Requests!

"To learn and not to do is really not to learn. To know and not to do is really not to know."—Steven R. Covey (The 7 Habits of Highly Effective People)
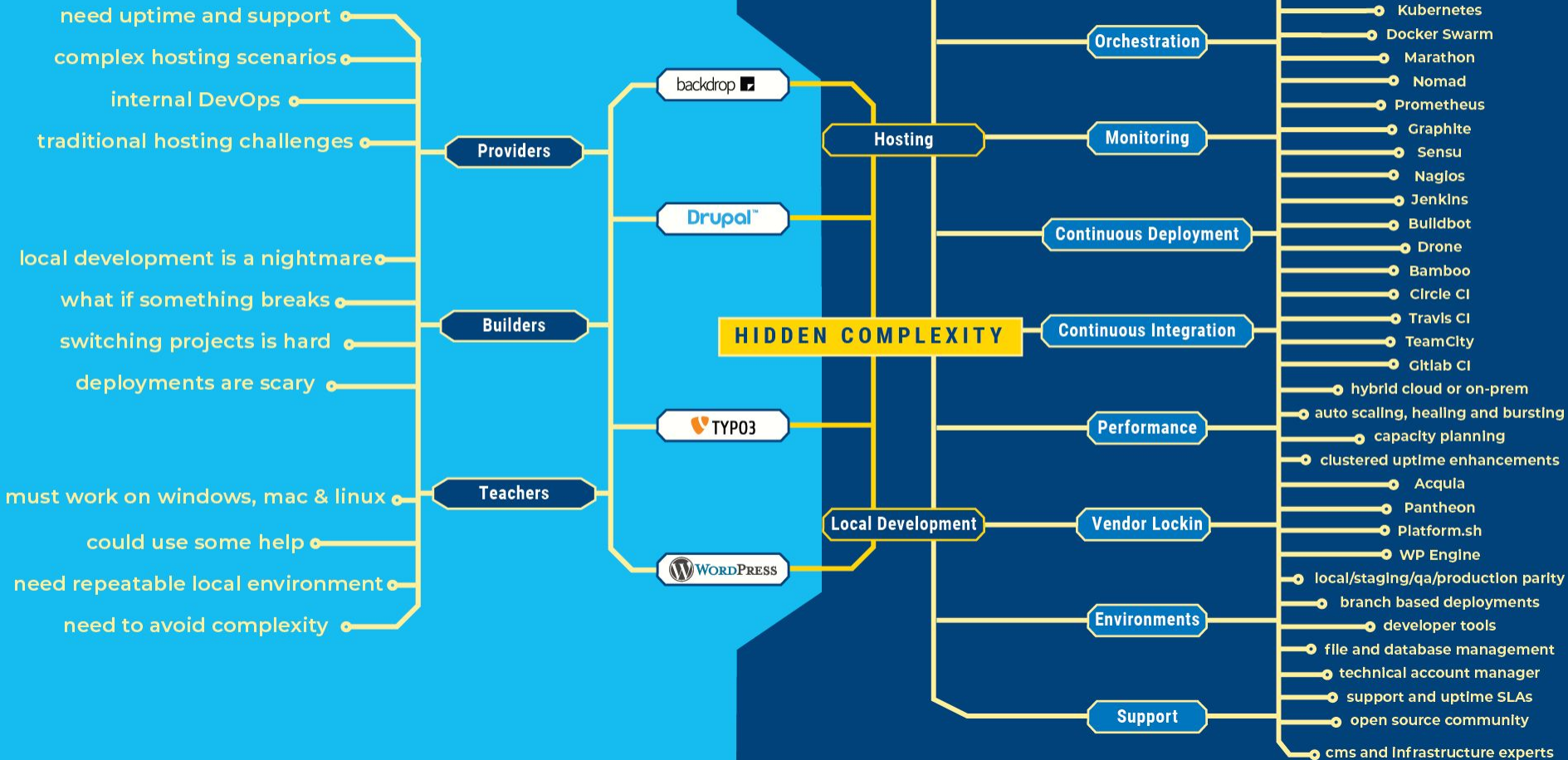
By the end of this talk, answer questions in three key areas:
1. **Action:** What can I apply? Where? How? When?
2. **Pay It Forward:** What can I share? To who? When?
3. **Questions:** What isn't clear? What specifically do I need/want?

Send to https://tinyurl.com/nashville-estimator

Quick Shout Outs

HIDDEN COMPLEXITY

need uptime and support
complex hosting scenarios
internal DevOps
traditional hosting challenges

Providers

local development is a nightmare
what if something breaks
switching projects is hard
deployments are scary

Builders

must work on windows, mac & linux
could use some help
need repeatable local environment
need to avoid complexity

Teachers

backdrop

Drupal™

TYPO3

WordPress

Hosting

Local Development

Containers
- Docker
- stateful applications
- security
- LXC

Orchestration
- Kubernetes
- Docker Swarm
- Marathon
- Nomad

Monitoring
- Prometheus
- Graphite
- Sensu
- Nagios

Continuous Deployment
- Jenkins
- Buildbot
- Drone
- Bamboo

Continuous Integration
- Circle CI
- Travis CI
- TeamCity
- Gitlab CI

Performance
- hybrid cloud or on-prem
- auto scaling, healing and bursting
- capacity planning
- clustered uptime enhancements

Vendor Lockin
- Acquia
- Pantheon
- Platform.sh
- WP Engine

Environments
- local/staging/qa/production parity
- branch based deployments
- developer tools
- file and database management

Support
- technical account manager
- support and uptime SLAs
- open source community
- cms and infrastructure experts

How Did I Get Here?

