



**DIGITAL
WEB
SERVICES
NETWORK**

Bringing together digital product
managers, designers, and engineers.

cdt.ca.gov/dwsn

DWSN Quarterly Forum

Thursday, October 20, 2022



California
DEPARTMENT OF TECHNOLOGY
STRATEGY INNOVATION DELIVERY



Digital Web Services Network

- Welcome to the DWSN forum, we will begin promptly shortly.
- For the best experience, please use your computer to join the meeting.
- Mute your audio.
- Turn off your video.
- Use the raise hand button or the meeting chat for comments and questions.

DWSN Forum Agenda

Opening Remarks.....	Blaine Wasylikiw (5 minutes)
Using Human-Centered Design to Solve Public Problems.....	Chaeny Emanavin (25 minutes)
CDT Office of Critical Services Stabilization Program.....	Tracy Lee, Sergio Gomez, Ila Zapanta (20 minutes)
Big Ideas	Blaine Wasylikiw (10 minutes)
2023 Accessibility Certification Update.....	Greg Duncan (10 minutes)
Google Analytics 4 Update.....	Linda Tracy (10 minutes)
State Web Template Update	Art Khomishen (5 minutes)
Suggested Future Topics / Closing Remarks.....	Blaine Wasylikiw (5 minutes)

Using Human-Centered Design Driven Product Management to Solve Public Problems

By Chaeny Emanavin

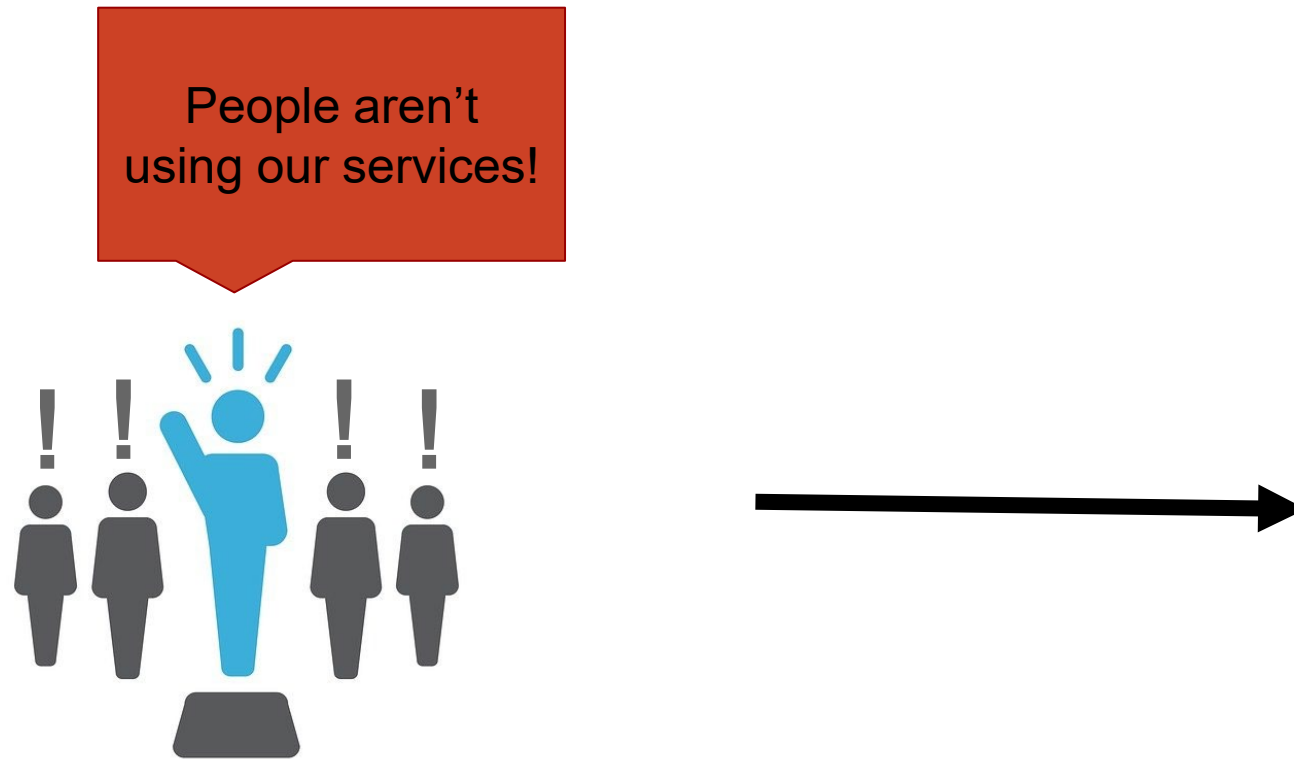
Why do products or efforts go bad?

?

?

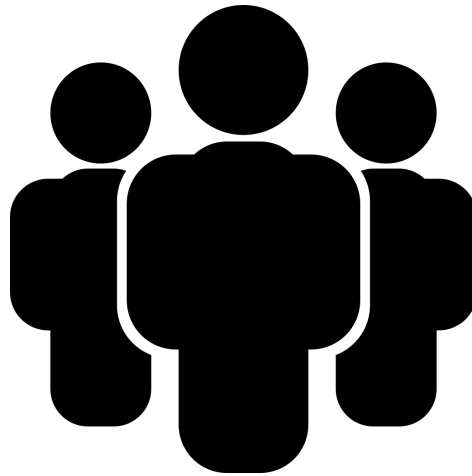
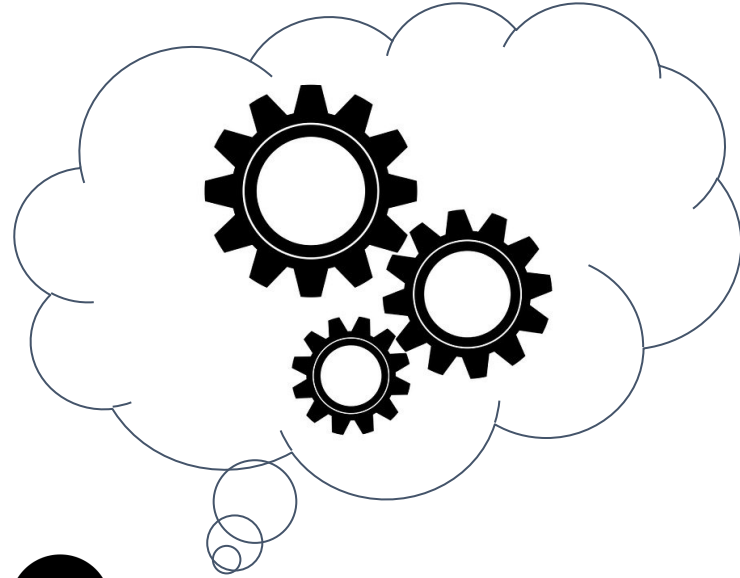
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An Issue is Identified

