



SPACE
CAMP

Orientation & Overview

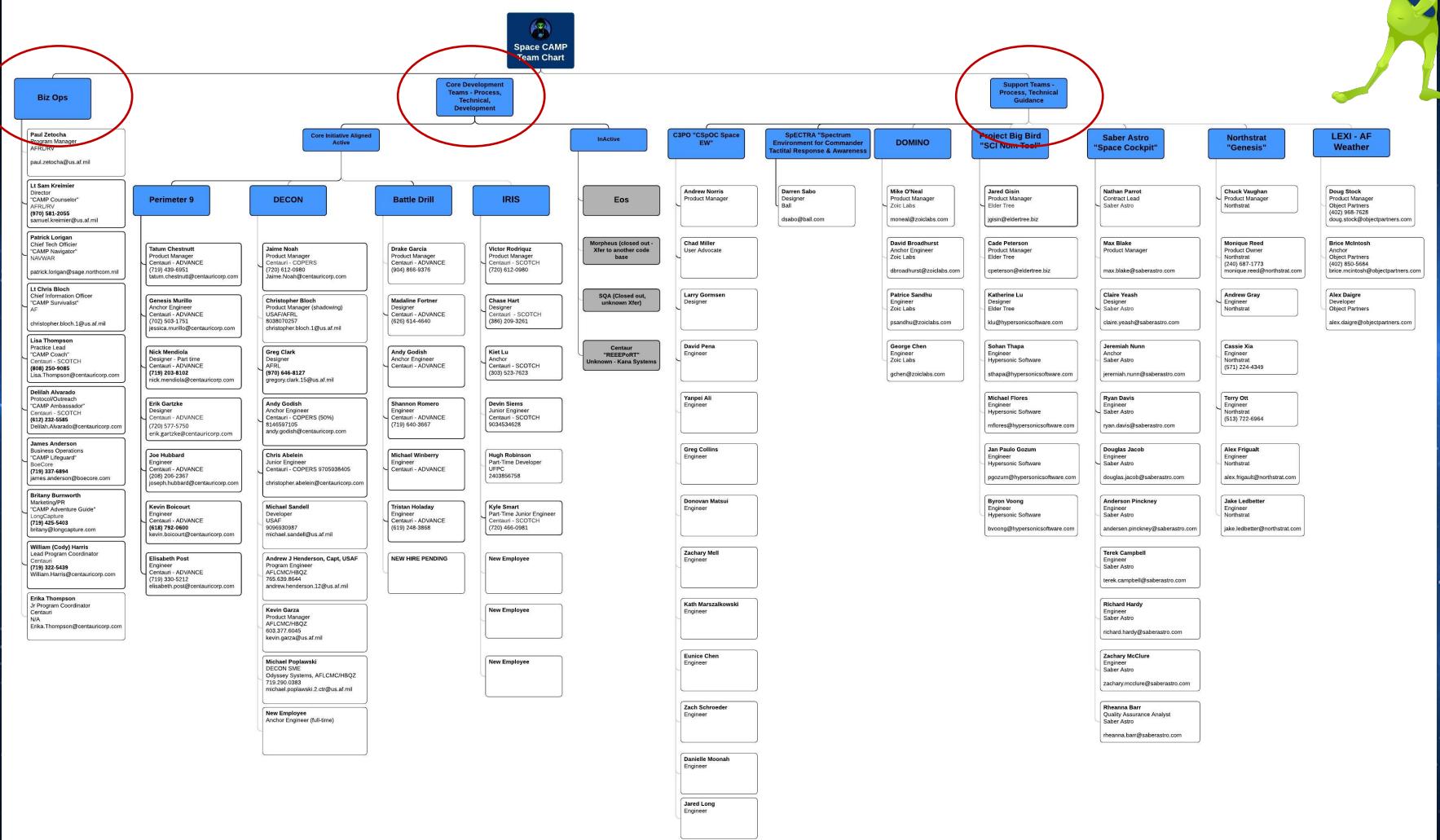


Who's Who? Big Picture...



Biz Ops or Business Operations

- Provides for the care and feeding of Space CAMPers



Core or Internal Dev Teams

- Development managed entirely by Biz Ops

Support Dev Teams

- Biz Ops provides Process and Technical Guidance/ Support but budget is managed externally



CAMP Counselors -- Directors/Program Management



1Lt Sam Kreimier



Paul Zetocha

The CAMP Counselors serve to ensure that the vision of Space CAMP and all of its members continue to advance in a positive and mission-impactful fashion. As our government leadership they focus on the strategic vision internally and externally. CAMP Counselors remove blockers and work to keep CAMP staffed, equipped, well-fed, and happy



CAMP Lifeguard

Business Logistics



TBD

Ensures Space CAMP business operations run smoothly this includes ensuring systems, equipment, and logistics are running smoothly to keep Space CAMP operating as a well-oiled machine.



CAMP Coach

Process Practice Lead



Lisa Thompson

Supports, guides, coaches, and mentors' individuals and teams on Agile practices. Works with Dev/PM/Design medics to ensure teams can execute their products with an Agile mindset. Additionally leads the Training & Leadership initiative to provide guidance and education on Agile best practices.

CAMP Ambassador

Protocol / Public Outreach



Delilah Alvarado

The Ambassador oversees internal functions and external outreach. They are the Protocol Officer and relationship builder. Managing and coordinating engagements internal and external to Space CAMP and work with the team to develop strategies and plans to involve community partners.