Short Answer: Combination of Hard Work, Luck, Privilege, & Help

Long Answer:
- BS/PhD from MIT in Materials Science & Engineering
- Drupal Developer / Security Team Member
- Drupal PCI Compliance White Paper
- Technical Project Architect
- Director of Operations
- COO of 1 Agency with 2 Startups
- CPO/Co-founder of DRUD Tech

Standing on the Shoulders of Giants

Drupal Community
- Seth Brown
- Rick Nashleanas
- Todd Ross Nienkerk
- Cindy McCourt

Off The Island
- Eliyahu Goldratt
- Damon Edwards
- Gene Kim
- David Allen
- Scott Berkun

YOU! …and Permission to Pay It Forward

Open Source Communities:
- We all learn from the collective, hive mind.
- We need you as users, testers, and contributors.

Explicit Permission:
- Mash this up! Make it yours! Make it better!
- Creative Commons: Attribution-ShareAlike 4.0 International (BY-SA 4.0)
- I look forward to watching your presentation next Drupalcon.

The Pain

Mission Improbable: The Great Turnaround

Imagine your first month on the job involving...
- A $1M project with a $100K budget.
- A $30K project that's two years late with zero usable code.
- A national brand site upgrade on a tight, 3-month deadline.
- Team turnover immediately prior to arrival.
- Lack of existing structure, norms, processes, etc.

...and thinking what an amazing blessing it was!
- It's in moments of great stress that process gets abandoned.
- *"Every adversity comes with it the seed of an equivalent or greater benefit."*—Napoleon Hill, Think and Grow Rich

Extreme Situations Can Force Rapid Adaptation

- Peacetime Versus Wartime Leadership
- Required Bias Toward Action
- Minimal Room for Error
- Consequences Experienced Quicky, Painfully

- "The Evolving Estimator" was born out of necessity.
- Resulted in (and maintained) peacetime conditions.
- My most significant achievement in professional services.

The Promise

Testimonials

"Your talk helped provide the background and tools I needed to feel confident about managing a project from start to finish. Especially helpful was learning how estimations and the discovery process go hand-in-hand (and that it's OK for estimates to change!)" —Caleb Thorne, Monarch Digital

"This was one of the best presentations I've seen on setting client expectations! We've all been there and Rick's experience in handling expectations really shines through in this presentation. Setting right expectations is much more important than getting the estimate right." —Salim Lakhani, CEO, DevPanel

"I am impressed by the research and thought Rick has put into the subject of budgeting. Whether you are on the buying or selling side of Drupal projects, we can all learn from his insight." —Jay Callicott, VP of Technical Operations, Mediacurrent

Successful Outcomes

Specific to a project or account:

- Upsells of 50% to 250%.
- Budget discussions are collaboration instead of adversarial.
- Clients better understand how they contribute to/reduce scope.
- Clients feel more empowered, participate more, & trust more.

And Beyond!

- Protecting The Team
- Protecting The Company
- Protecting The Clients
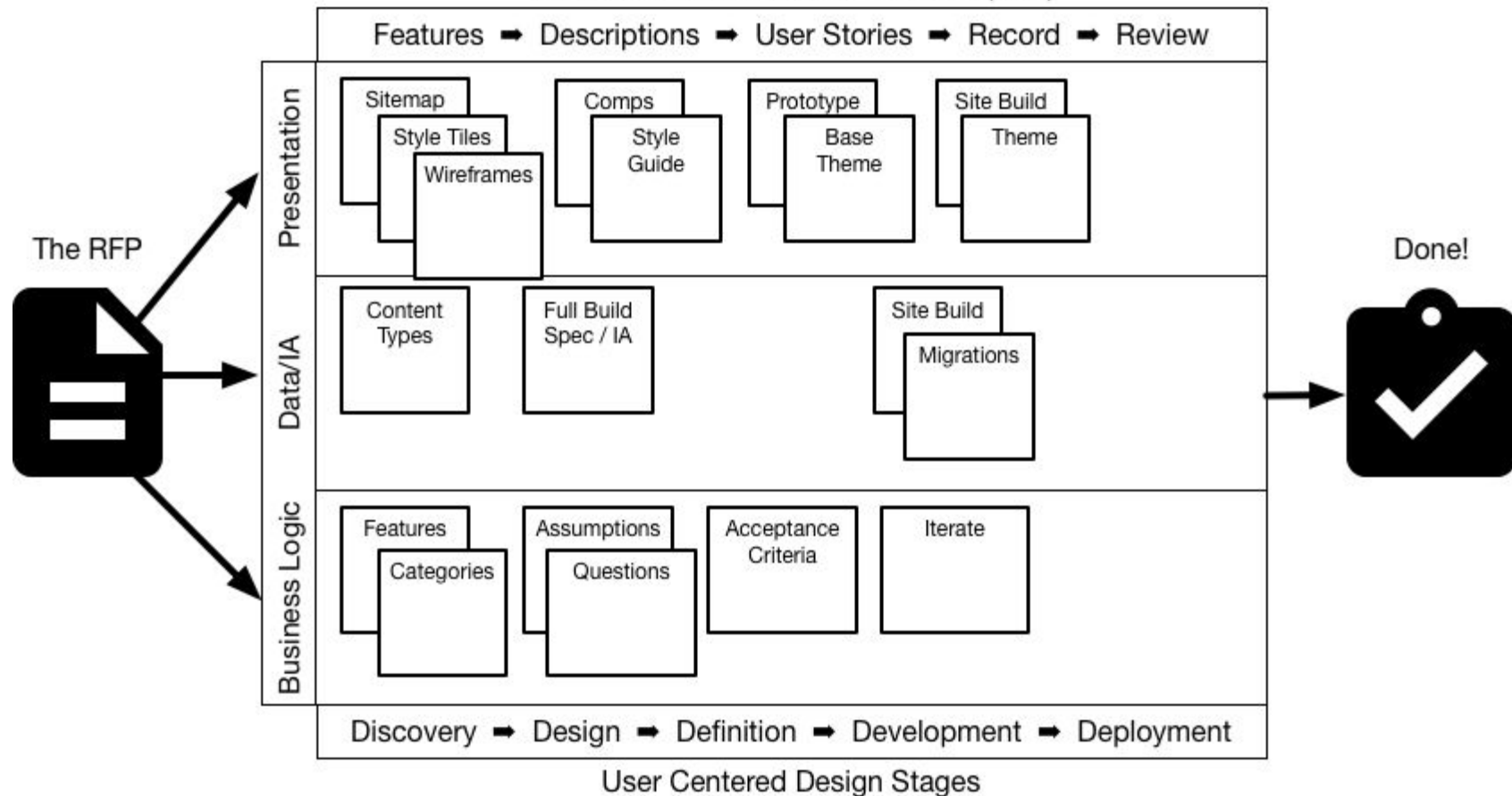
The Evolving Estimator: How Do We Get There?