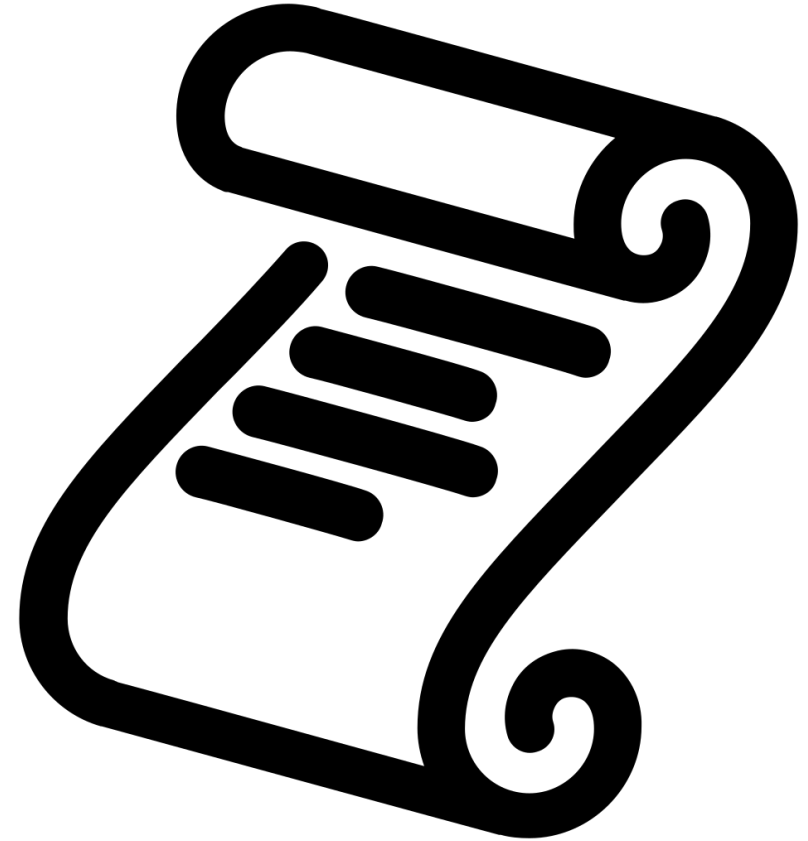


We will fix this right away!

The Team Jumps to Action!



Solutions are Built!



But Everyone is Unsatisfied

People STILL aren't using our services!



What went wrong?!

Ask Yourself

- Did everyone agree on what success would look like?
- Did everyone agree on the scope, size, direction of the problem?
- Did you talk to the right people?

The project is cancelled, paused, reassigned, etc.



Lack of Problem Definition is the Root Cause

- Deep dive into the daily experience of **the USERS**
- Align management, the team and your research on **the Problems** you uncover
- Break large problems into smaller **Challenge Statements**

Problem definition is essential!

You know what innovation is? Problem Definition

- Dana Chisnell



If only there was a repeatable
process to define problems and
solve them...

Human-Centered Design

An approach to design that involves human input throughout the entire process.

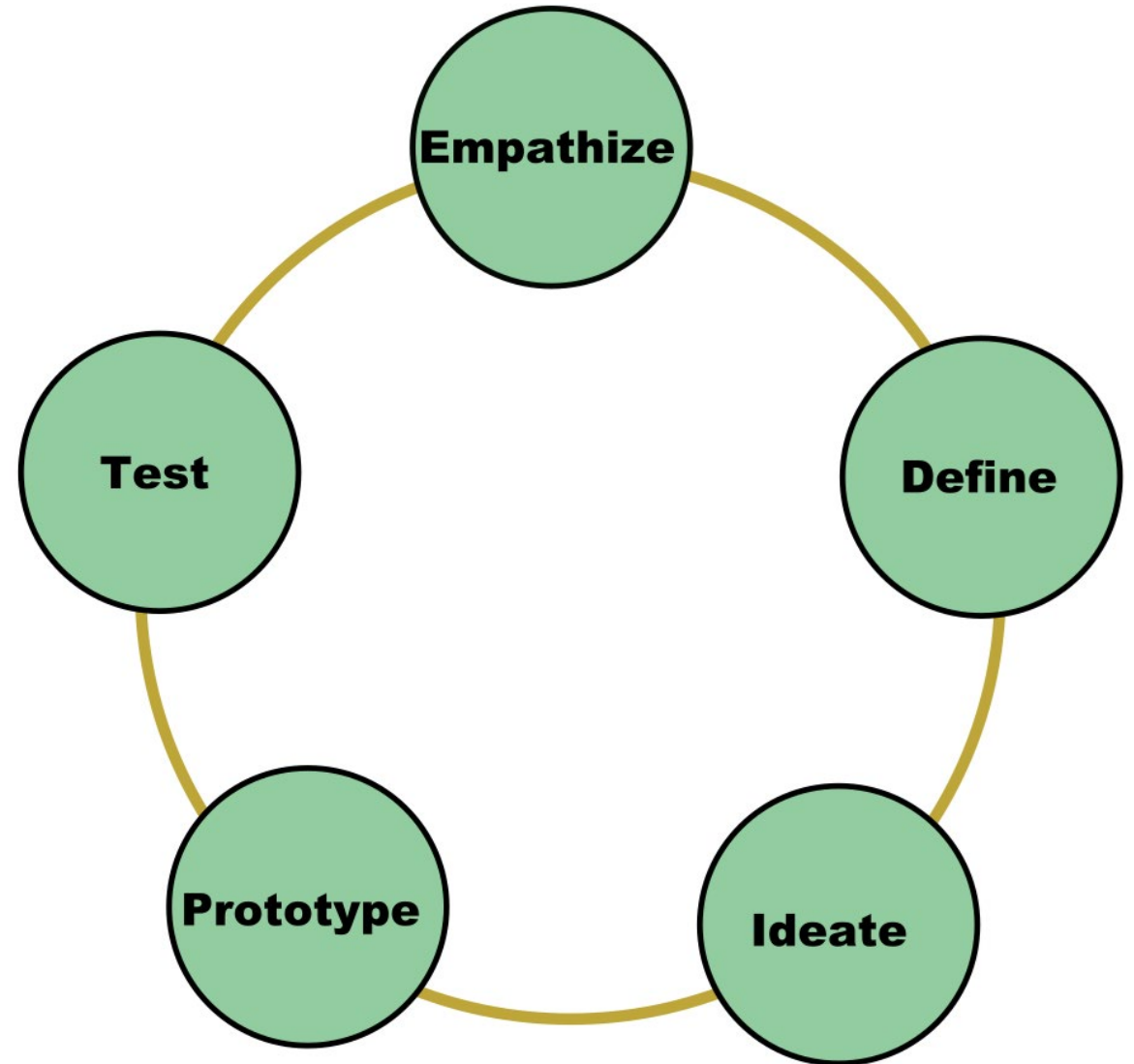
- Collaborative problem solving
- Multi-stakeholder engagement
- Creative experimentation
- Design *with* not *for* the end user

TL;DR

Human Centered Design (HCD) is an approach to designing solutions involves human input during each step of the process.

HCD goals is to build solutions that users and stakeholders find pleasurable to use.

Every product you depend on today was likely made with HCD.

