FIST, Part 5

Putting the Pieces Together

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The FIST values contend that for military program management and technology development, speed is good, lower costs are good, simplicity is good, and smallness is good.

This is the fifth-and-final article in a long-planned but previously unannounced series titled "FIST—Fast, Inexpensive, Simple, and Tiny." Our initial FIST research started to take shape in March 2003, and the actual series began in the November-December 2004 issue of *Defense AT&L*, with an article entitled "Doing Less With More."

That first article illustrated the I (Inexpensive) portion of the FIST model and argued that smaller budgets foster innovation. The second installment was published a year later, when "The Simplicity Cycle" (November-December 2005) explained the relationships between simplicity, complexity, goodness, and time. Installment three, "It's About Time," appeared in the January-February 2006 issue and explored the history and future of technology-development timelines. The fourth installment was a two-FISTed comic (our editor prefers "graphic article) in the last issue. It literally illustrated the application and interaction of the four FIST values. (*See reader comments in "From Our Readers" on page 52.*)

The Word Of The Day Is ...

That brings us to the key word in this series: values. The components of FIST are, first and foremost, statements of professional values. They are characteristics, attributes,

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Illustration by Jim Elmore.

or entities that are judged to be of greater worth than the alternatives. They describe principles, standards, and qualities that are deemed worthwhile and desirable.

Specifically, the FIST values contend that for military program management and technology development, speed is good, lower costs are good, simplicity is good, and smallness is good. These are professional judgments, based on extensive research and experience, not merely opinions or theoretical conjecture. However, they are "theory" in the scientific sense of the word. They make predictions that can be tested and proved ... or disproved. In the previous four articles, we offered some results of our tests, and we invite our readers to do their own experiments and investigations as well.

"Better, faster, cheaper: pick two." Picking two may be conventional wisdom, but it's short-sighted and both intellectually and experientally unjustifiable.

Like any set of values, FIST can be understood as a collection of philosophical assertions, designed to drive actions and inform decision making. It may be indelicate to point this out, but the truth is, we often pay public lip service to the values embodied in FIST, while disparaging and denouncing them behind the scenes. For example, "Yes, of course we want to avoid wasteful spending—but by the way, make sure your expenditure rates are not too low, otherwise we'll lose our money and we won't get as much next year … and you won't get promoted." Thus, these values are not universally accepted as principles within the DoD program management community, much less are they put into practice on a regular and widespread basis. That's a shame. We hope these articles can help fix that.

The Final Piece

Alert readers may have noticed the series has so far only addressed the F, I, and S of FIST. This final article explores the concept of Tiny (as expressed in the statement "small is beautiful") and then ties all the pieces together. We almost didn't write this one because it is, in some sense, redundant. Tiny is basically the inescapable outcome of the three previous values. If your project is Inexpensive, it has a Tiny budget. If it is Fast, it has a Tiny schedule. A Simple project has a Tiny degree of complexity. Further, a Fast, Inexpensive, and Simple project necessitates a Tiny program office. You get the picture.

Could there possibly be a project, program, or team that's Fast, Inexpensive, Simple, and Huge? No, FISH makes little sense because the first three values are generally inconsistent with Hugeness. If your project is already F-I-S, it will logically tend towards T as well.

Even so, we believe Tiny is a sufficiently significant concept to merit a focused exploration of it as a distinct value. Tiny may be an outcome that springs naturally from the previous three values, but an in-depth understanding of and appreciation for the value itself can contribute greatly to a program's success. Any readers who wish to explore the value of Tiny in more detail than this brief article can afford might want to check out Bo Burlingham's recent book *Small Giants*, which examines 14 companies "that choose to be great instead of big."

Dr. Dolittle and the Elephant

At a meeting long ago, in a place far away, Dr. Dolittle stated that Project Pachyderm is small. Maj. Myopia quickly concurred, observing, "It's not a lot of money." We were rather surprised by their assertion. We had previously heard the burn rate for Project Pachyderm was approximately $700,000 per day, but we didn't want to sidetrack the discussion since the meeting was already hours longer than originally planned. By the way, names and figures have been changed to protect the guilty.