Navigator

Chief Technology Officer



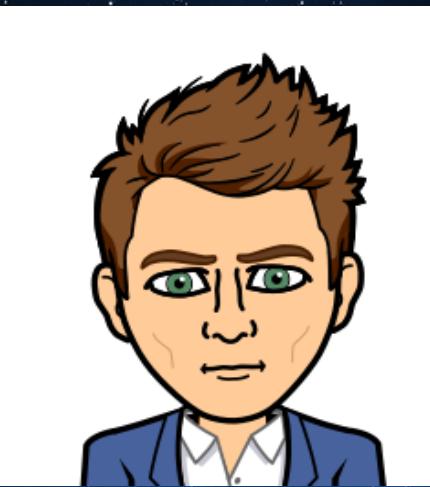
Patrick Lorigan

Responsible for executing our technical strategy in alignment with the CAMP Counselor's vision. Along with Medics and the Survivalist, they aid teams with architecture decisions, engineering support and general problem-solving. Also serve a key liaison to Platform One.



Survivalist

Chief Info Security Officer



1Lt Chris Block

Primary focus is on the information security of CAMP. The CISO and his team works closely with the platform team to introduce and maintain security tools that ensure the integrity of the products being developed. They are constantly looking for improved ways to build secure products.

Adventure Guide

Marketing/PR



Britany B

Oversees public information sharing and marketing initiatives ensuring that information shared is appropriate and within the public affairs guidelines.

CAMP Medics

Technology, Design, and & PM Guidance Counselors

CAMP Medics are both Process Experts and Senior PMs, Engineers, or Designers that support one or more teams. They spend much of their time embedded on a specific product team working in their respective Balance Team function so they can maintain relevancy with the processes and team members. Medic responsibilities should never consume more than 25% of their overall time. A military medic goes to where the wounded soldier is on the battlefield. The same should be true as a Space CAMP Medic, they should meet the Space CAMPer at their level in an attitude of empathy and training. The goal of CAMP Medics is to train everyone else to be a Medic.



Michael Winberry
Dev Medic

Michael.Winberry@centauricorp.com



Jaime Noah
PM Medic

Jaime.Noah@centauricorp.com



Greg Clark
Designer Medic
Gregory.clark.15@us.af.mil



Space CAMP Culture

Mission, Vision, Values, & Principles

[Click here to watch video before reviewing our
Mission, Vision, Values, & Principles](#)



Our Mission (Purpose)

Pioneering an eco-system that accelerates dynamic solutions from discovery through deployment

We cannot solve our problems with the same thinking we used when we created them

~Albert Einstein





**What does the Space
CAMP Mission mean to
you and what your team
is working on?**



Our Vision

To transform the digital work force through agile rapid software development, collaborative innovation, and servant leadership

If you want to build a ship, don't herd people together to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.

~Antoine de
Saint-Exupery
Aviator/Author (BKF:
The Little Prince)





**How important is it
for a team to have a
vision?**



Our Values

People

We value people above process. Our team members are the sources of our success. We are committed to creating a culture where every person's voice is heard and each member has the resources and support they need to develop and master their craft.

Servant Leadership

We believe a leader must be committed to putting themselves last, focusing on the greatness of others, respecting people's needs to be fully human, having the courage to speak the truth, being open to their vulnerabilities, and being present only to serve the organization.

Learn Fast & Grow

We know how to take calculated risks that allow us to learn and pivot toward the right solution to meet mission needs quickly. Creating a culture where "I don't know" is acceptable as long as we work together to find the answer.

Challenge Culture

We challenge the status quo. Each of our team members is encouraged to provide feedback and ideas regarding our processes, technology, products, and each other's activities to ensure we are constantly improving our performance, ourselves and our organization.

Effectiveness
without values is a
tool without a
purpose

~Edward de Bono
Author/Inventor





Which values do
you think are most
important?



Our Principles

Psychological Safety <p>Foster an environment where everyone feels safe and secure to express their ideas without the threat of negative consequences.</p>	Operator Success <p>The operator, the user, and the customer are at the core of everything we do – their success is our success.</p>	Adaptability <p>We live in a world where constant change is the expected pace. The unofficial motto of Space CAMP is the Marine Corps “Semper Gumby” or to always stay flexible.</p>
Tolerance <p>A high form of respect, acceptance, and appreciation of the rich diversity of our community of talented and dedicated people.</p>	Ownership <p>It's simple: people take care for what they own - people don't wash rented cars. When people feel ownership, they are proactive and seek solutions not excuses</p>	Accountability <p>We empower our people to do what needs to be done. With this, we also hold people accountable for their actions and results.</p>
Transparency <p>Information flows freely between teams and leadership, in a way that everyone understands Space CAMP's goals, and how these goals align with their work.</p>	Empathy <p>We always take the time to learn our user's experience, understand their pain points, and view solutions from their perspective.</p>	Honesty & Humility <p>We are conscious of our own shortcomings and not afraid to ask for help or admit when we were wrong.</p>
Humor <p>We like to keep it light-hearted around here. Be who you are, even if it means being a little goofy from time to time</p>	Integrity <p>We do what is right for our customers and for each other, even at the cost of our own convenience.</p>	Curiosity <p>We embrace the required attitude to expand beyond our limits of current knowledge.</p>





Which three principles
do you think are most
important for a team?



Space CAMP Initiatives



**Enabling
Space
Operations**



**Urgent
Needs**



**Training &
Leadership**



**Digital
Transformation**



**Research &
Development**





Enabling Space Ops

Space CAMP is being incorporated into Space Force to support the development of mission critical needs. The Enabling Space Ops Mission area focuses on:

- Turning mission needs/gaps into interoperable digital capabilities
- Partnering with current programs of record and other organizations
- Keeping Space Force moving forward with a digital mindset to keep it outfitted with capabilities to stay ahead of our adversaries and ensure our success in Space.