Stick With Me...

- Definitions
- Key Concepts
- Map
- Template v0.1
- Example

The Evolving Estimator Stages

Level of Detail for Level of Estimate (LOE)

Features ➡ Descriptions ➡ User Stories ➡ Record ➡ Review

The RFP

Presentation

Sitemap
Style Tiles
Wireframes

Comps
Style Guide

Prototype
Base Theme

Site Build
Theme

Data/IA

Content Types

Full Build Spec / IA

Site Build
Migrations

Business Logic

Features
Categories

Assumptions
Questions

Acceptance Criteria

Iterate

Done!

Discovery ➡ Design ➡ Definition ➡ Development ➡ Deployment

User Centered Design Stages

The Pitch

In The Beginning Was "The Estimate…"

- Few phrases elicit a more visceral reaction when referenced.
- We speak about them as if they were written in stone.
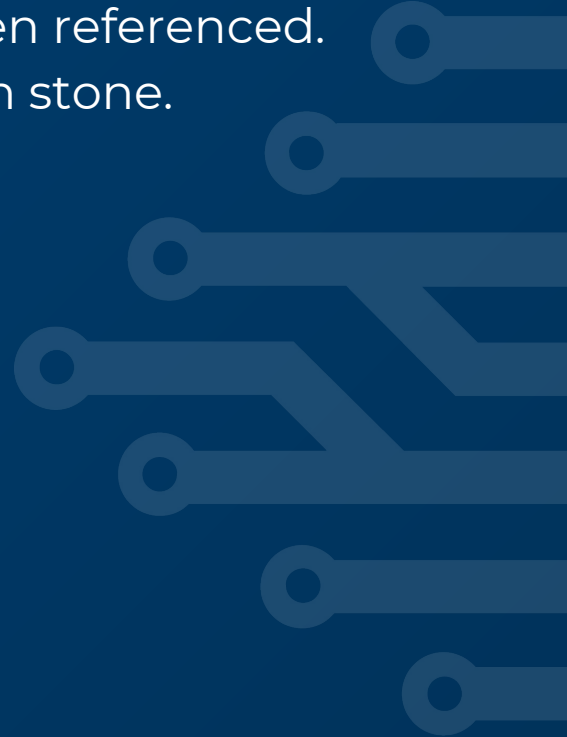
Definitions

- **Estimation:** A guess regarding the level of effort (LOE) of a task based on the current information at a current moment in time.

- **Expectation:** A current belief of what will happen in the future based on perceptions from the past.

- **Evolution:** How LOE and perception evolve w/time based on new information, conversations, and context.

Definitions

- **User Centered Design (UCD):** A framework of processes that is well suited for Drupal's "Ambitious Digital Experience." It is a multistage, problem solving process that breaks down as follows:
    - Discovery
    - Design
    - Definition
    - Development
    - Deploy

Key Concepts

- Lenses
- Progressive Enhancement
- The 10X to 10,000X Cost of Customization
- Smell Tests
- Consultancy Scrum
- The Project Manager Triangle

- ...and then the Estimator

Lenses

Me as an RFP? How Do I Describe Functionality?

Challenges
- We Label
- We See the Whole
- We Abstract Detail
- We Focus on Outcome
- We Focus on Superficial
- We Focus on Experience