Back in our office, we did some digging and found out that Project Pachyderm's two-year contract was valued at $600 million. Assuming work is performed every day of the year, we calculated a burn rate over $800,000 per day ($600 million divided by 730 days equals $822,000 per day). Surprisingly, the rumored $700,000 per day was actually on the low side!

Interestingly, we also had intimate knowledge of Project Cheetah, a lean and rapid prototype-to-operations development effort with a budget under $400,000 (that's right, thousand, not million), a four-month schedule, and a team of two government people plus two contractors, all working the project part time. They were chartered to address what turned out to be a significant portion of Pachyderm's requirements. In a matter of months, this tiny project delivered a powerful capability using less money than Pachyderm spends by lunchtime every day of the year for two years straight The larger effort? It failed to deliver anything at all. Now tell me again who's big and who's small?

Everything Is Relative?

We gladly admit size is relative, and Pachyderm's budget is certainly a small effort compared to some, but it is also rather large compared to Project Cheetah's. How then should we distinguish between large and small? On what basis can we say a particular project is "not a lot of money"? Perhaps the thing being purchased should be taken into consideration. For example, $100 is a lot to pay for a candy bar, but not a lot to pay for Pablo Picasso's *Garçon à la Pipe*.

In the Pachyderm-vs-Cheetah example, we are definitely talking apples-to-apples. In fact, the Elephant ended up basically doing a cut-and-paste job of the speedy Cat's software (then happily collected a fat award fee for the "effort"). The warfighters got what they needed, so it worked out—but the point is, there was nothing small about the Pachyderm, despite assertions to the contrary.

Perspective Matters

Of course, perspective counts too. When you're very young, $100 is a lot to pay for anything (although my four year-old daughter favors "thirty-two hundred thousand hundred" when discussing large numbers). And in a world where programs worth multiple hundreds of millions are commonplace, it's understandable that one's perspective about size might be different from that of the average joe.

Why does this matter? Because as long as we've got high-ranking government people looking at $700,000-per-day burn rates as "small" and "not a lot of money," we're going to continue having enormous expenditures and low expectations for delivery ('cause hey, we didn't really give them very much money, so we can't really expect them to deliver very much, right?). So let's try to remember that in real life, even one million dollars is a lot of money.

The Tiny Fighter

But size isn't all about money, of course. Tiny can (and should) be applied across the board. We hope our Army, Navy, and Marine Corps readers will excuse this Air Force-centric example, but it's just too good to pass up.

As Air Force Col. James Burton explained in his amazing book *Pentagon Wars*, the guys involved with the development of the F-16 understood and embraced the value of Tiny in a big way. This aircraft was half the price and half the size of its predecessors and was developed in half the time. The statement of work was a mere 25 pages, and contractor proposals were limited to 50 pages.

The result was a remarkably agile, maneuverable, and successful fighter, despite the eventual goldplating and increases in complexity injected into the system as the program matured. Over 4,000 of these fighters have been produced, and they are in service in 24 different countries. The point is, being Tiny can really pay off.

Of course, Tiny doesn't just apply to schedules, budgets, and paperwork. It's also about people. In terms of timeliness and accuracy, smaller teams are better able to communicate with internal and external team members. Of course, you've got to be careful not to have such a small team that you don't have adequate resources to do the job, but at some point, adding more people becomes counterproductive—as the Simplicity Cycle article illustrated.

It's worth repeating that this is fundamentally a problem of values. Why does the DoD technology development community sometimes fail to be FIST? Because it is hard to do? No, we do hard things on a daily basis. Because our hands are tied? No, we are intelligent and creative enough to find innovative solutions, if we set our minds to it, to just about anything.

It is because on the whole, we often don't value speed, inexpensiveness, simplicity, and tininess. Our research indicates that all too frequently, we don't function this way because we are not looking for improvement in these dimensions. Let's fix that.