Examples

- Battle Drill – Workflow Management
- Eos – Mission Readiness





Urgent Needs

Developing real-time urgent need applications as they arise through customer discovery.

- This includes working development of applications that may not be associated with a Program Office or for some reason cannot be developed through more traditional DoD mechanisms

Examples

- Apps
 - Perimeter 9
 - REEEPoRT
 - Battle Drill
- Enabled by
 - Problem Curation Workshops
 - Design Sprints





Training & Leadership

Our first initiative is focused on shepherding the next generation of developers and leaders through the rough terrain toward adoption of agile, lean, and DevSecOps practices.

- Coaching, Mentoring, and educating our mission partners
 - Provide workshops and shadowing opportunities to learn how to practically implement Agile methods
- Fostering a mindset of learn fast, grow, and iterate
 - Providing reach back for any user, stakeholder, or other partner to help with adoption of new methods

Examples

- Digital Airman Internships
- Support to the Combat Development Divisions
- Collaboration with Platform One





Digital Transformation

Space CAMP has the experience to provide program offices guidance through the adoption of newer development technologies and through our Digital Transformation Mission initiative we:

- Provide diagnostics/evaluation of older systems to determine feasibility of adoption of modernization efforts on a system-by-system basis
- Have processes and pipelines available for taking old legacy systems deemed feasible and update, modernizing and deploy them.

Examples

- AFLCMC Laser Deconfliction System - DECON
- Spiner/Morpheus (MIT/LL Nyx transition)





Transitioning R&D

The purpose of this initiative is to create an atmosphere of pure innovation. There is a “valley of death” for most research efforts and Space CAMP is here to provide support and guidance in process and technical to the R&D community and efforts to aide in the transition to operational relevant capabilities to so this we:

- Provide support to SBIR teams development space related capabilities
- Partner with the SAC-T/Dragon Army to support live operational testing and evaluation of tools

Examples

- Space Cockpit
- SBIR Partnerships



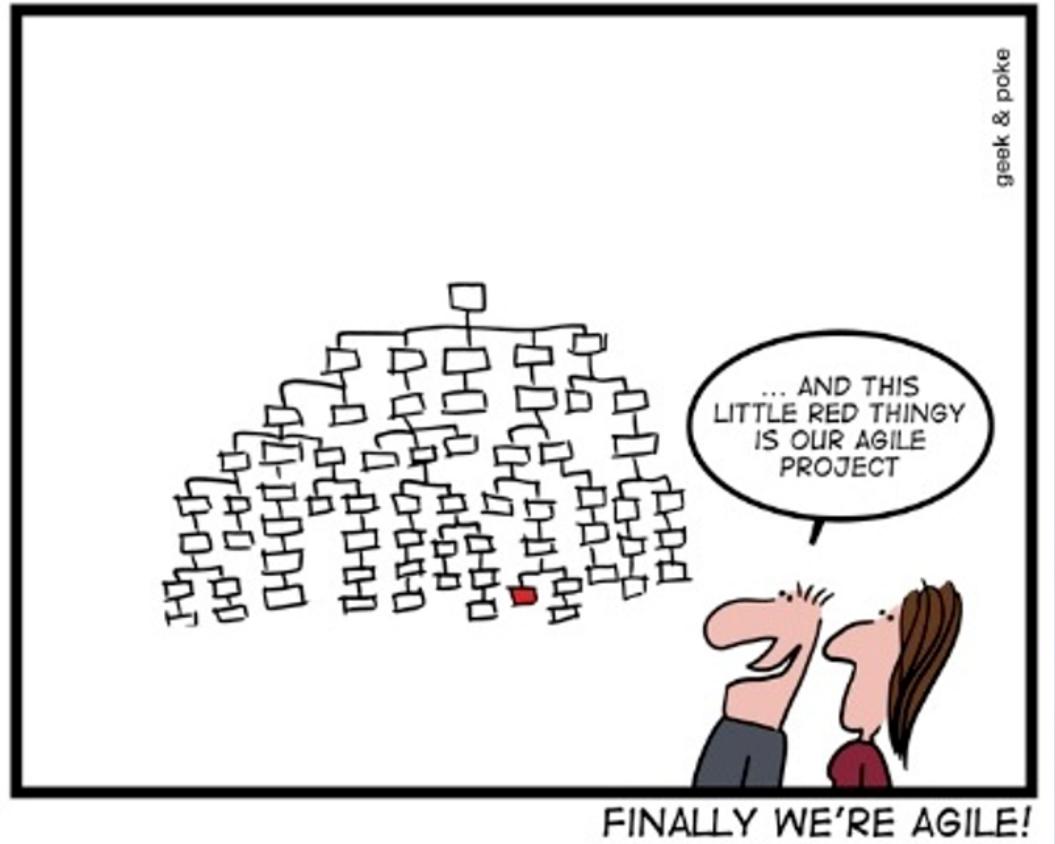


Agile Organization and Team Dynamics

How is Space CAMP fostering Agile for the Space Force, what you need to know about our role and how we run as an Agile self guided organization



Let's be real, Agile is easy to understand but hard to adopt!



Source and additional reading: <https://www.linkedin.com/pulse/beyond-agile-why-hasnt-fixed-your-problems-jurriaan-kamer/>

Videos to Watch Click to open:

[What is the difference between Agile and Waterfall.](#)

[What is Agile?](#)

[What is Agile Transformation?](#)

[What is the problem with Agile?](#)





Helping others adopt an Agile mindset is one of Space CAMP's key initiatives. Now that you have a better understanding of what Agile is how do you think you can help grow the community?