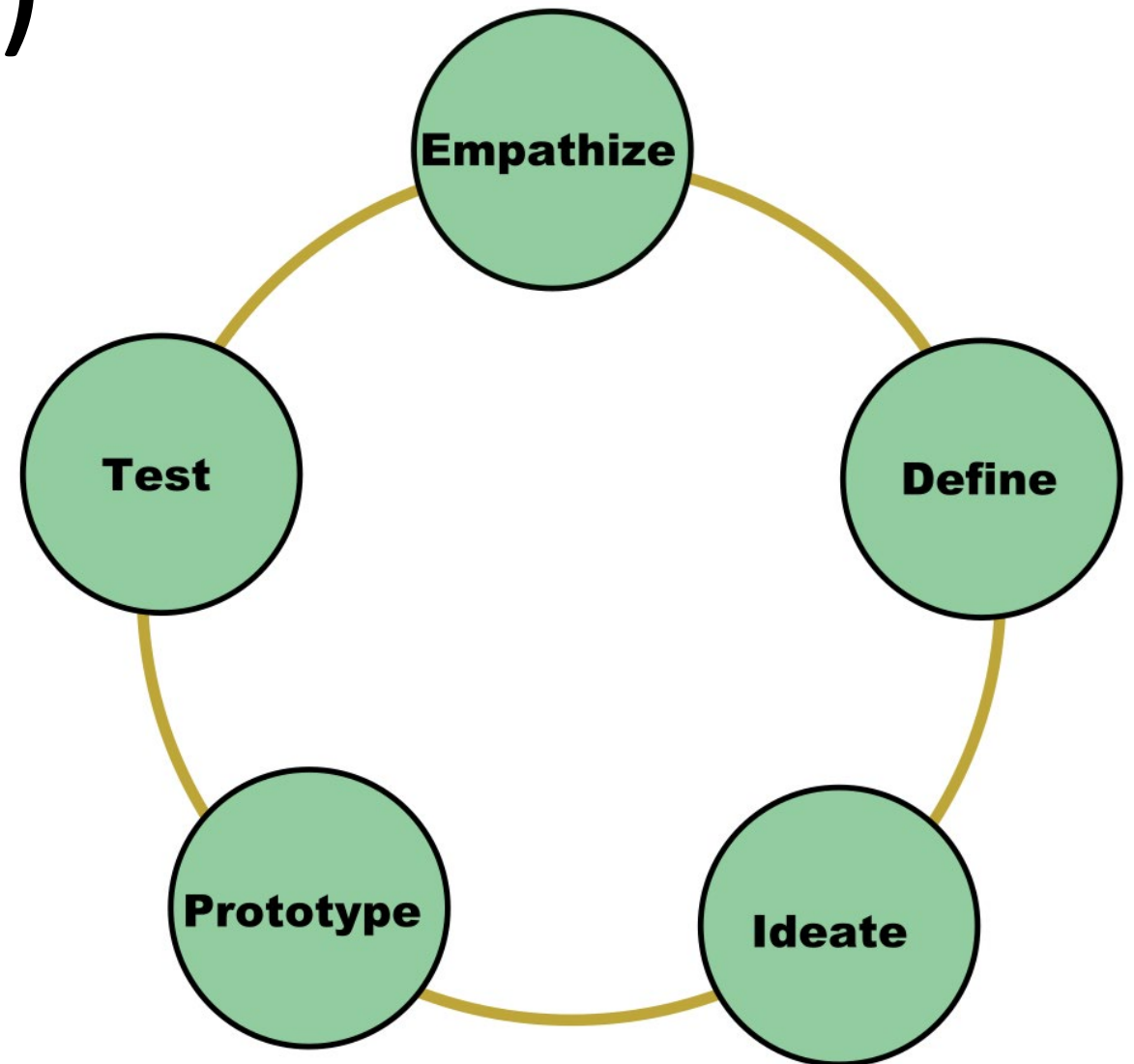


TL;DR (continued)

5 phases that repeat to continually improve the solution.

Works well with other iterative methods

Works for ANYTHING (not just digital)



HCD and Other Approaches

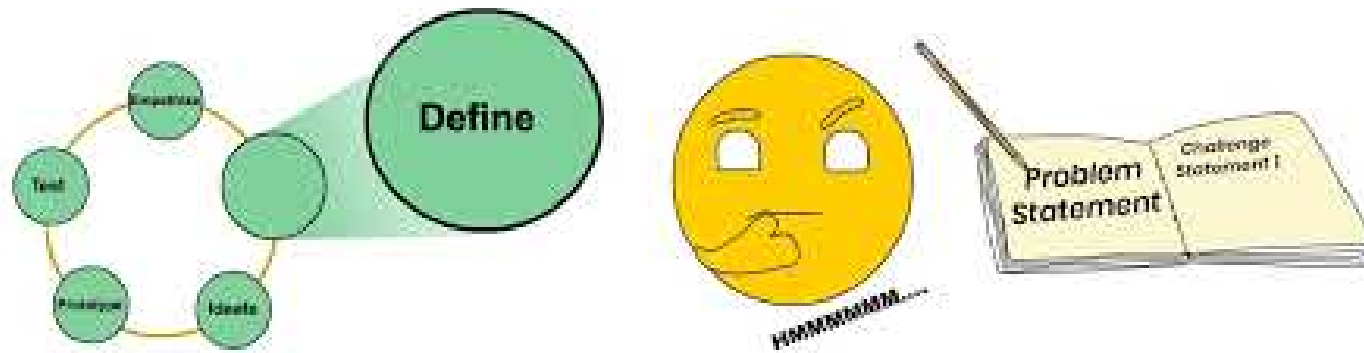
HCD vs Agile - Use a discovery phase or not? Developers join at the start or later?

HCD vs Product - Find the market or define the market?

HCD + Agile + Product - this is the sweet spot that take the iterative approach and cross functional teams of Agile, Problem/Solution focus of Product and continuous learning and refinement to find what people love of HCD

It's not "OR" but "AND". The best organizations use all three approaches together

HCD and Other Approaches (continued)



1

Problem Definition is Why 99.9% of Efforts Fail

What the Customers Really Needed



2

Think of Design as an Advantage, Not as an Expense

Example:

amazon.com[®]
and you're done.[™]