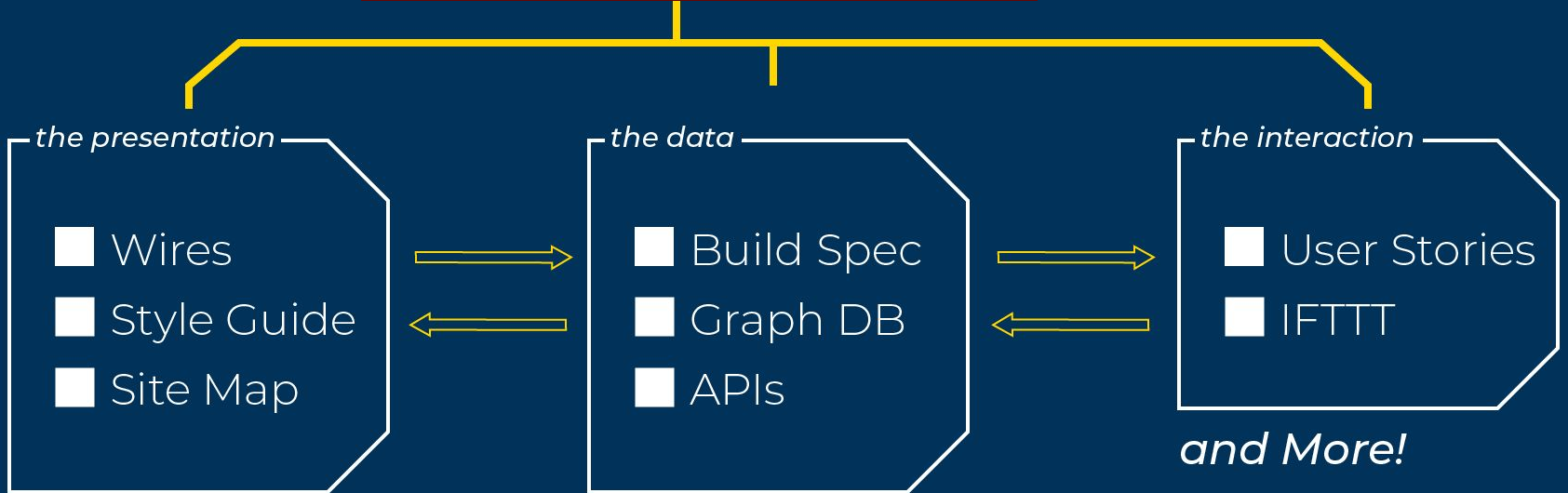But There Are MANY Subsystem of "You"
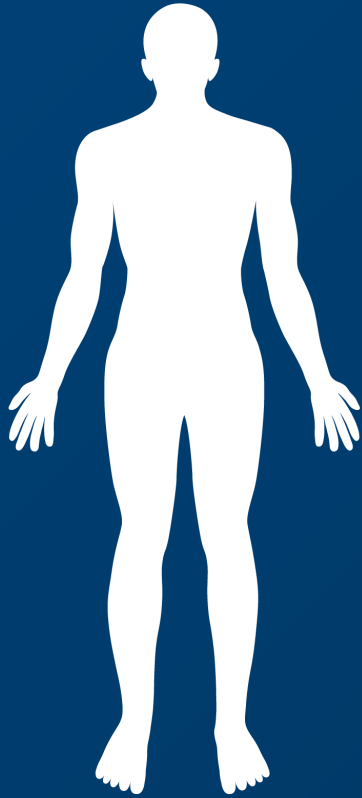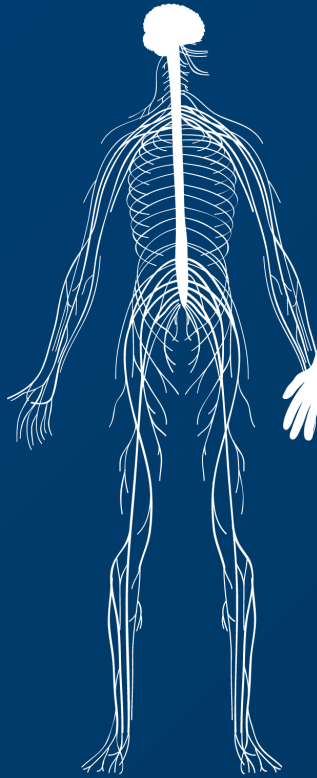
"You"   Nervous   Skeletal   Digestive   Circulatory
