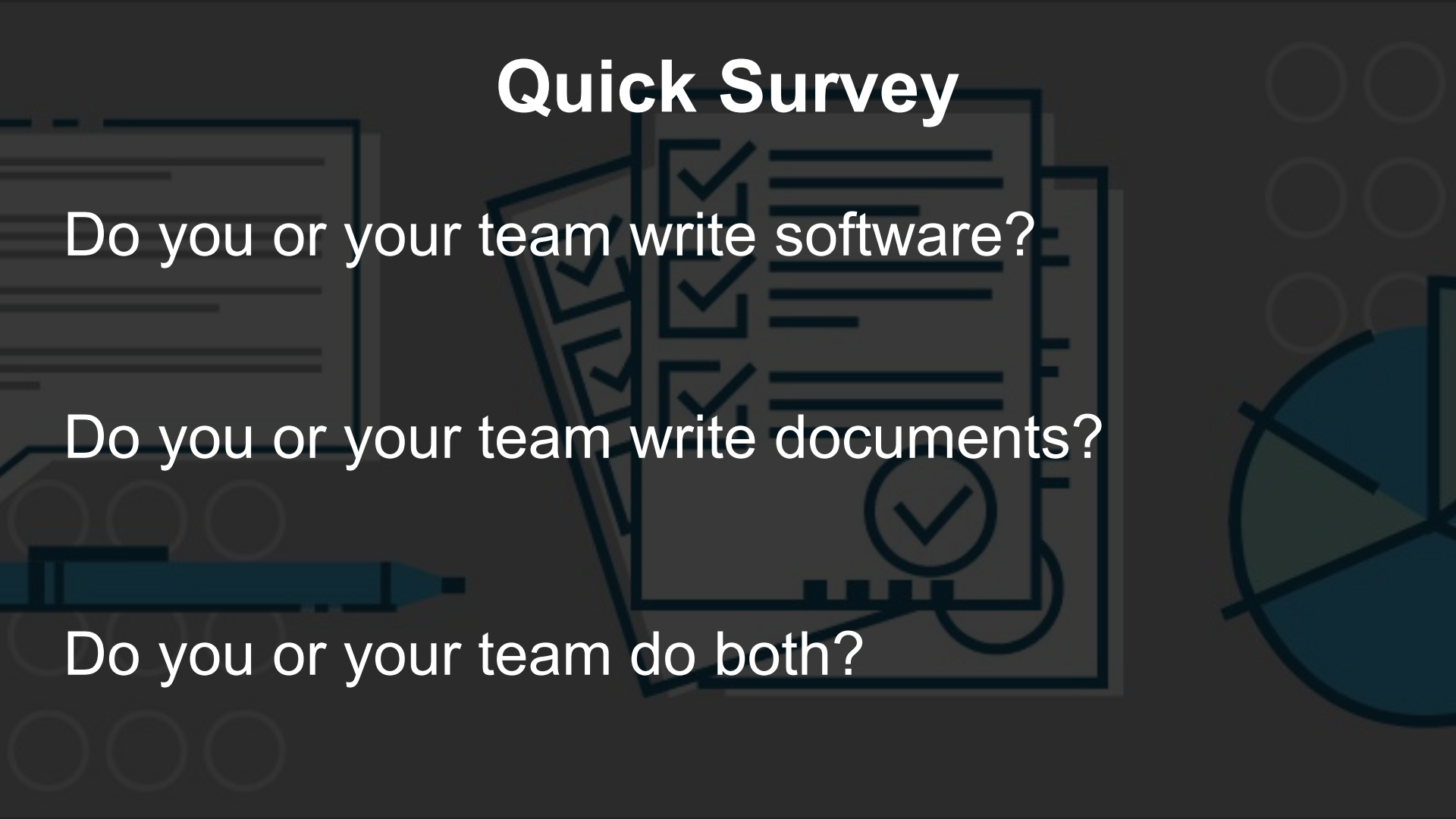
- Gene Kim (2016)

Quick Survey

Do you or your team write software?

Do you or your team write documents?

Do you or your team do both?



Engineering Team / Proposal Team / PM Team Document ~~Sweatshop~~ Generation & Management


OK, Ready to Code!

GO!

...but first, your documentation has an error or is out of date so fix that first... and get it reviewed...and approved through the board...then get started because you're already behind schedule!