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Principles behind the Agile Manifesto

We follow these principles:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

The Pitfalls to Avoid in a Flat Organization

- Power Hides
 - Less formality can be a breeding ground for power plays using personal influence, insider status, friendships, and personal preference
- The Loudest Voice Prevails
 - Toxic insider-outsider dynamic can flourish
- Blurred Boundaries
 - Processes become lost in the speed to succeed
 - Individual Career goals, Skill growth and Training, and Compliance are examples of things that can get lost

Source: <https://diamondleadership.com/challenges-of-flat-organizations/>

1. Emphasize transparency
2. Set the tone at the top
3. Prioritize professionalism
4. Don't skimp on people operations



Key Strategies to being a team at Space CAMP



Balanced Teams

[Watch full video on Balanced Team Implementation](#)

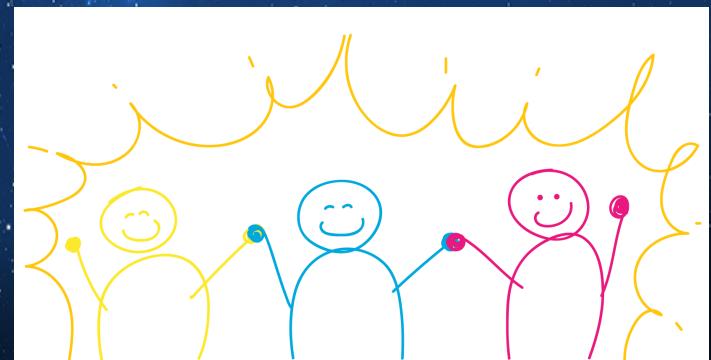
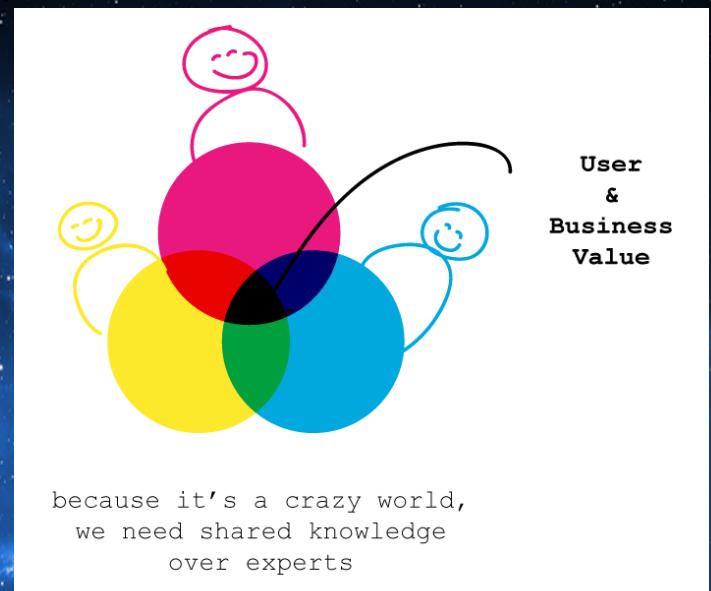
- Where did this come from?

- Balanced Team is a global movement of people who value multi-disciplinary collaboration and iterative delivery focused on customer value as a source for innovation. <http://www.balancedteam.org>
 - They have inspired a different way to organize our teams
 - Mainstream implementation by Pivotal Labs
 - Space CAMP also joined this movement to grow the adoption of the Balanced Team methodology and bringing more awareness to the AF & now Space Force

- What is it?

- A balanced team is an autonomous group of people with a variety of skills and perspectives that support each other toward a shared goal. It has all the resources and authority it needs to complete projects on its own. [Trust and Balance Article](#) (Jim Thomson, Pivotal Labs)

Additional reading: [Why Balanced Teams work better together](#) (Pam Dineva, Pivotal Labs)



Balanced Team

- Three main roles:
 - Product Manager
 - User Experience Designer
 - Developer/System Engineer
- Team make up:
 - 1 Product Manager
 - 1 Designer
 - At least two developers (optimally no more than 6 developers)



User Experience Designer

- User research
 - Workflow – current and future
 - Mission objectives – user pain points/challenges
- Cohesiveness of the UI
 - Can the user do what they need to do to support their mission – validation of solution
- Support PM and Developers in User Story writing and delivery
- Represent User to the team



Primary
Service to
the Team

Keep focus
on Users



Developer

Anchor

- Team ambassador for product and P1.
- Stays with a single product for the full development cycle.
- Facilitates architecture decisions with dev team
- Provides final word in case of dev team disagreement

Developers

- Help point user stories with PM
- Evaluate tech direction
- Code in pairs and use TDD
- Work with designers to ensure that what is proposed can be built



Product Manager (PM)

- Influence without any authority
- Empower team members to be product owners
- Iterative Planning process champion
 - User Stories, Road Map, IPM, Prioritization
- Identify & track metrics that matter
- De-risk product direction – keep alignment with mission needs
- Team logistics