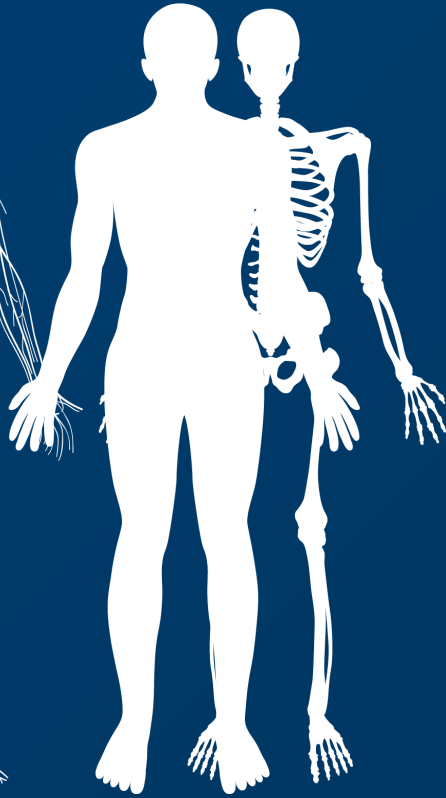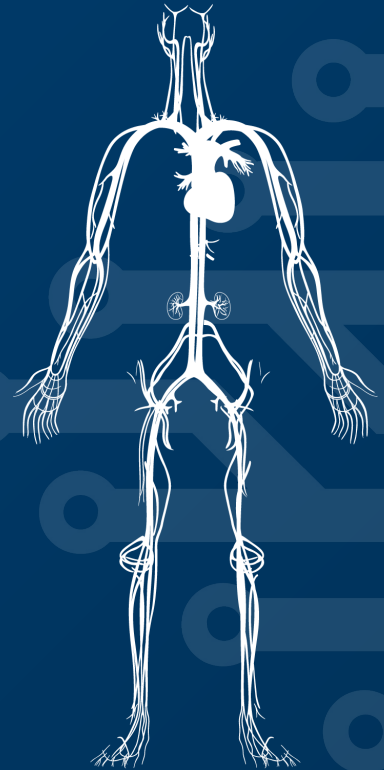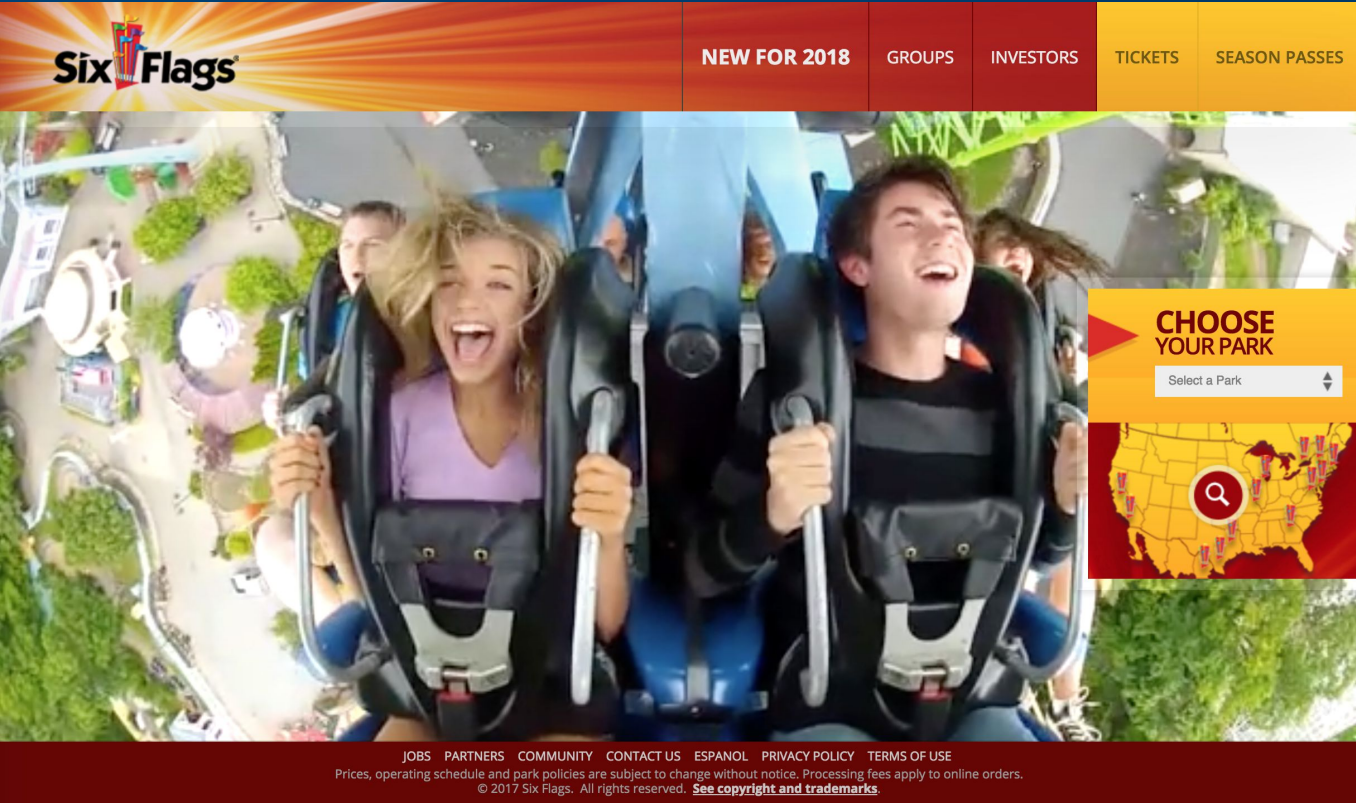
Website RFP? How Do We Surface Subsystems?