3

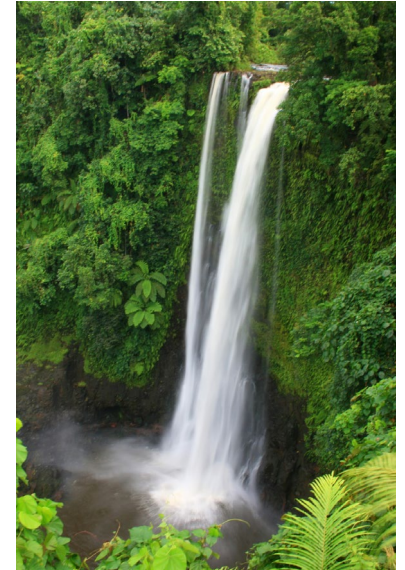
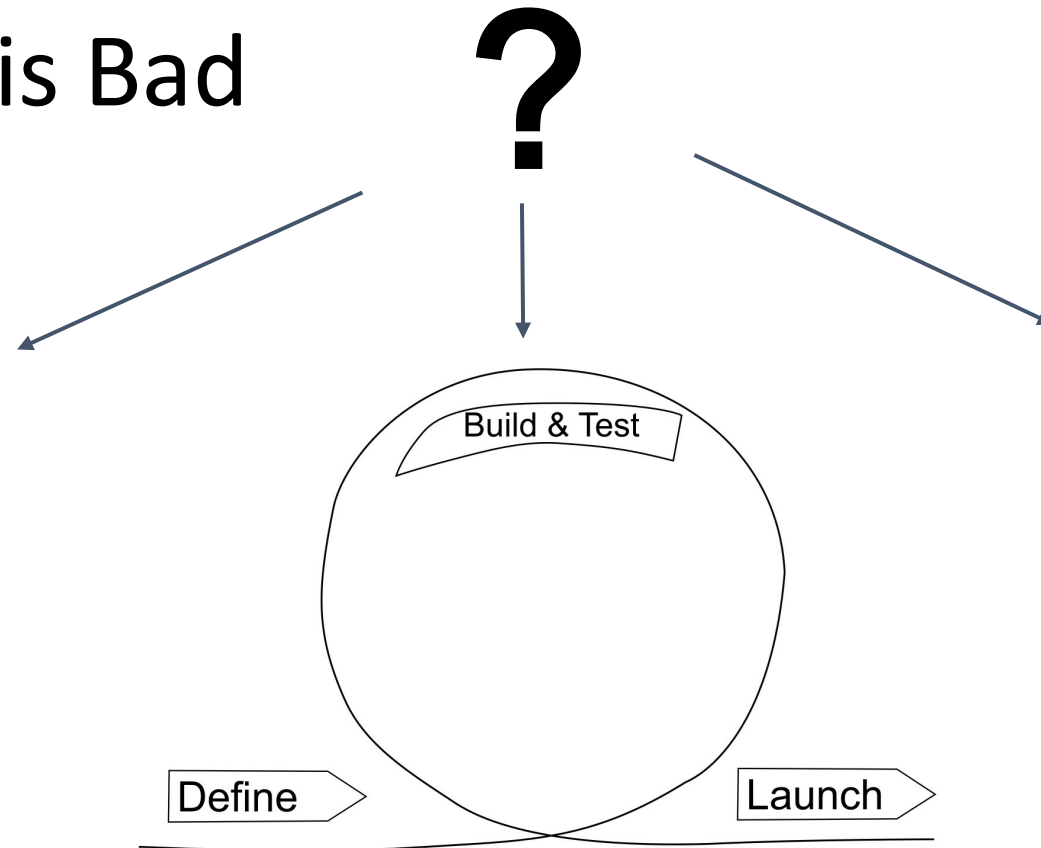
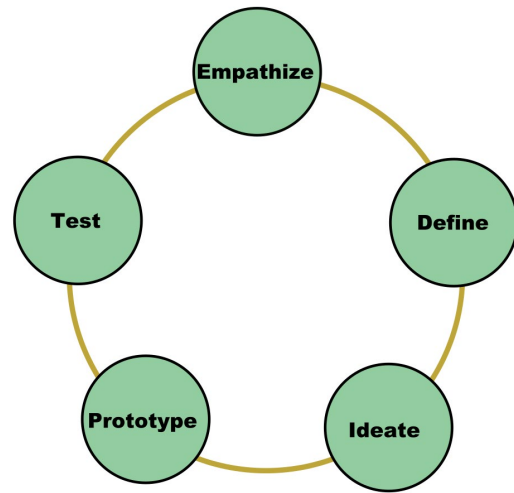
Fixing Stuff is Expensive!

Technical Debt is Bad

UX debt is technical debt!

Someone has design a fix, a developer has to re-code it, you have to advertise the fixes and hope customers return

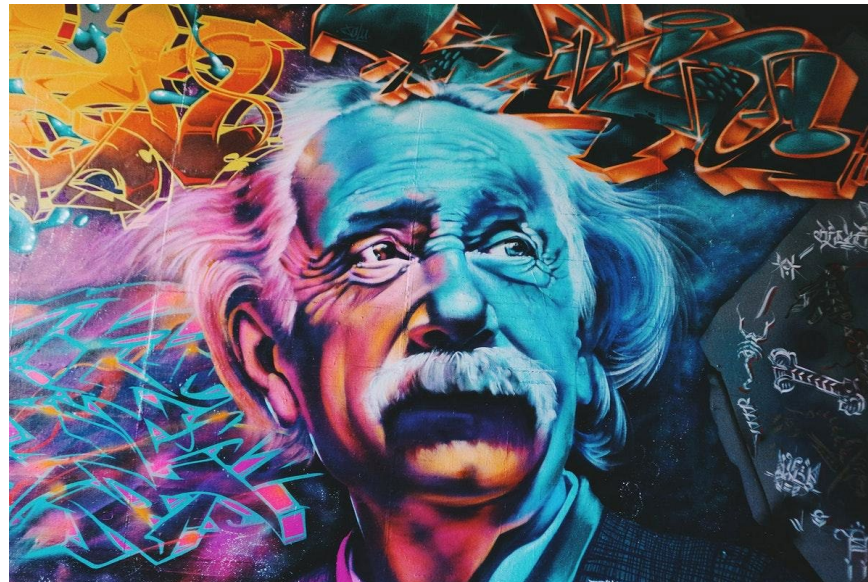
Technical Debt is Bad (continued)



All paths lead to a solution, but was it the right problem?

“If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask... for once I know the proper question, I could solve the problem in less than five minutes.”

- Albert Einstein



Relax, It's Built In!

The HCD process has problem defining steps and revisions built into an iterative process.

- You will define, revise and establish agreement on the problem
- You will always be headed in the right direction
- Even if things change!

UX Metrics and their Business Equivalents

1. UX Success Metrics
2. UX Progress Metrics
3. UX Problem/Value

1. Mission Metrics
2. Milestones (KPIs/ROI)
3. Cost of problem vs.
cost of the
solution/workarounds

Win/Win

- UX Outcome asks “Did we improve someone’s life?”
- Business asks “Did we meet our mission goals?”

In government, the mission is to improve people’s lives.

UX Progress metrics = Milestones

1. UX Outcome = Mission Statement (aligned with strategic goals/BHAG)
- 2. UX Progress = Milestones (current ROI)**



UX Metrics = Business Metrics

1. UX Outcome = Mission Statement
2. UX Progress = Milestones
3. **UX Problem Value = cost/benefit**

Problem/Value Statements

What the cost of the problem versus the cost of the solution?



The Cost of Frustration

Poor UX will always find a way to show up in the organization's finances

Find this UX debt and expose it to show the value via problem-value

Examples:

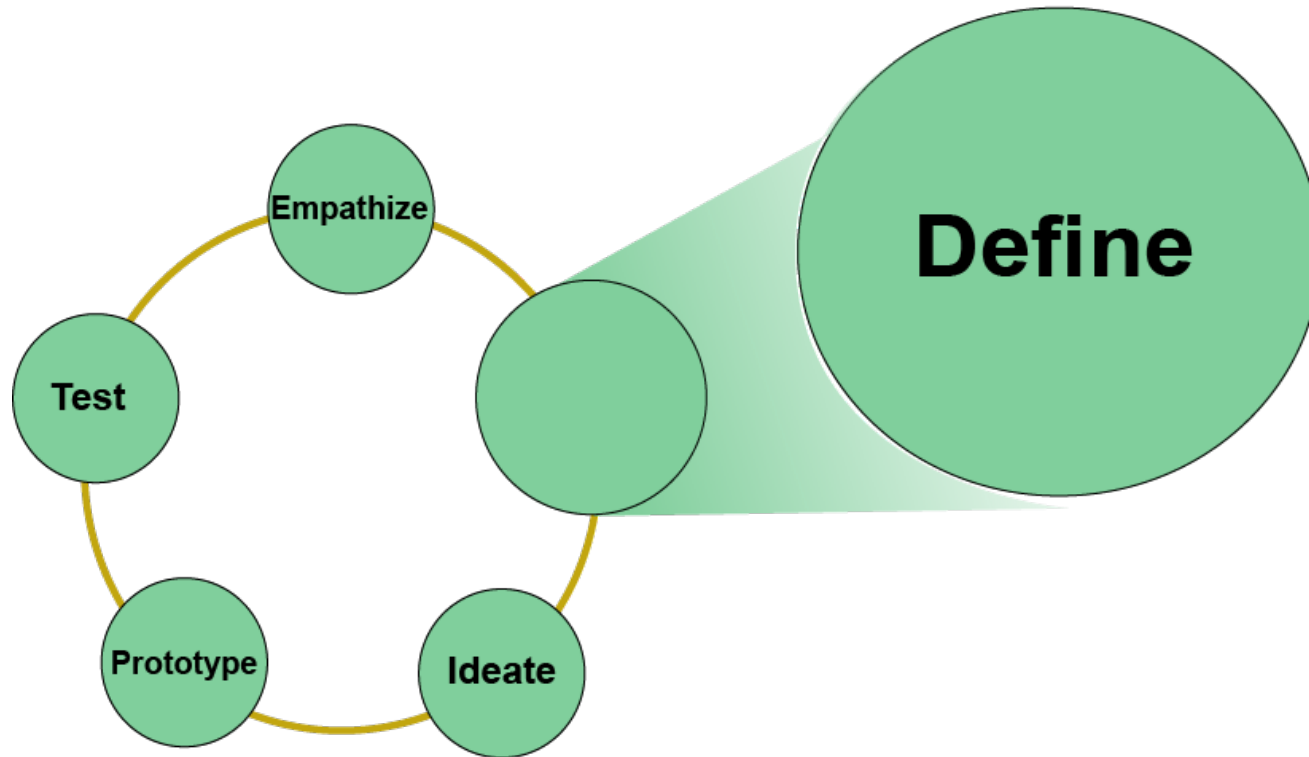
- Technical Debt and UX Debt
- Lost Sales
- Lost Productivity
- High Effort Workarounds
- Bad Reviews
- Bad Press
- Upset Stakeholders

The Financial Power of User Research

An example from Jared Spool:

- Bank's new system was really 15 legacy systems cobbled under it
- Each password reset had to be done 15 times manually via a support person
- Pushed it off a planned feature upgrade for 14 years
- Process ate up \$75 million/year for help desk
- IT know how much it would cost to build password reset - it was \$2.5 million

Iterative Problem Definition



The HCD process continually improves and refines the problem statement.

- Apply: learnings from research
- Determine: on track or need to pivot
- Drive: agreement and sign off from stakeholders
- Align: team, resources & priority

Problem Definition

Four Step Process:

1. Establish the need for a solution
2. Justify the need
3. Contextualize the Problem
4. Write a problem statement

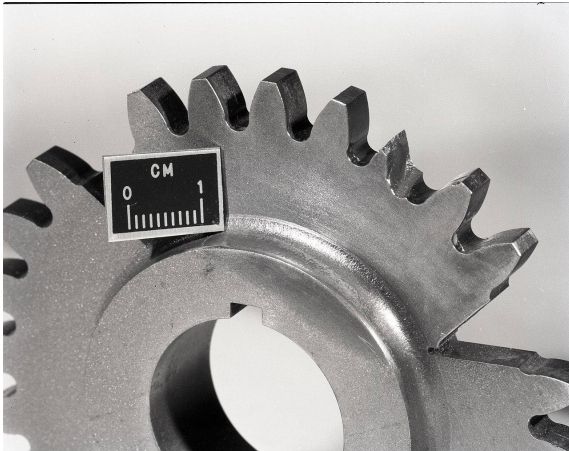
Approach summarized by Dwayne Spradlin of Innocentive - from HBR 09/2012 - <https://hbr.org/2012/09/are-you-solving-the-right-problem>

Establish a Problem Champion



- Should have a deep understanding of the field or domain (a SME) and be capable program administrators (not always a SME)
- Likely charged with implementing solutions, so must be a proven leader with authority (or solidly delegated authority)
- May or may not become the product owner/manager as the effort moves forward

1. Establish the Need for a Solution



What's the
basic
problem?



Measurable
terms for
outcome?



Who benefits and
why?

2: Justify the Need



Is the effort
aligned with our
strategy?



What are the
desired benefits for
our organization
and how will we
measure them?



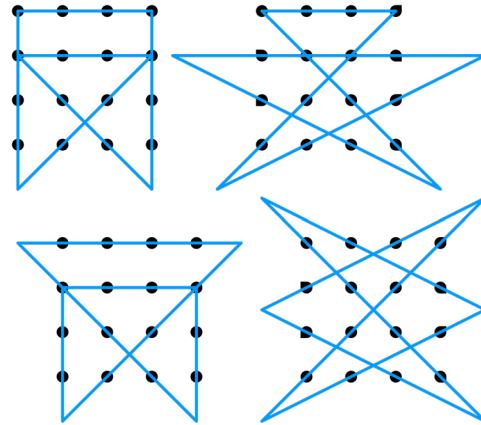
How will we
ensure the
solution is
implemented?

3: Contextualize the Problem

Examining past efforts to find a solution can save time and resources and generate highly innovative thinking. If the problem is industrywide, it's crucial to understand why the market has failed to address it.



**What approaches
have we tried?**



What have others tried?



**What are the internal
and external
constraints?**

4: Write a Problem Statement

- ❖ *Helps establish a consensus on a viable solution and resources required*

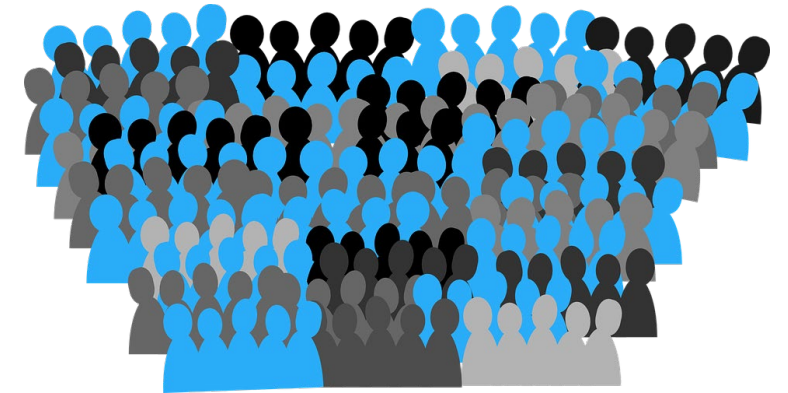


Must be both extremely specific but not overly technical

- ❖ *Typically 1-2 pages total*



Include learnings from previous steps



State clear and full descriptions for internal and external audiences

Case Study: Power of Problem Definition

Marina Nitze, Rhode Island care, and staples

How do we start building if we don't yet know
the ultimate solution?