Good documentation is really important!

Define the problem, describe the solution, communicate with stakeholders, ...

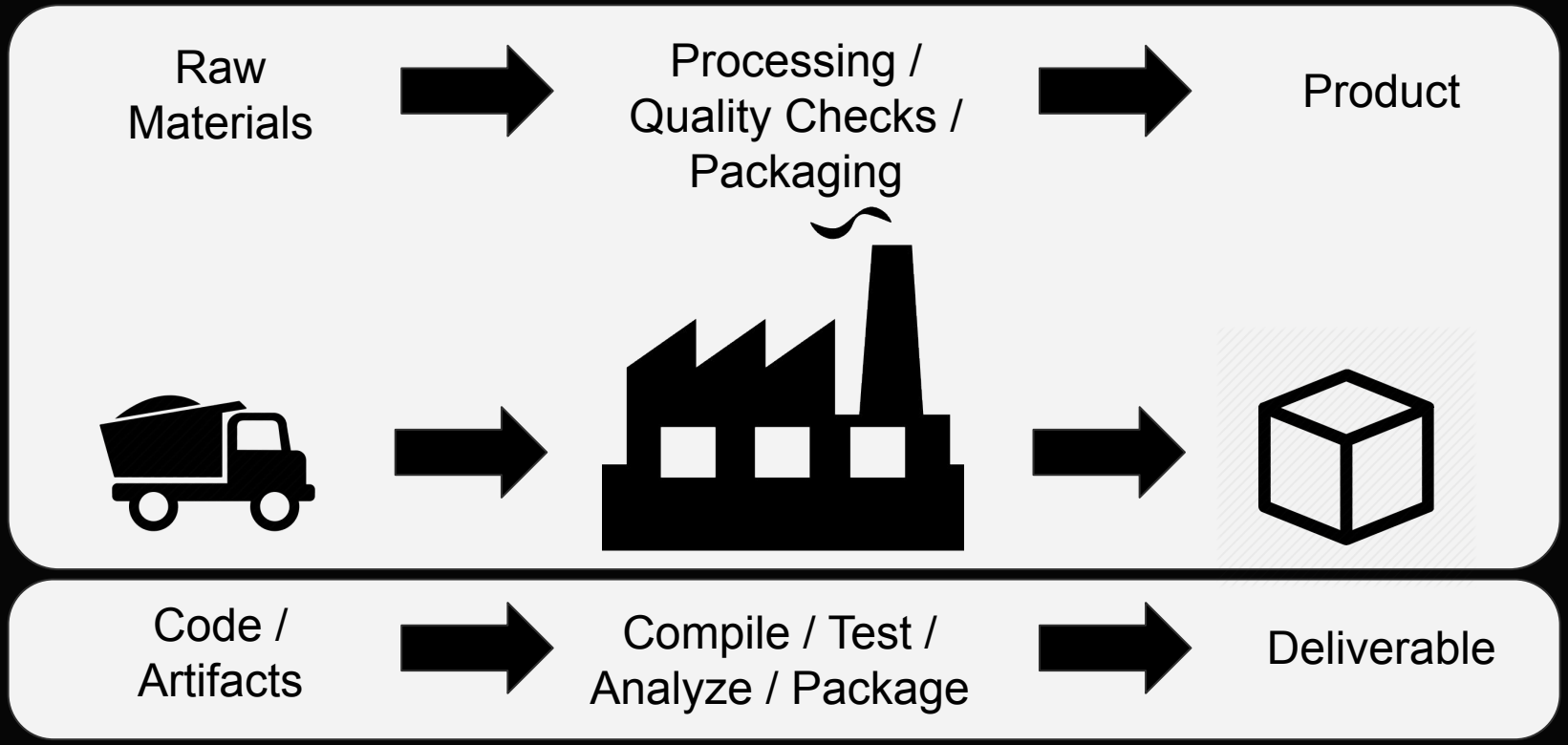
But only working software gets me to done!

No document has ever: created a radar track, launched a missile, intercepted an ICBM, ...

So how can we do both?