The Many Lenses
High Level MVC

the presentation
- ☐ Wires
- ☐ Style Guide
- ☐ Site Map

the data
- ☐ Build Spec
- ☐ Graph DB
- ☐ APIs

the interaction
- ☐ User Stories
- ☐ IFTTT

and More!

Potential Lenses...

- Wireframes
- Mood Boards
- Style Tiles
- Comps
- Prototypes
- Sitemap
- Build Spec/IA
- High Level Features
- User Stories

- Budgets
- Timelines
- Audits
- Brand Strategy
- Business Objectives
- Key Success Factors
- Infrastructure Map
- Editorial Workflow
- Compliance Requirements

Key Takeaways

- A point of a view is a view from a point.
- Each stakeholder has a set of vantage points.
- Each website has multiple subsystems.
- Each subsystem need to be explored.
  - This requires a cross section of your team.
- All subsystems need to integrate back to the whole.

Progressive Enhancement

Features are Cheap; Details Are Expensive

- Simplytest.me can spin up Commerce Kickstart in 1-minute.
- A fully customized solution with 3rd party integrations can easily range from 100 to 10,000 hours.

Let's Do an Experiment

- We'll look at a series of photos with increasing zoom/resolution.
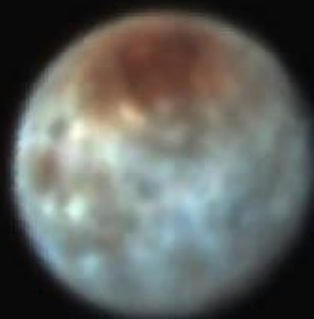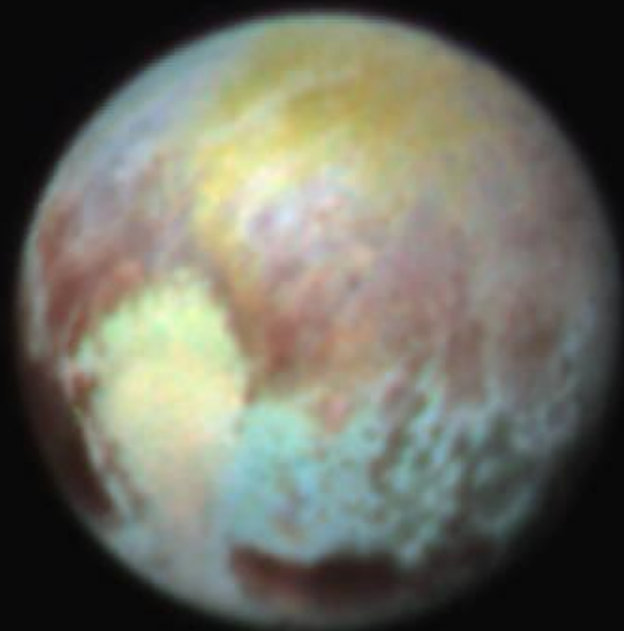- Pay attention to whether complexity increases or decreases.

The "Face" On The Surface of Mars

When More Detail Reveals Less Complexity…

The 10X to 10,000X Cost of Customization

The RFP and the GI Joe Line Item

My Bold Claims:
- Every requirement within a website RFP can be met with a low, medium, or high level of effort (LOE) solution.
- While the difference between the low and high requirement is usually measured in single or double digit percentages (e.g., 1-99%), the difference can sometimes span several orders of magnitude (10X to 10,000X).
- One or two of these massive discrepancies can kill the budget and, as a result, the entire project.
- We can learn a lot by reviewing GI Joe, the line item scenario.

GI Joe Feature Over 5 Orders of Magnitude

- ~ 5 Minutes: Buy on Amazon.com
- ~ 1 Hour: Replace Outfit (Buy Two and Swap)
- ~ 10 Hours: Custom Outfit (Hire Fashion Designer)
- ~ 100 Hours: Custom Size (3D Model and Print)
- ~ 1,000 Hours: All of the Above, Pixel Perfect (Manufacturing)
- ~ 10,000 Hours: Create Your Own GI Joe Printing Press

eCommerce Over 5 Orders of Magnitude

- ~ 5 Minutes: Paypal Buttons
- ~ 1 Hour: Out of the box Shopify
- ~ 10 Hours: Custom Drupal Commerce Kickstart
- ~ 100 Hours: Custom Drupal Commerce
- ~ 1,000 Hours: Full-blown Drupal Commerce w/ERP Integrations.
- ~ 10,000-100,000 AND BEYOND! As complex as you want it.

How to Blow a Budget

- Per-feature accuracy Is Important
- However, one big miss is all it takes to 2x a budget.
- Example:
  - Guesstimate 10 features at 10 hours apiece = 100 hours.
  - If you miss each by 20%, you're off by 20 hours (painful but not lethal).
  - If you are perfect on 9 but 10X the last one, you're at 190 hours (~2X budget).
- Key goals:
  - Rapidly get to the proper order of magnitude.
  - Identify smell tests or sensitive variables that can cross thresholds.

Smell Tests

Smell Tests for Custom

- API
- Integrations
- Extensive Requirements
- Migrations
- Products
- Mobile Apps
- Features with Known Complexity
- Compliance

Know Your Biases

- Customers may overstate needs/wants (scope creep).
- Developers may chase the shiny (gold plating).
- Vendors may be overconfident or unaware of trip points.
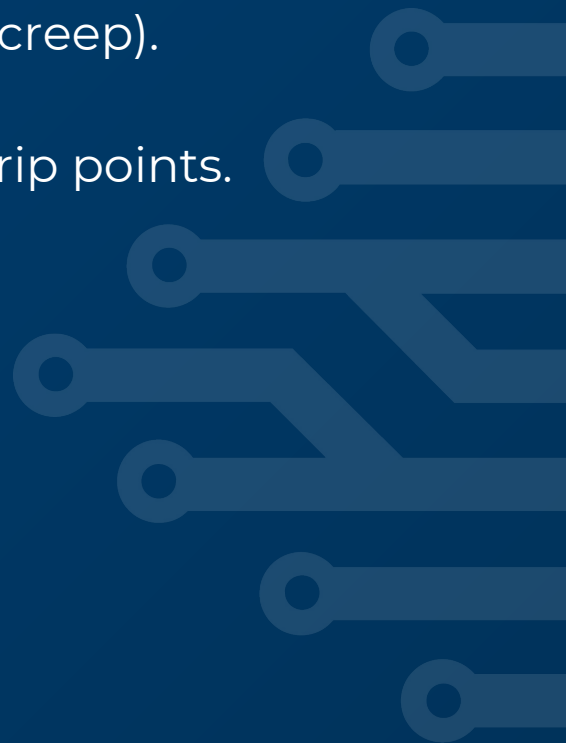
The Project Manager Triangle

How Do We Balance Interplay?

- Features
- Budget
- Timeline

Consultancy Scrum

Balancing Process w/Risk & Expectations

- **Waterfall:** an attempt to avoid risk by over planning.
- **Agile:** an attempt to avoid waste by building sooner, often.
- **Kanban:** an attempt to avoid variance through homogenization.

