# Future Proofing Begins With Your People

Lessons Learned From My Life on the Outside

Brian Powell Stravaro, LLC

Even before I left NI after 26 years, I put a lot of thought into how to build strong software teams. I built a few inside NI, and then
nelped a few NI customers build theirs. When I later became Director of Engineering at a big healthcare company, and then VP of
Engineering at a local startup, those ideas were put to the test.

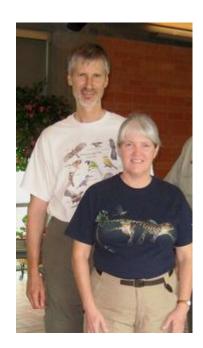
"Be kind to your future self." But on the other hand, if your team isn't planning to be here next year (or next month!), they aren't likely to care about building software to last. You have to get your team into a long-term mindset--usually while also fighting fires and trying to

keep the lights on. How?

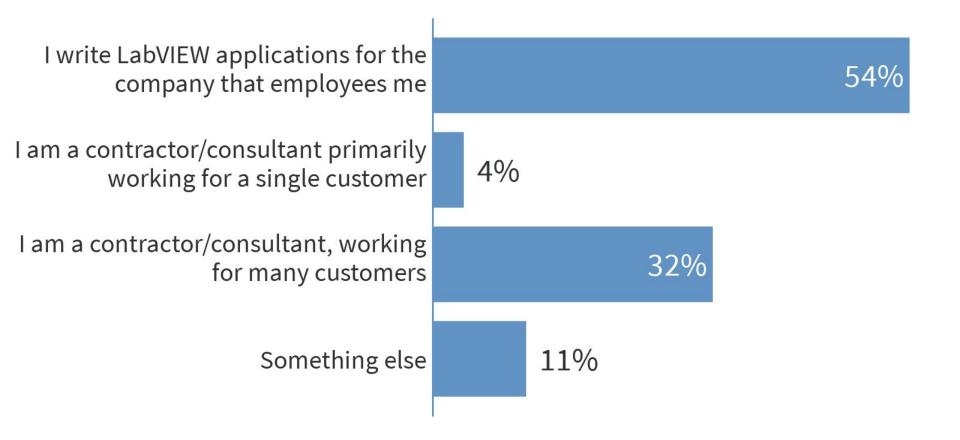
I'll talk about a few themes that did work, and examine some that didn't.

#### **#OurGiantsAreFemale -- Audrey Harvey**

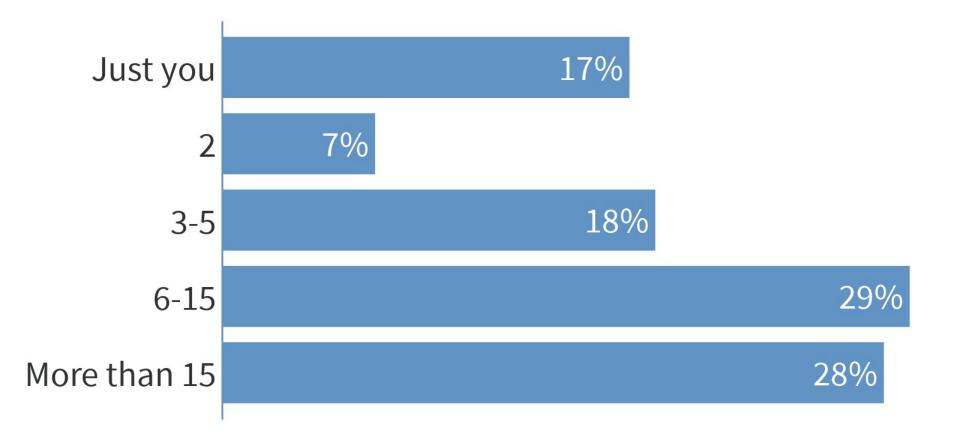
- Started the Data Acquisition team at NI (late 1980's)
- A leader and role model for NI engineers



#### Tell us about yourself...



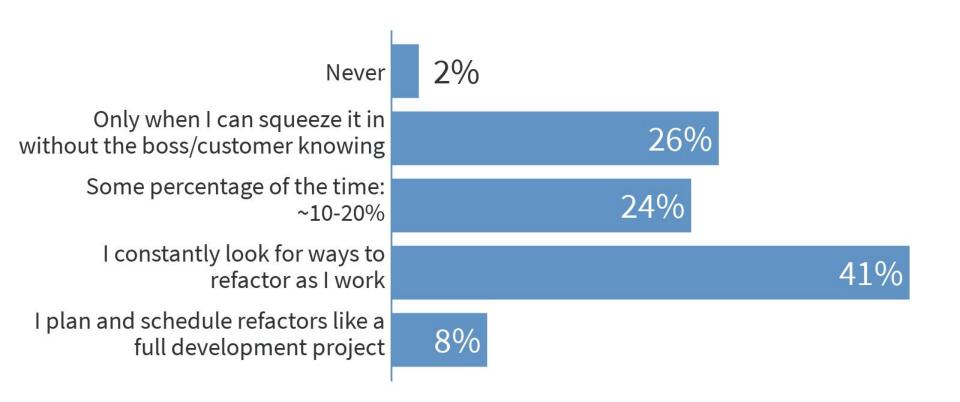
#### How many LabVIEW programmers work at your company?