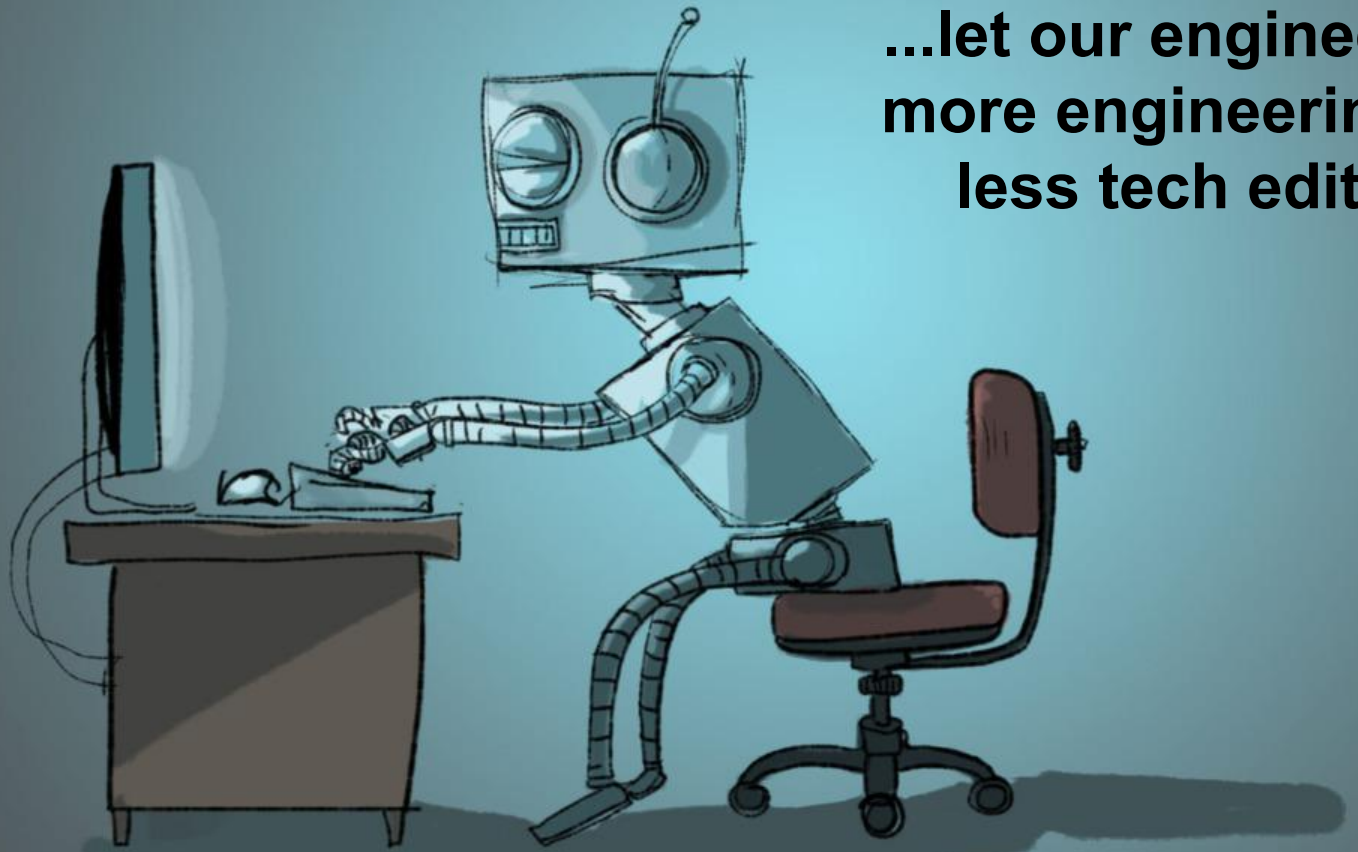
Keeping both up to date, configuration managed, quality checked, continuously delivered, …
And do it affordably!!!