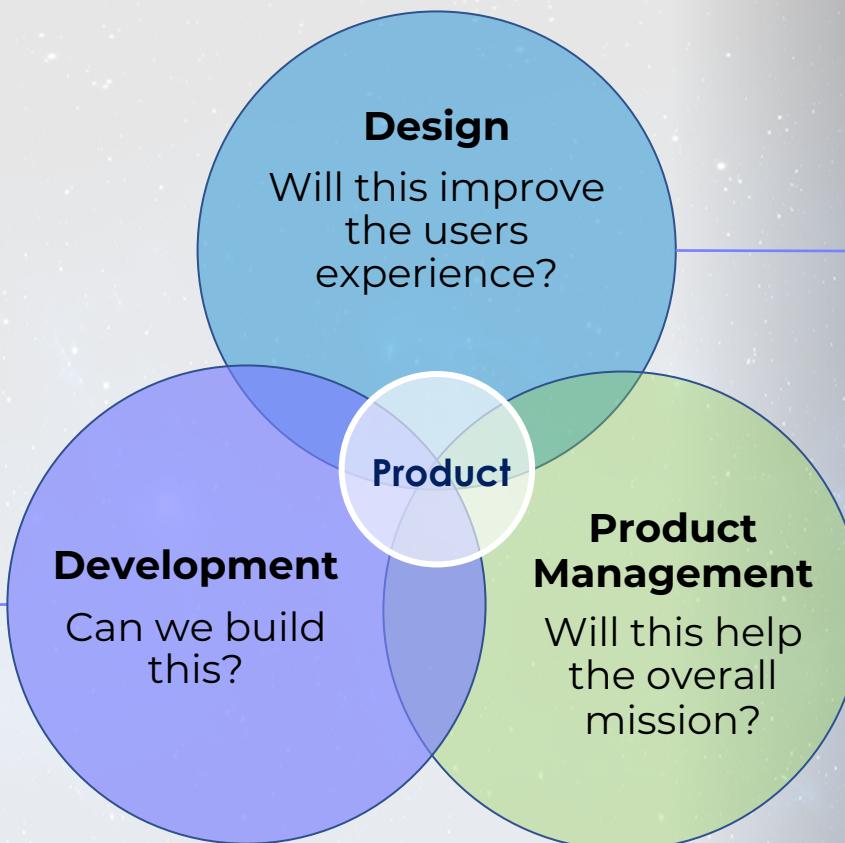
Primary
Service to
the Team

Remove
Blockers





Feasibility
What are the technical complexities we need to understand to build the product? How can we build incrementally and respond to change?



Desirable
What pains are the users facing today? How can we solve those pains? Are they able to use the solutions effectively? Will they adopt this product?

Viable
By solving these specific user problems with these specific solutions, are we creating valuable mission outcomes? How might we measure those outcomes?

Balanced Teams

=

Balanced Products





Product Management

Lean/Agile Leadership

Reducing the risk of building the wrong thing while comfortably changing direction

PRACTICES

- Minimum Viable Product (MVP) definition
- Value Stream Mapping
- Value Prioritization
- Data driven decisions



Design

User Centered Design

Ensuring the software solves a real problem for real users in a desirable and usable product.

PRACTICES

- User Interviews
- Ethnographic studies
- Persona definition
- Prototype creation
- User testing



Engineering

Building working software at a consistent speed and quality in the face of changing requirements

PRACTICES

- Paired Programming
- Test-Driven Development
- Short iterations
- Continuous Integration/Continuous Deployment

eXtreme Programming (XP)





- IDEA
- Pre-D&F
 - Hypothesis for idea
 - Resource asks

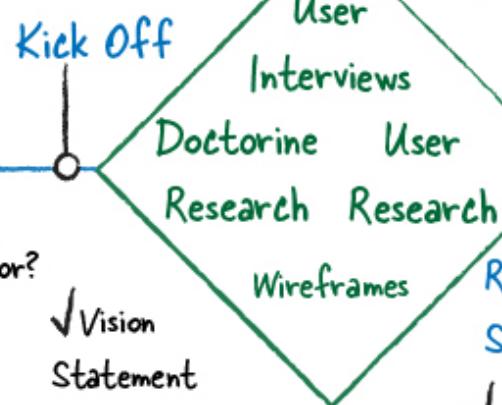
Scoping

- Who are we doing it for?
 - Stakeholder Engagement
 - Ops SME Engagement
 - Identify Users



- What do we know about the problem?
 - Assumptions

Kick Off



Discovery of Problems

Understanding Why



Framing of Solutions

STOP Here if no user value has been found!!!



Inception

- ✓ Write User Stories



Devs working on tech stack based on assumptions & discovery

Iterations



Rinse and Repeat
for new features
and as needed



SPACE
CAMP

Minimum Viable Product (MVP)

A **minimum viable product** (MVP) is a version of a product with just enough features to be usable by early customers who can then provide feedback for future product development.

Purpose:

- Be able to test a product hypothesis with minimal resources
- Accelerate learning
- Reduce wasted engineering hours
- Get the product in the hands of user as soon as possible

Key Elements:

- Functionality – the set of features must deliver clear value to the user
- Design – the design of the MVP must be up to the highest industry standard
- Reliability – production quality standard needs to be achieved by rigorous testing
- Usability – the MVP must be easy to use and intuitive