Problem definition is key to innovation

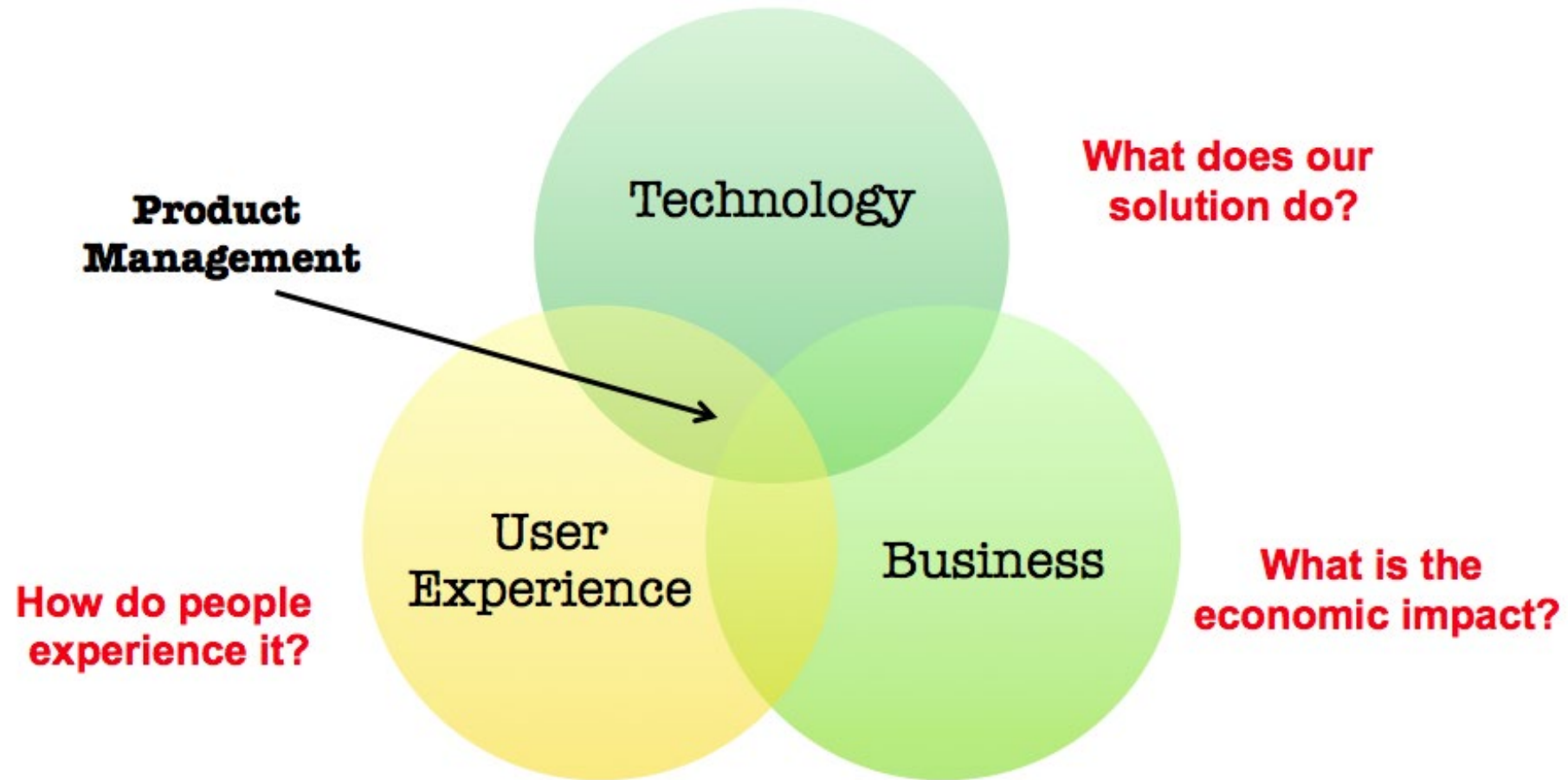
Problem Statement: I need to get to places faster

Then do customer research



If Henry Ford asked customers what they wanted, they'd likely say "a faster horse"

What is Product Management?



Prototype and Learn with an MVP

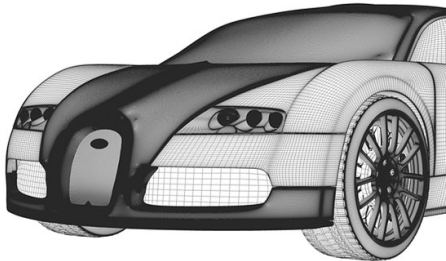
How is a Product Born?