Software Factory Core Concept

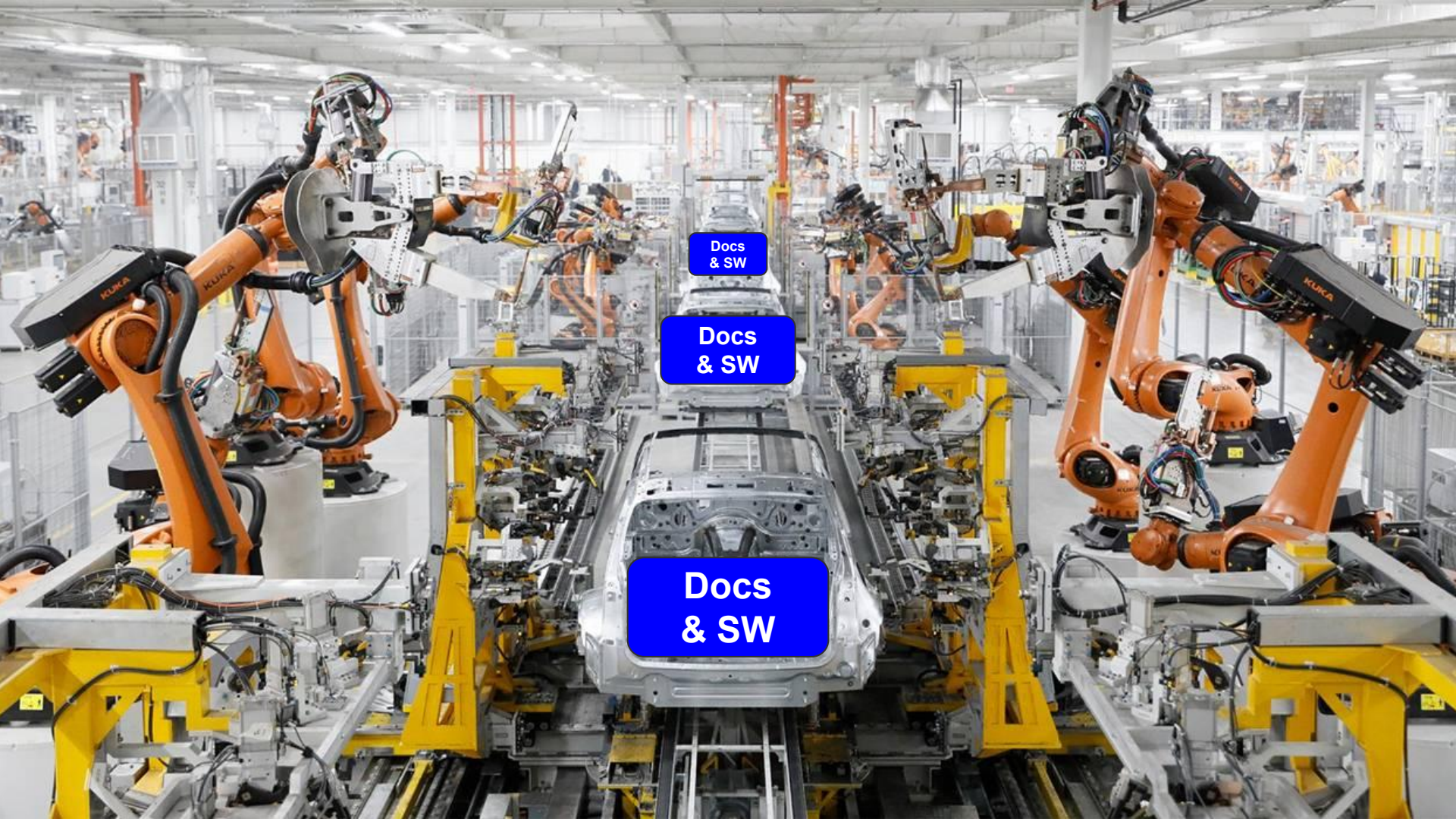


How does documentation fit into this concept?

Automate what we can
...let our engineers do more engineering and less tech editing.



https://mattspangler.com/post/18020154811/working-late-sometimes-you-have-to-do-it-typing