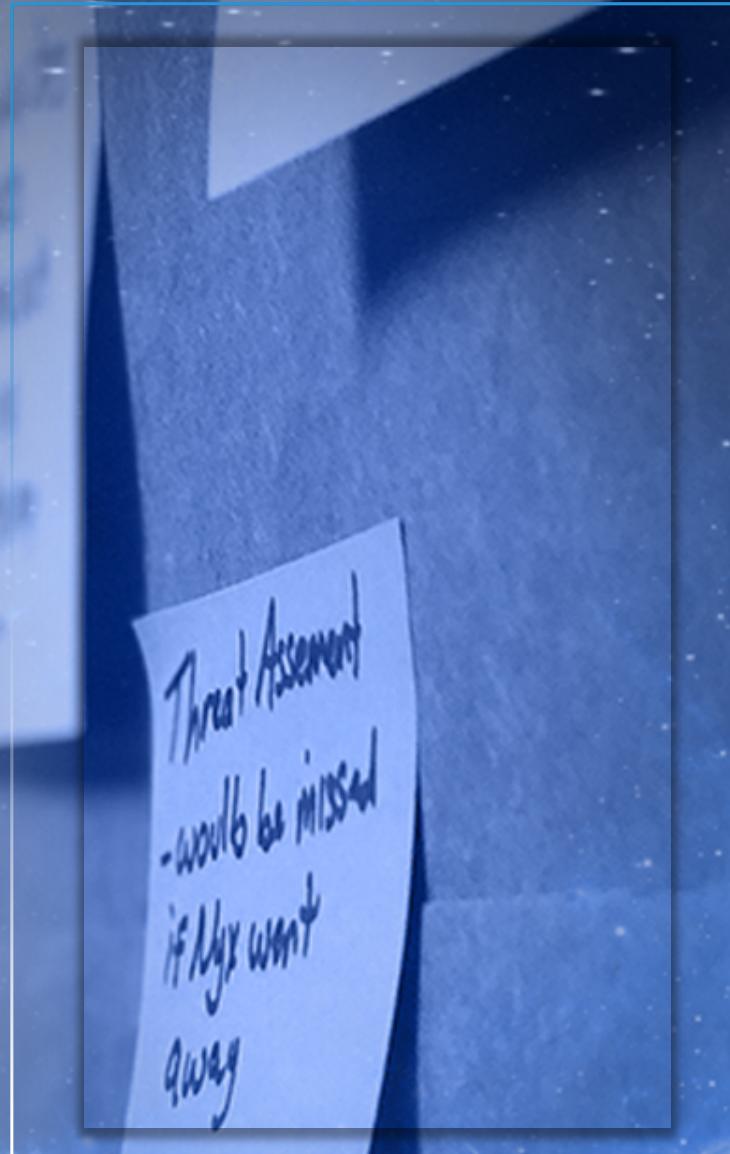
Minimum Acceptable Product (MAP)

Purpose

- Provide a complete set of capabilities that can stand alone
- Support the Ops Acceptance processes to get key capabilities in the hands of operators
- Support current operations and processes without disruption

Key Elements

- Contain the “Have tos” to complete full slices of user/stakeholder defined mission capabilities
- Must contain complete workflows
- Needs to have critical data feeds that need to be connected. What does the operation need to do their basic mission, even if it’s manual entry.
- If development was stopped after deliver of MAP operator will have a useable set of features that provide value to their current workflows



Stakeholder/User Interviews

- Interviews give insights into “what users think” about a process, an existing tool, or a prototype/idea
 - UX Designers typically plan/lead this research method
 - A PM and/or Dev are typically included to observe
- Just a few Interview best practices
 - Set a clear goal and write a Research Plan/Interview guide
 - Make the user feel as comfortable as possible, Create rapport – limit number of people in the room, this is not an inquisition
 - Avoid leading, closed, or vague questions



Understanding Needs versus Gathering Requirements



User personas

- Basic Demographics
- Job Roles
- Workflow Focused
- Why bother?
 - Communication Tool
 - Create Empathy with the team
 - Shared understanding
 - It can be fun



PRIMARY PERSONA:
NEWBIE BSA OPERATOR



"Conceptually I know what's going on, but I need to be able to sit down and use the interface."

Years Space Focus: <3 yrs

GOALS

- To be successful with the mission

FRUSTRATIONS

- I need to know who or what to go to when I need help
- I want accessibility to help info
- I want an interface that's not overwhelming
- I need a very simple UI that makes difficult tasks easy

WORKFLOW

- Less Proficient w/NSDC Tools and Processes
- Unsatisfied w/Tools

PRIMARY PERSONA:
PEPPER Potts



"I come down here to help."

Years Space Focus: <10 yrs

GOALS

- I need to create satellite specific reporting
- I want to figure out the questions and how the tools will be used to answer them
- I want to develop procedures for the tools we need.

FRUSTRATIONS

- I need to answer difficult questions
- I don't have time to figure out the 'so what' because I am busy manually building reports.

WORKFLOW

- Less Proficient w/NSDC Tools and Processes
- Unsatisfied w/Tools



"Contrary to popular belief,

Years Space Focus: >10 yrs

GOALS

- I want to manage the analysis uncertainties in space
- The ability to run scenarios
- I need access to raw data

FRUSTRATIONS

- Lack of speed
- Tools not talking to each other
- Exchanging data between systems