- Consultancy Scrum: matches process with expectations & risk.
    - Waterfall (Discovery and Design)
    - Agile (Definition, Development, and Deploy)
    - Kanban (Ongoing Deployments)

Bringing It All Together

Summary Thus Far…

- **Lenses:** Websites are complex & multi-faceted. Each vantage point must be evaluated individually and holistically.
- **Progressive Enhancement:** Each lens has multiple levels of detail which surfaces more or less complexity.
- **Cost of Custom:** Drupal provides a lot of out-of-the-box value, but customization can quickly increase costs & break budgets.
- **Constraints:** Features, timeline, & budget are interdependent.
- **Consultancy Scrum:** A process that best fits risk with expectations.

How Can We Solve This Puzzle?

The Estimator TL;DR

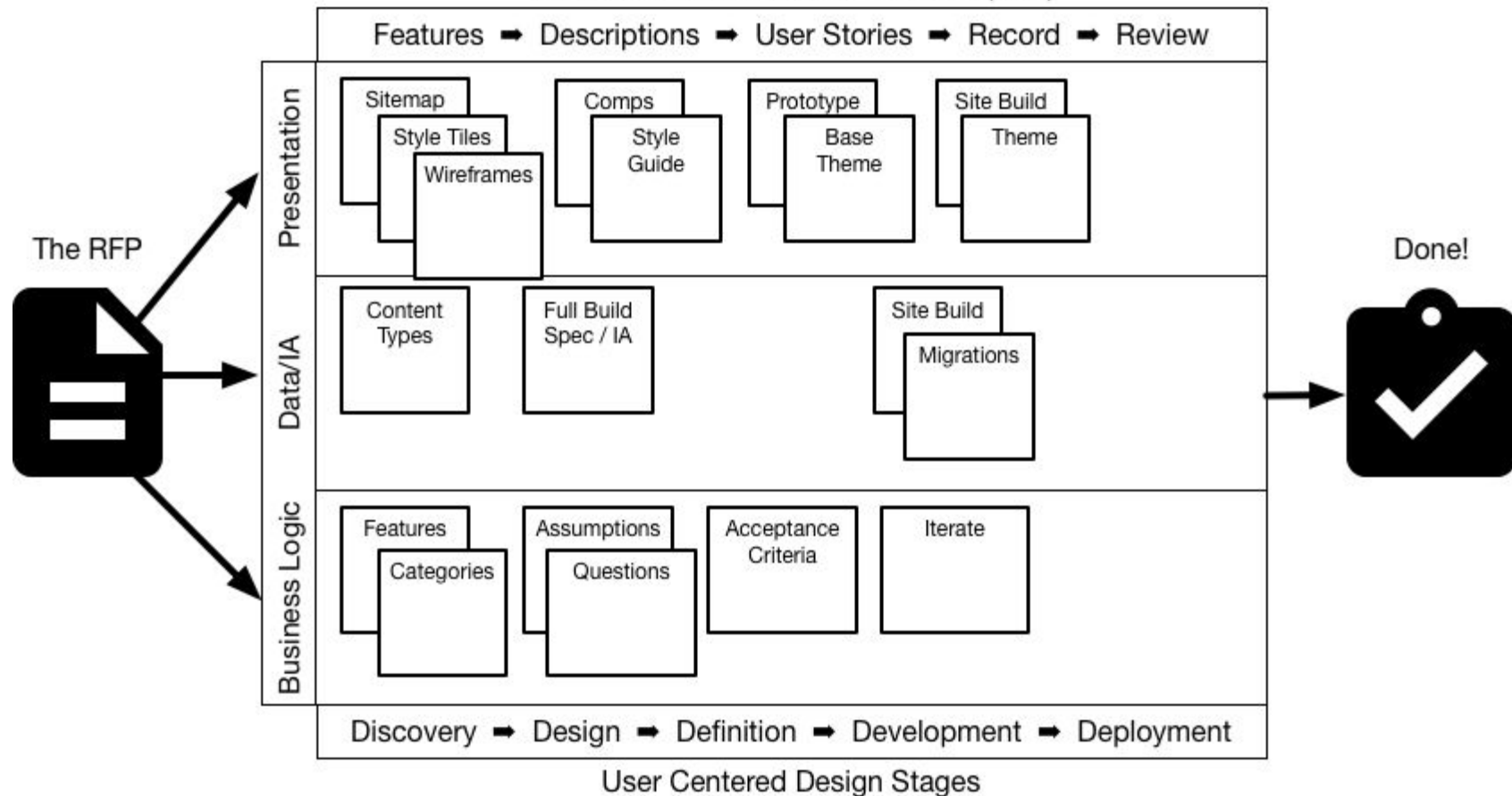- **TL;DR** A Google Sheet with revision history used to create and evolve detail, level of effort, & $ from project inception to launch.
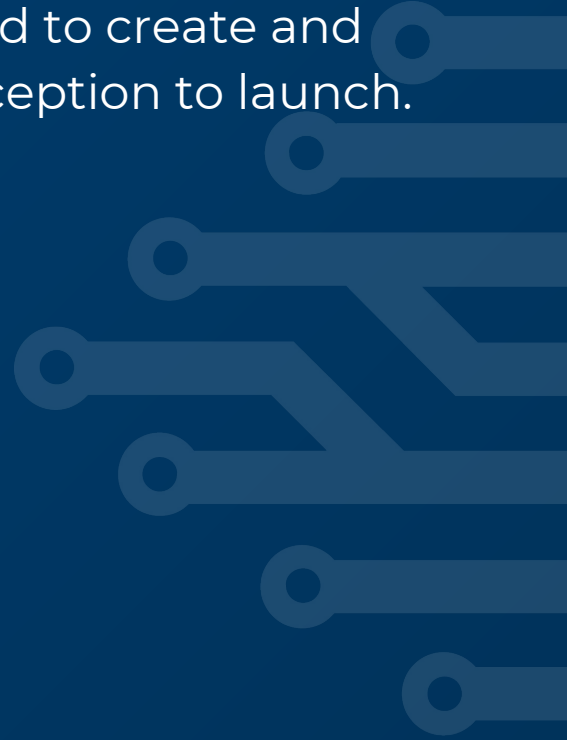
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Level of Detail for Level of Estimate (LOE)