Docs
& SW
Docs
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Docs
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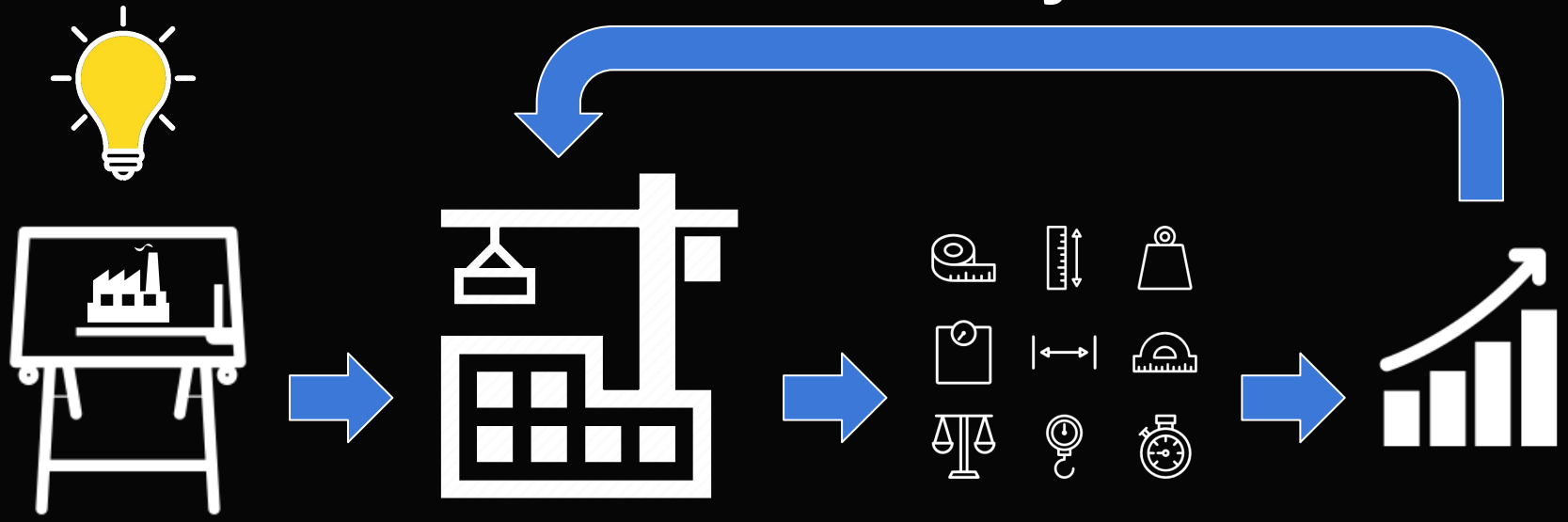
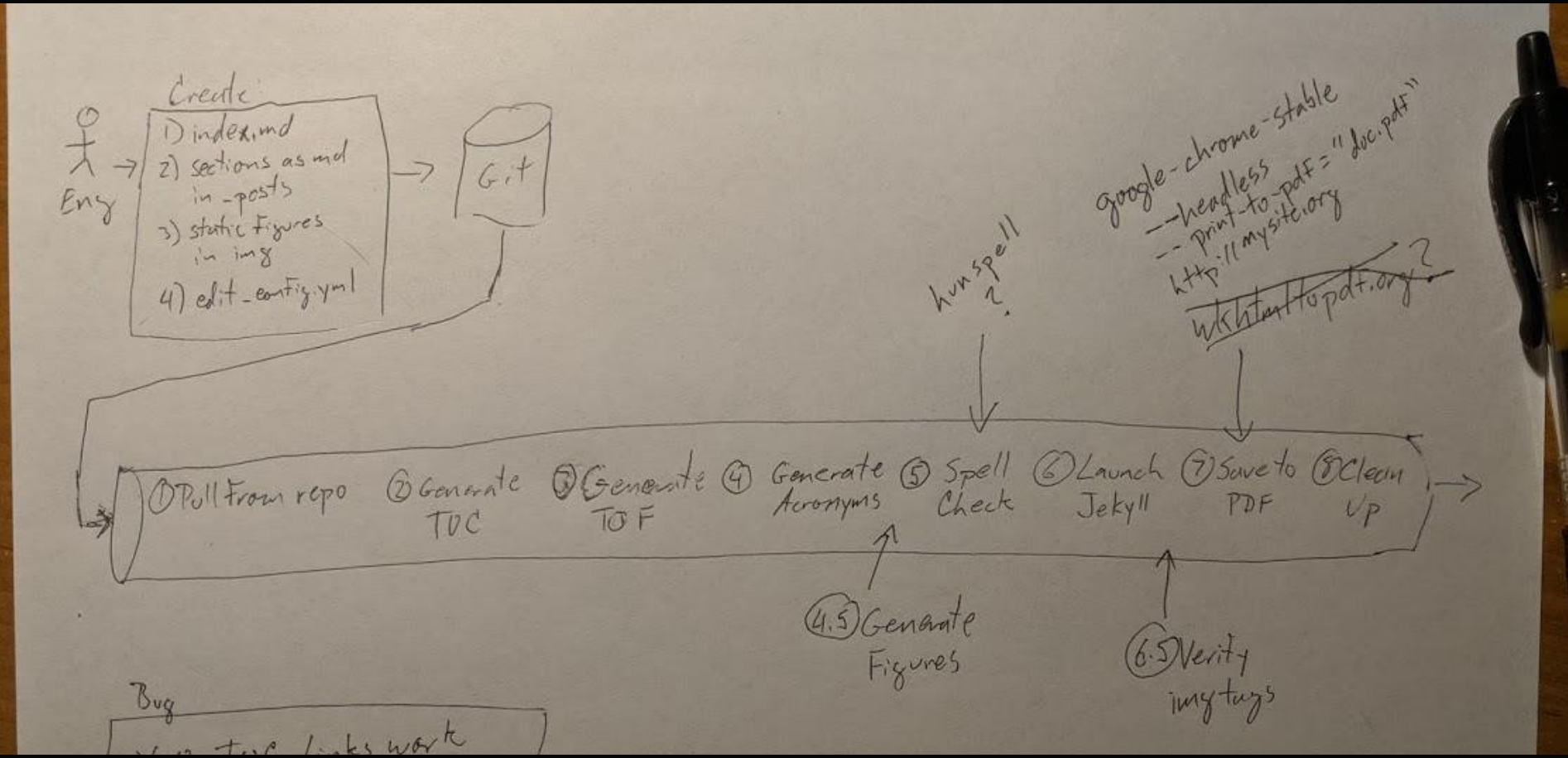
Can We Design Document Delivery Into Our Software Factory?