WORKFLOW

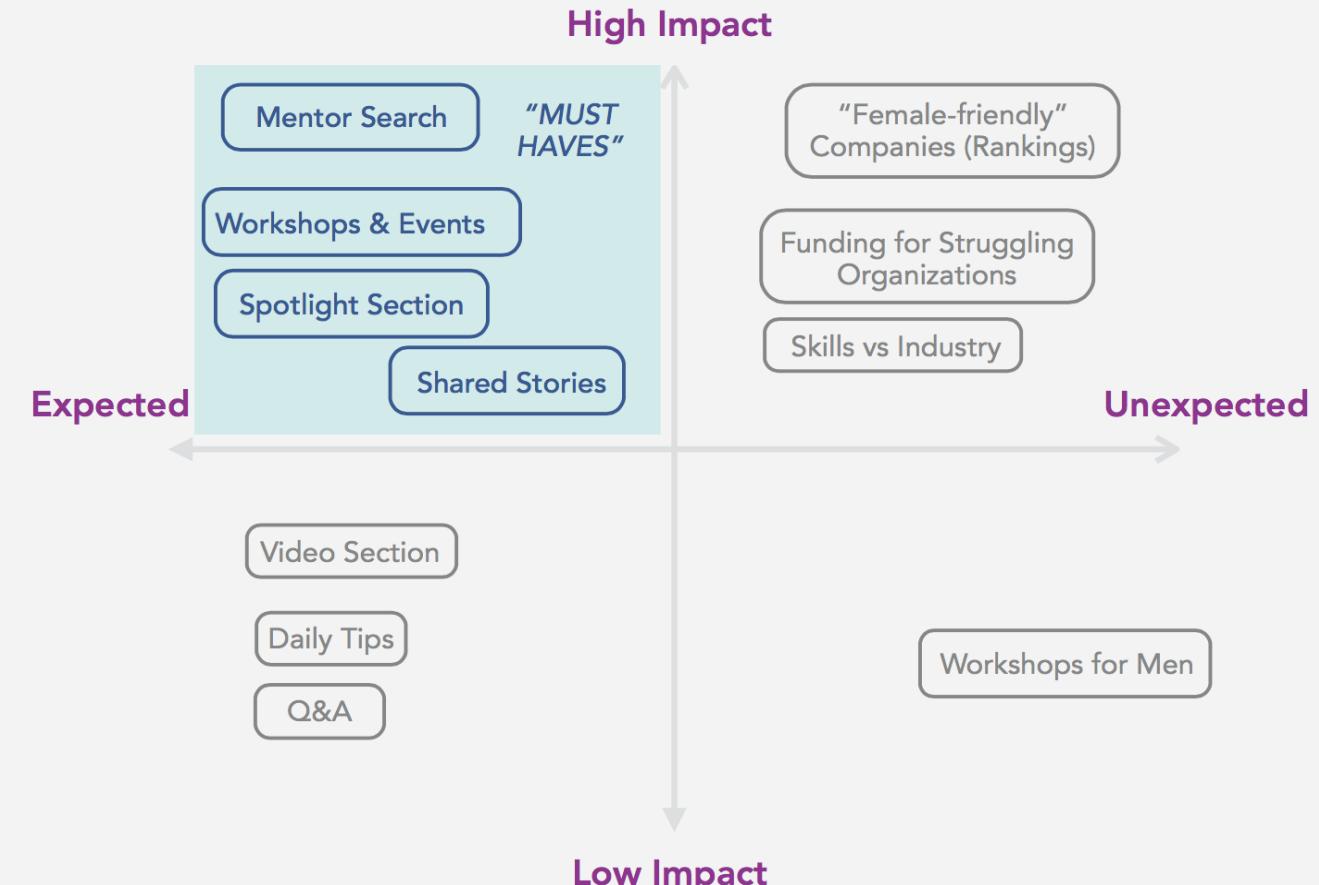
- Extremely advanced analysis
- Custom output required

Feature Prioritization 2X2

Most common type of feature prioritization

- (Also related: scatter plot charts, SWOT analysis)
- Choose your sorting criteria carefully
 - Some options: effort vs. impact, bang vs. buck, ux value vs. tech value, meets user goals vs. meets biz goals, desirability vs. feasibility, expected vs. unexpected

FEATURE PRIORITIZATION



User Stories



User stories help to shift the focus from writing about requirements to talking about them. They are a couple sentences and they follow a conversational tone

As a [type of user],
I want [some goal] so that [some reason].



INVEST Test

- Describe a feature
- Follow INVEST guidelines:
 - Independent (of all others)
 - Negotiable (not a specific contract for features)
 - Valuable (or vertical)
 - Estimable (to a good approximation)
 - Sized (to fit in an iteration)
 - Testable (even if a test doesn't exist)



The Iteration

An **Iteration** is planning and development cycle – spanning one week. An iterative and incremental process allowing for change as the team learns about user needs, business goals, and technical implementation.

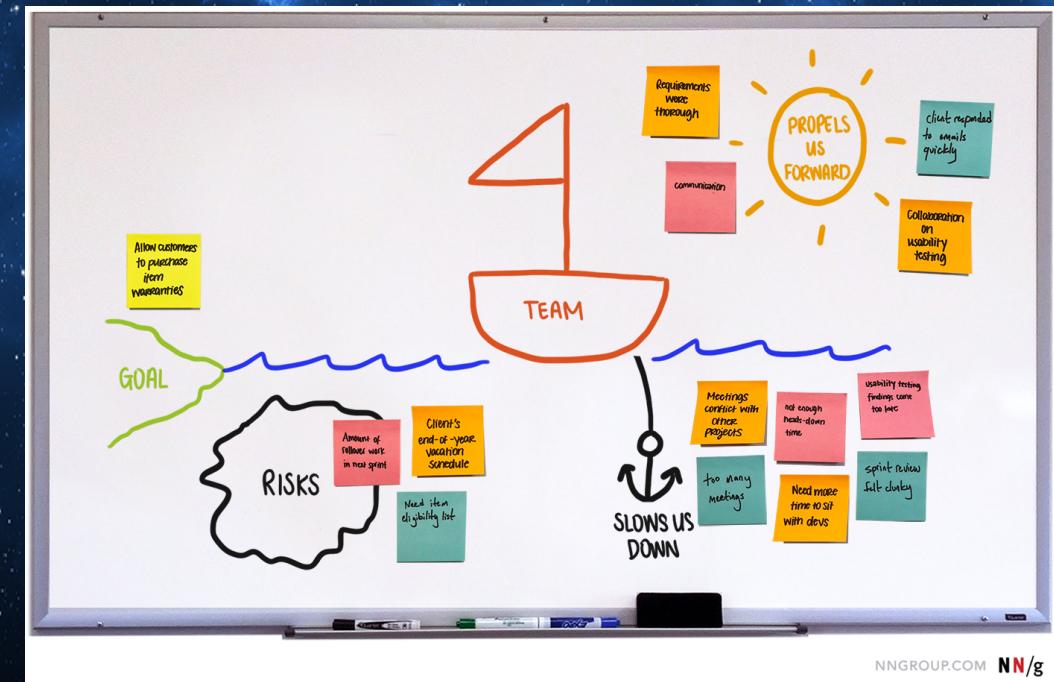
- Iteration Planning Meeting (IPM)
 - User stories are chosen – typically at a Pre-IPM (PM, Anchor, Designer) – each story must have an acceptance criteria (a list of specific tests & expected behaviors from the user's perspective that the application must pass in order for the story to be complete)
 - Stories are pointed or weighted
 - Scales – Powers of 2 (0, 1, 2, 4, 8)/Fibonacci (0,1,2,3,5,8)/Linear (0,1,2,3) – A rating of the 4 level or higher needs to be broken down
 - Project velocity = sum total of the stories in that iteration