## Things I Believe

- The right way to build a good product is to first build a good engineering team
- The best way to retain employees is to give them freedom to grow
- Every person and every situation is different

# When do you get to overhaul/refactor the code you work on?



#### A recent example...

Typical test house--LabVIEW + real-time, NI hardware, variety of DUTs

- "We want to invest in our people, as soon as we're not constantly firefighting."
- "We are always firefighting."

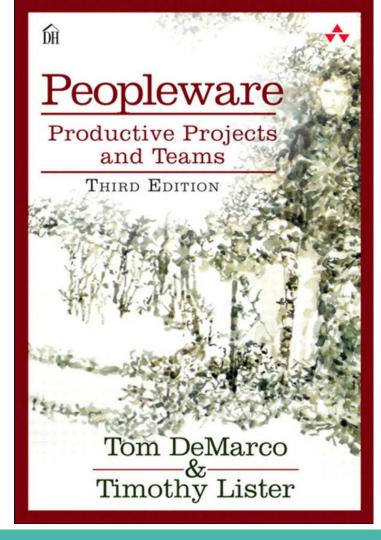
LV developer leaves. A new one arrives.

Repeat.

# **Self-imposed Quality**

"The decision to pressure people into delivering a product that doesn't measure up to their own quality standards is almost always a mistake."

-- Tom DeMarco

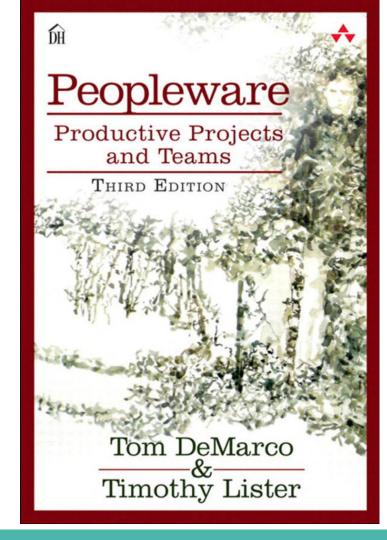




## **Autonomy**

"The only freedom that has any meaning is the freedom to proceed differently from the way your manager would have proceeded. This is true in a broader sense, too: The right to be right (in your manager's eyes or in your government's eyes) is irrelevant; it's only the right to be wrong that makes you free."

-- Tom DeMarco



#### Describe traits of the best boss you've ever had.

accountability guiding development empathetic listens honest workcrap bat free does open hands-off to the workcrap bat does open hands-off to the workcrap bat the workcrap bat does open hands-off to the workcrap bat the workcr

#### Describe traits of the worst boss you've ever had.



#### Methodologies

"Everybody should do things the same way."

There are real benefits to everybody doing things the same way.

Most of the benefits claimed on behalf of Methodologies are really benefits of convergence of method.

Methodologies seek to force convergence through statute.



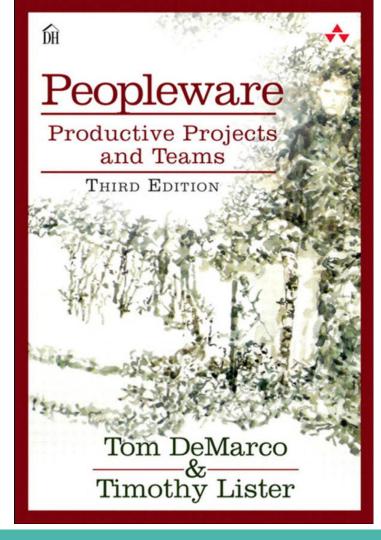
#### Methodologies, a better way:

- Training: People do what they know how to do. If you give them all a common core of methods, they will tend to use those methods.
- Tools: A few automated aids for modeling, design, implementation, and test will get you more convergence of method than all the statutes you can pass.
- **Peer Review:** In organizations where there are active peer-review mechanisms (quality circles, walkthroughs, inspections, technology fairs), there is a natural tendency toward convergence.

# **Organizational Learning**

"Learning is limited by an organization's ability to keep its people."

-- Tom DeMarco



## Things I Believe

- The right way to build a good product is to first build a good engineering team
- The best way to retain employees is to give them freedom to grow
- Every person and every situation is different