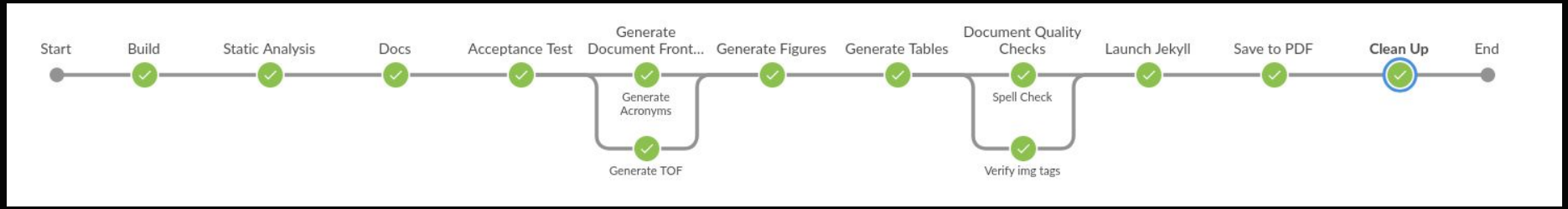
Design Build Measure Improve

...and provide Good CM and Quality Checks Throughout?

The Document Pipeline Initial Design

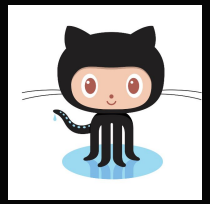


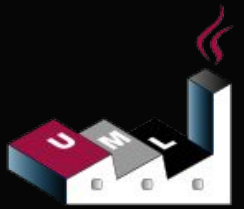
The Prototype SW & Document Pipeline



- Build my Software Deliverable
  - Compile, Unit Test, QA checks, Acceptance Tests, API Documentation
- Build my Document Deliverable
  - Generate TOC, TOF, and Acronyms
    - Tools: Jekyll, Python
  - Generate Figures & Tables
    - Tools: PlantUml, Python
  - Perform Quality Checks
    - Tools: Hunspell, Python
  - Generate Content & Publish Deliverable
    - Tools: Jekyll, Google Chrome

✓ Use good CM throughout!
✓ Perform QA checks throughout!





Demonstration

Produce Working SW

and

High Quality Documentation

Upcoming Topics Under Consideration for the DevOps for Defense SW Factory Series

- Build Out: Infrastructure-As-Code Ansible Demo
- ✓ Creating a Document Pipeline Jekyll Demo
- Software Factory Monitoring, Metrics, & Trending
- Integrating Pipelines for End-to-End Continuous Delivery Jenkins Demo
- Building In Security to Your Factory & Product
- Diversity: Polygot Software Factory and Managing Multiple Target Architectures
- Others?