- **Backlog:** *Prioritized stories planned for current iteration*
- **Epics:** *A collection of stories that are associated with a release*
- **Icebox :** *User Stories that have not been prioritized*



Retrospective

- Project teams can run this at the end of each iteration or at a cadence that it brings value
- Here is a great reference:
<https://www.atlassian.com/team-playbook/plays/retrospective>



NNGROUP.COM NN/g



Platform One & You

- Deployment Platform
- CATO / CTF
- CI/CD Pipelines
- Security Standards
- Code Quality Standards
- Authorization
- Deployment Levels
- P1 takes care of deployment details so we can take care of our customer.



P1 Training and Onboarding Options

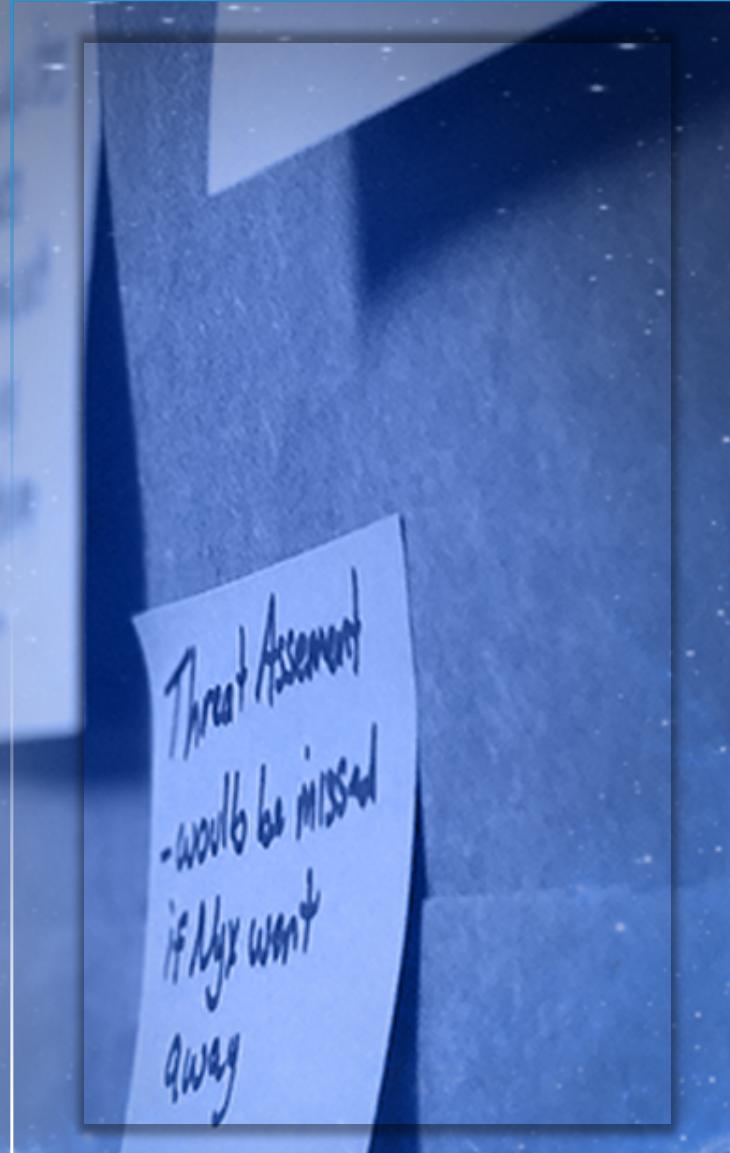
Go to <https://p1.dsop.io/#/services> for a full list and status:

- 3-day Platform Workshop



Additional Reading/Resources

- For everyone:
 - Extreme Programming Explained, Ken Beck
- Product Managers
 - Agile Leadership Toolkit
 - Lean Thinking
 - Agile and Lean Project Management <https://www.pmi.org/learning/library/agile-lean-project-management-formality-7992>
 - PM Medic
 - Jaime Noah
- UX Designers
 - The Design of Everyday Things, Don Norman
 - UX Research, Brand Nunnally & Dave Farkas
 - Don't Make Me Think, Steve Krug
 - Design Medic
 - Greg Clark
- Developers
 - Clean Code
 - Developer Medic
 - Michael Winberry
 - Apparitors' Developer Club
 - Contact Tristan Holaday



Questions?