A Brief Aside

Some people are fond of saying "better, faster, cheaper: pick two." Picking two may be conventional wisdom, but it's short-sighted and both intellectually and experientally unjustifiable. This is a family show, so we won't use the colorful idiom with which we would like to respond—let's just say someone is blowing smoke. The truth is, when considering better, faster, and cheaper, we refuse to pick two. We pick all three on a regular basis. So did the team who developed the F-16 and dubbed themselves the Fighter Mafia. And you can do it too—we believe in you!

Rewards and Change

If we truly want to accept the value of Tiny, practical-minded readers are surely wondering how such a value could be integrated into the current framework. How can we reward smallness when the most prestigious programs a program manager can lead are those with enormous budgets, endless schedules, extreme complexity, and massive teams? How can we reward smallness when a PM's career path is supposed to be one of increasing responsibility, defined as dollars and people managed?

If we were lawyers and this article was a television show, this is the part where we would jump up, slap the table, and shout "Objection! We reject the premise of these questions! Opposing counsel is basically asking how we can change without changing. Your Honor, we have already asserted that the FIST value of Tiny is not part of the current framework, so to expect anyone to integrate it without significant change to the underlying structure is ludicrous." And then we'd cut to commercial, for cliffhanger effect.

But we aren't lawyers and this isn't a TV show, so that's not really an option. Fortunately, in addition to being objectionable, those questions are easily answerable. We could reward smallness the same way we reward any other positive behavior or desirable attribute. Train for it. Use it as the basis for promotion and recognition. Give people awards for doing it. Integrate it into the culture. All it would really require is to stand the current value structure on its head and entirely change the cultural expectations and mindset. (Hey, we said it was a simple question to answer, not an easy solution to implement.)

Widespread acceptance of the FIST values requires an abandonment of the business-as-usual mindset. FIST can't simply be grafted into the status quo establishment; the old ways have to be torn down and replaced. Fortunately, that's not as difficult as it sounds because the FIST values are already firmly established, if you know where to look.

We contend the FIST values are not alien at all. They are the values inherent in our own homes and lives. They are sometimes suppressed and supplanted once we get to work by an environment that rewards **S**low, **U**nwieldy, **C**omplex, and **K**ostly, but they linger in our daily non-work activities. When we are the consumer, the customer, the user, we always prefer something fast, inexpensive, simple, and tiny. Look at cell phones, computers, ATMs, fast food (okay, so we love our super-size fries, but we're loving them a lot less these days). We complain when things are slow, expensive, complicated, or overly large. Look at our response to automated customer "support" systems ("press 1 for this, press 2 for that"). We hate that sort of thing because it goes against our values.

Bringing the FIST values to work simply involves approaching system development and acquisitions the way we approach other things in life: with a preference for rapid availability, inexpensive quality, simple interfaces, and smaller sizes. There's nothing new here.

The Revolution is Within You

So what are we really recommending with this FIST approach? Some of our ideas involve sweeping changes, like coming up with a new definition for MDAPs (major defense acquisition programs). Others are more modest, like not dictating development schedules anymore. Some are subjective, like "smaller is better." Others are measurable and objective, like "decrease development time by 50 percent." But they are all based on values that 99 percent of us already accept in our daily lives. And that is why a FIST revolution is possible.

Generally speaking, the values expressed in the FIST series are those principles that reformers, revolutionaries, and mavericks have fought for—and often been kicked in the teeth for—throughout the past several decades. These values are certainly not new, but as far as we know, they have never been put together in a unified form quite like this. Until now.

We hope that by codifying, quantifying, and connecting these four values, they will be easier to grasp, adopt, and implement. Our aim is to provide a common vocabulary for PMs to use as they discuss and explore these issues.

As long as we've got high-ranking government people looking at $700,000-per-day burn rates as "not a lot of money," we're going to continue having enormous expenditures and low expectations for delivery.

We encourage PMs to seriously examine what sort of values they are expressing in the way they run their programs.

We suspect most programs and environments will find some pieces of FIST easier to adopt than others. Undoubtedly it will take a fair amount of time and effort to bring the whole thing on board, particularly for programs with a history of being slow, expensive, complex and large. Nonetheless, it is important to try.

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