Need



HCD



Proto

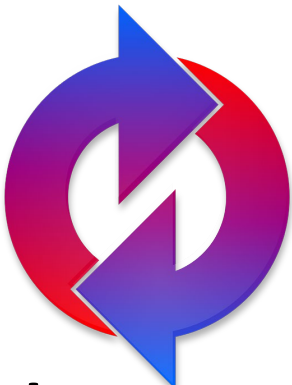


Iterate



MVP

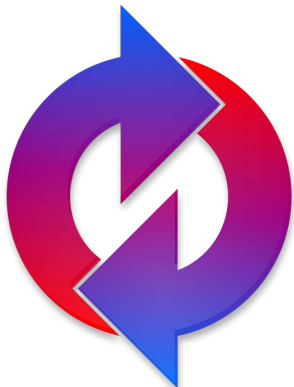
Production Release



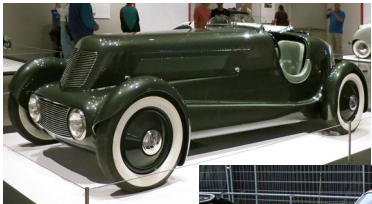
Iterate



Pilot or A/B



Iterate



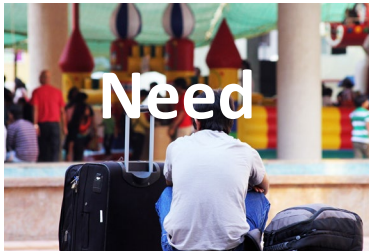
Releases



Retire

Production Removal

Estimated costs



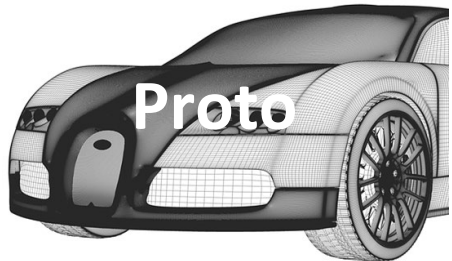
Need

<\$1000



HCD

<\$50k



Proto

<\$25K



Iterate

<\$25k



MVP

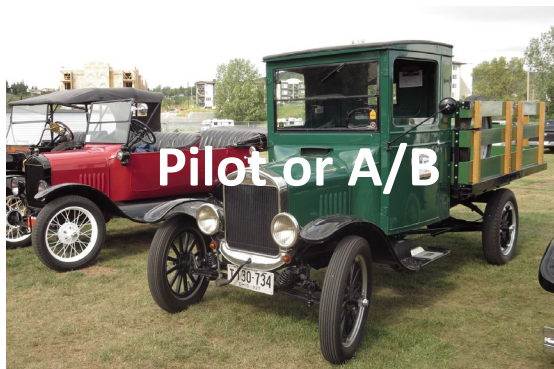
<\$250k

Production Release



Iterate

<\$75k



Pilot or A/B

Varies



Iterate

Varies



Releases

Varies

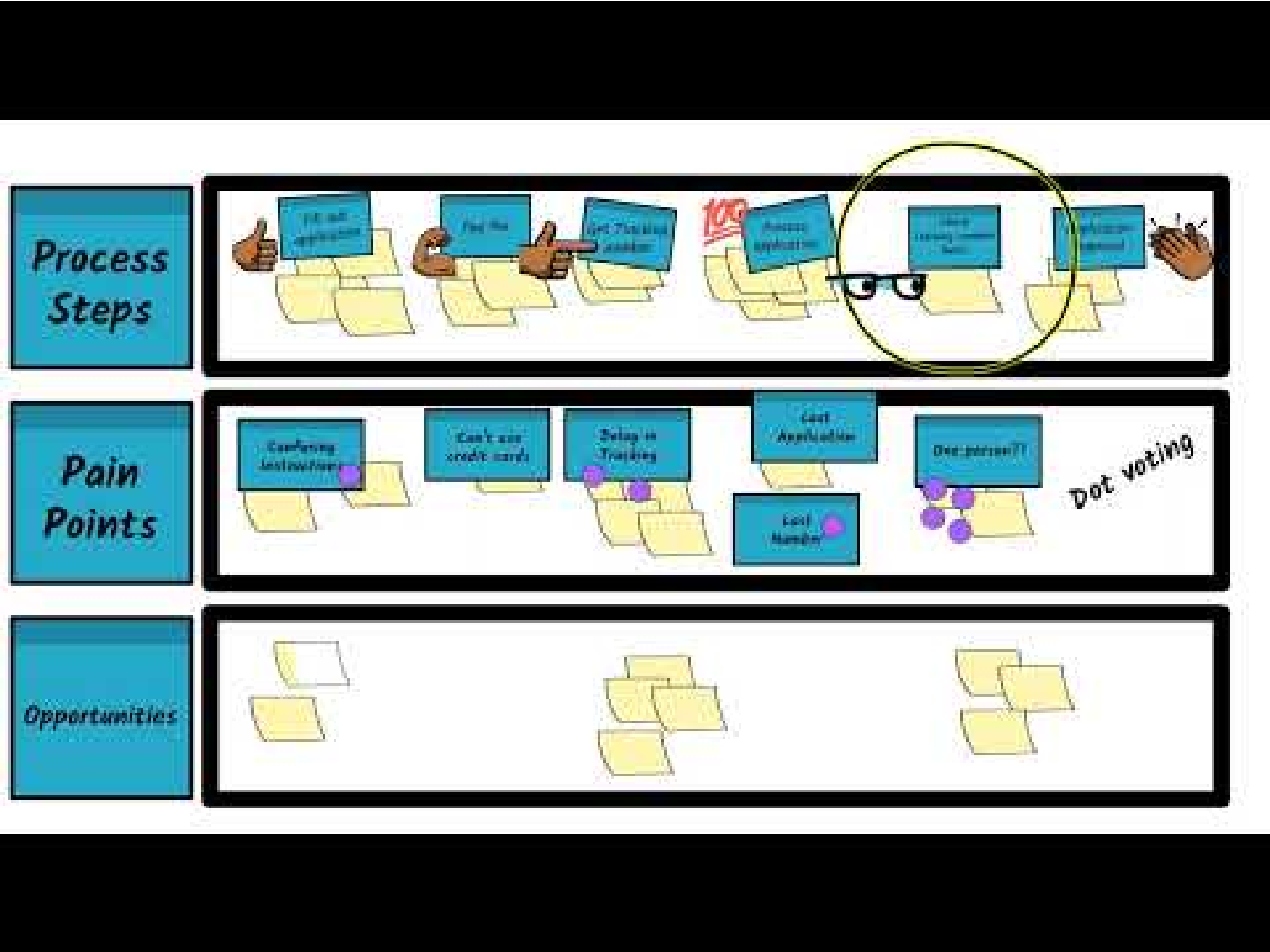


Retire

Varies

Production Removal

Estimated costs: Steps



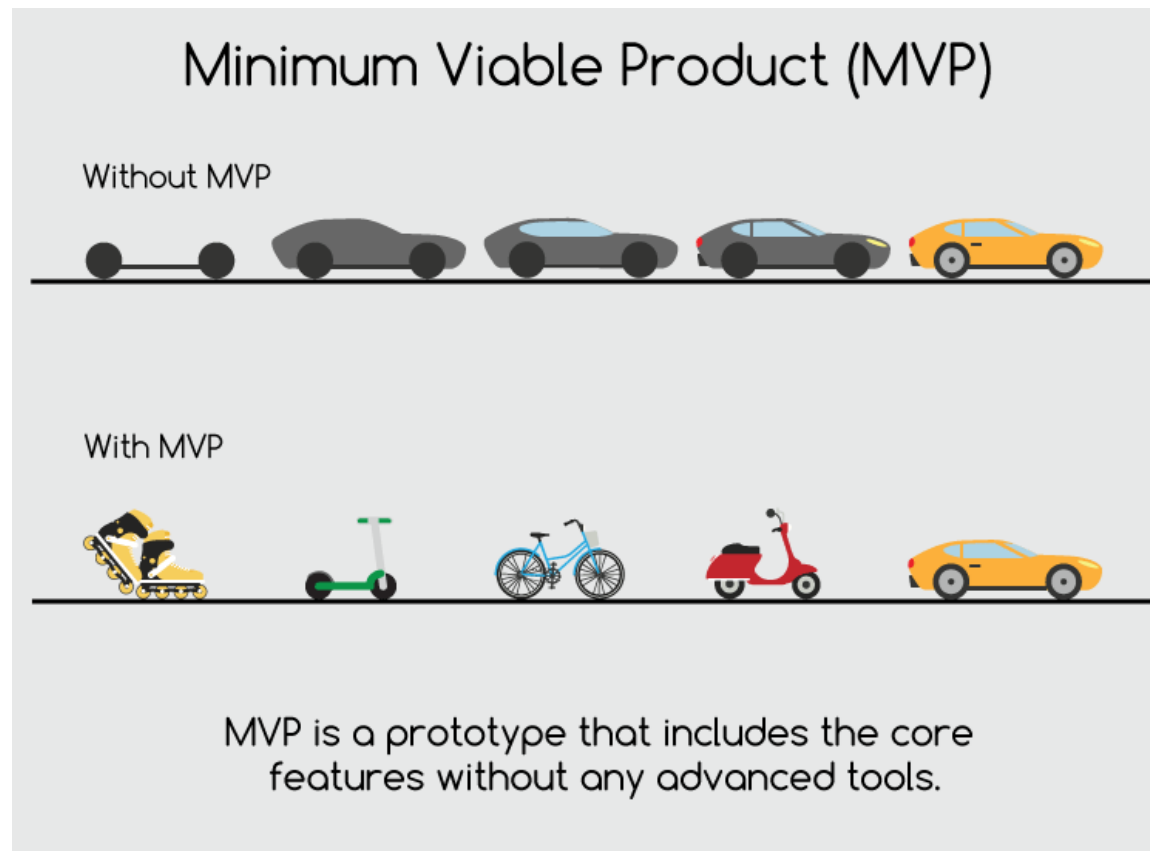
Consider Gaps in the Problem/Solution Space

It can't just be a list of features you think are important or cool without the larger strategy...