What topics would help you design, build, run, and improve your Software Factory?

DevOps Resources

https://devopsfordefense.org

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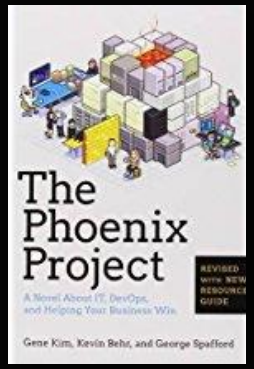
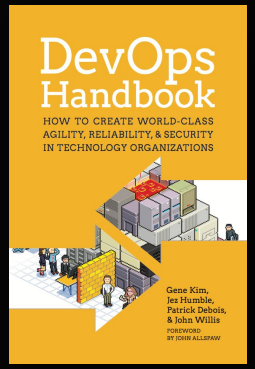
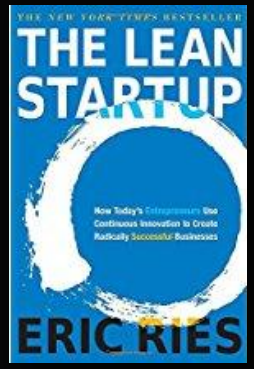
devopsfordefense@gmail.com

Books / Publications:



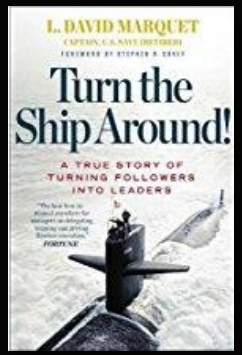


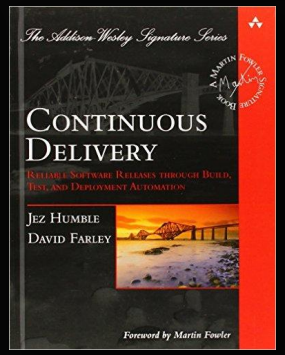


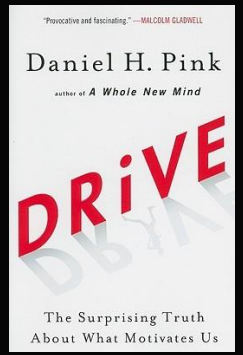
Conference Presentations (YouTube):

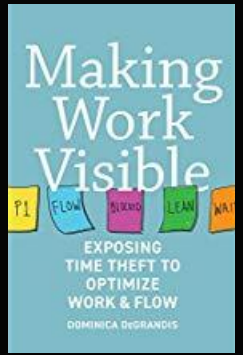
- DevOps Enterprise Summit (DOES)
- IT Revolution
- Velocity
- GoTo

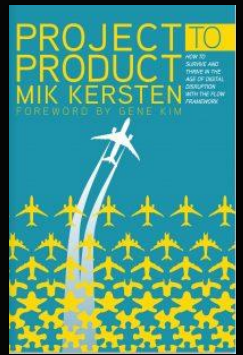
YouTube

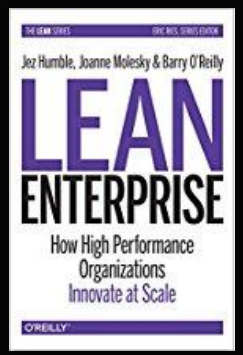


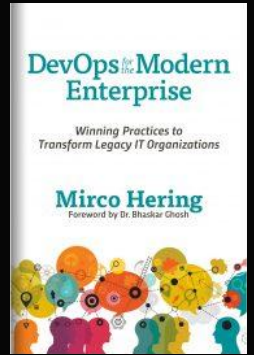












Group Exercise: Lean Coffee & Book Club

Book Club:

- **“Turn the Ship Around” - Capt David Marquet**

1. Each table has a facilitator.
2. The facilitator has a short introduction.
3. Everyone write down questions or topics for discussion on the subject. Place them in the middle of the table.
4. The group votes on each question or topic by placing a dot on the card. 3 votes per person.
5. Cards with most dots goes first. Set a timer for 5 minutes and discuss.
6. After 5 minutes, either vote (thumbs up/down) to keep going or move on to the next card.