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The RFP

Presentation

- Sitemap
- Style Tiles
- Wireframes
- Comps
- Style Guide
- Prototype
- Base Theme
- Site Build
- Theme

Data/IA

- Content Types
- Full Build Spec / IA
- Site Build
- Migrations

Business Logic

- Features
- Categories
- Assumptions
- Questions
- Acceptance Criteria
- Iterate

Done!

Discovery ➡ Design ➡ Definition ➡ Development ➡ Deployment

User Centered Design Stages

The Estimator: Actions

- **Pre-sales:**
    - Fill out questionnaires
    - Identify features
        - Label
        - SHORT DESCRIPTION
        - Questions
    - Categorize features
    - Estimate Resolution: WAGS (wild ass guesses)
    - Get a sense of budget range(s)
    - Determine if a proper fit
    - Advanced: Split out features into phases

The Estimator: Actions

- **Discovery:**
  - Update features
    - Label
    - 1-2 Sentence Description (Laymen's terms)
    - Initial Assumptions
    - Initial Acceptance Criteria
  - Red/Yellow/Green Highlighting
    - Green = Mandatory and highest ROI within 80% budget target.
    - Yellow = High value but not guaranteed with current budget.
    - Red = Low ROI (high cost, low value) and/or outside of current budget.
    - If a feature crosses 10-100X, split into options and color code!
  - Client collaboration with color coding and sizing up/down.

The Estimator: Actions

- **Design:**
  - Update features
    - See if UXD phase surfaced new features.
    - See if UXD phase resulted in more or less complexity.
  - Red/Yellow/Green Highlighting
    - Lock in actual time and $ values for previous phase.
    - Differentiate NEW features.
    - Review and recategorize colors based on time and budget.

The Estimator: Actions

- **Definition:**
  - Update features
    - Deep dive on acceptance criteria.
    - Ensure self-consistency within and among features/categories.
    - Complete any low effort R&D to confirm assumptions.
  - Red/Yellow/Green Highlighting
    - Lock in actual time and $ values for previous phase.
    - Differentiate NEW features.
    - Review and recategorize colors based on time and budget.

The Estimator: Actions

- **Development:**
  - Update features
    - Record real time spent.
    - Note additional gotchas and changes.
    - Insert line items for new requests.
  - Red/Yellow/Green Highlighting
    - Differentiate NEW features with their own color.
    - Review and recategorize colors based on time and budget.
    - Confirm if budget is on target to move yellow features into green.

The Estimator: Actions

- **Deploy:**
  - Update features
    - Record final values.
  - Red/Yellow/Green Highlighting
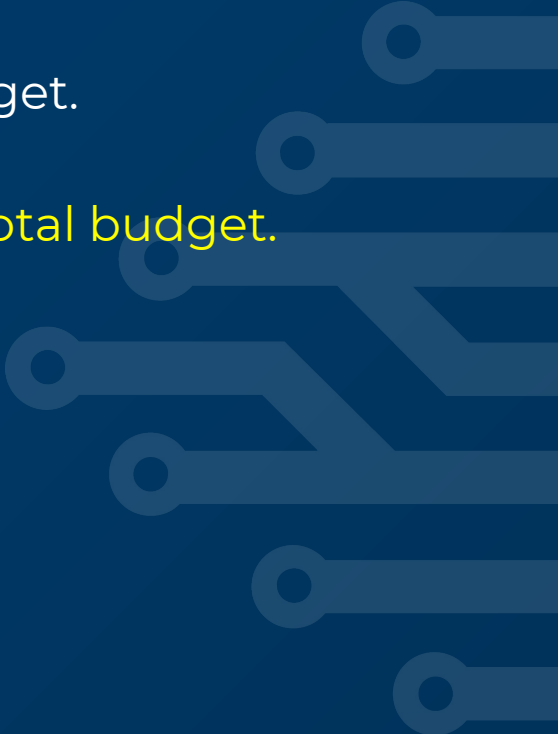   - Clone and lock a snapshot of the dock.
  - Post-mortem

The Estimator: Walkthrough

- The Evolving Estimator v0.1

What I Learned as Rules of Thumb

- Discovery is typically 15% of the budget.
- PM is typically 20% the middle third of the budget.
- QA (integration) is typically 15% of the budget.
- Development is typically less than 40% of the total budget.

The Estimator: Next Steps

- This is my pull request marked "needs review by community."
- My goals:
  - Training, Workshop, or Course
  - Full article with template instructions and a walkthrough.
- Feedback please!
  - https://tinyurl.com/nashville-estimator
  - I'll send you a copy of the article and template when it's published.
  - Questions/feedback will be addressed in a companion, FAQ article.
  - Accelerate your results with a free 30-minute consultation, personal Q&A.