*Don't be these
guys:*

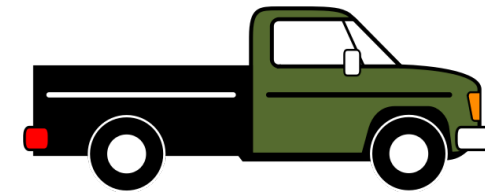
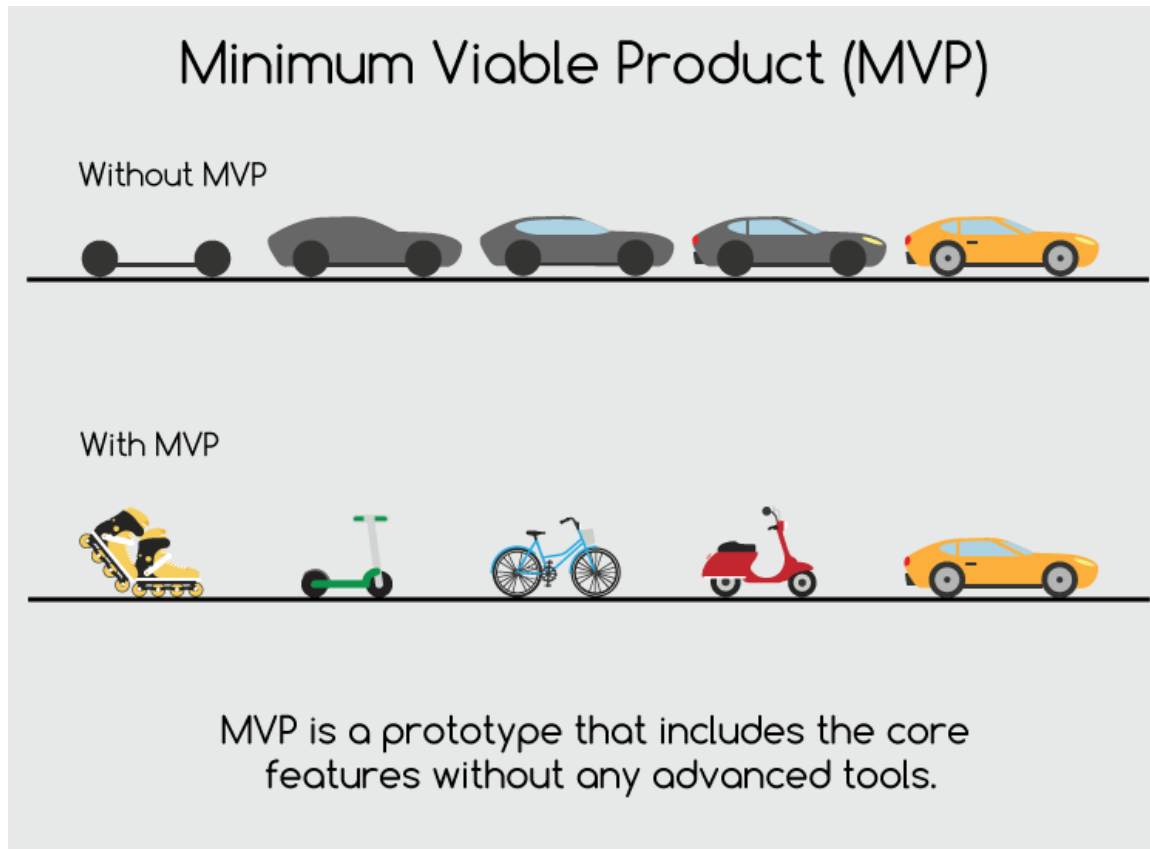


Agile and iterations help test assumptions at scale quickly



Agile and iterations help test assumptions at scale quickly (continued)

Iterative prototyping is a method to quickly discover what people want from direct feedback.



*Testing showed,
they needed a truck!*

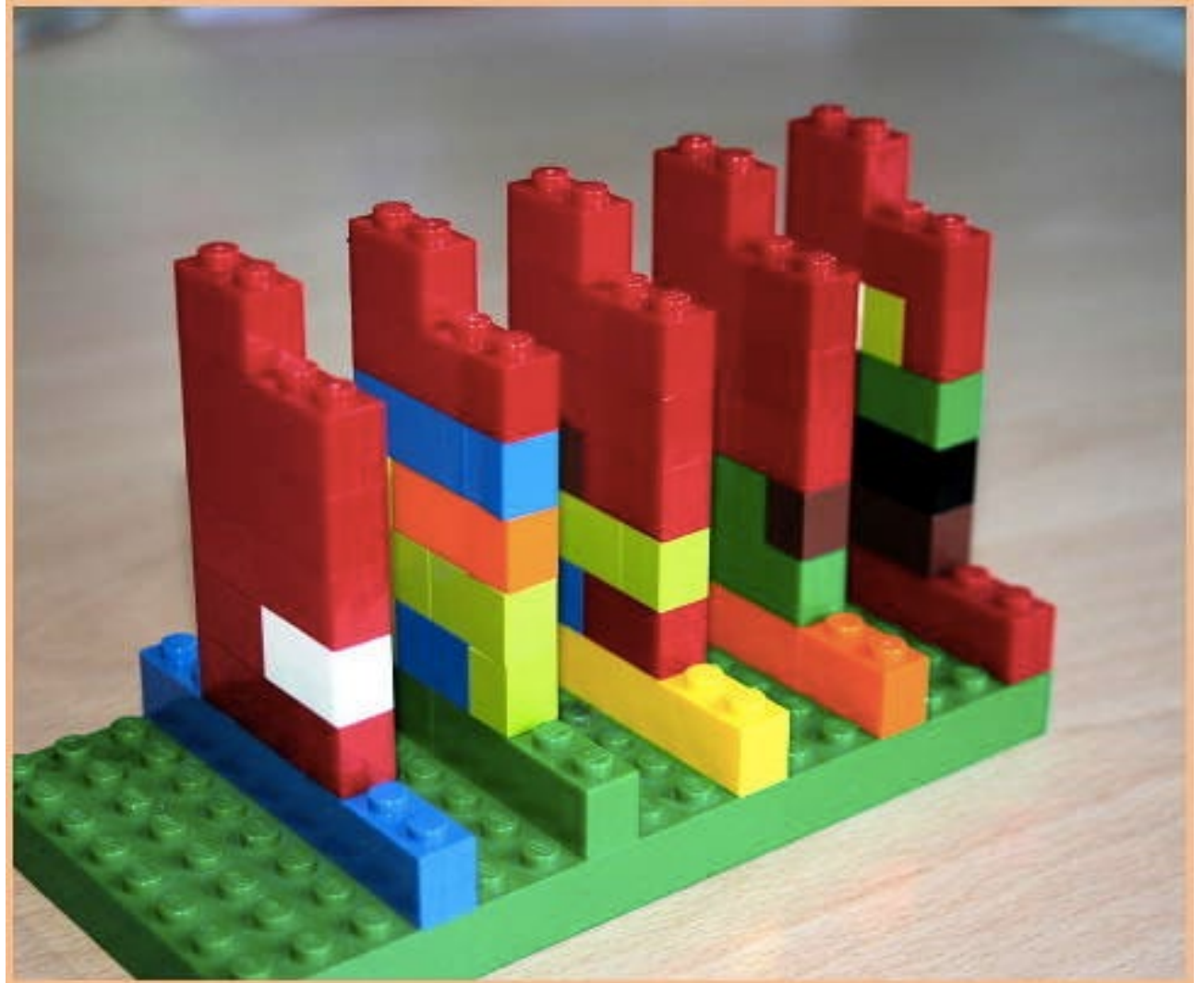
Turning Ideas into Action: Epics, Stories and the Backlog

What is Agile

Time boxed

Short iterations to build
a bigger thing

Ceremonies: Plan and
retro help keep the
team on aligned



Guiding Agile with a Roadmap

Or the Product Manager to Project Manager Translator

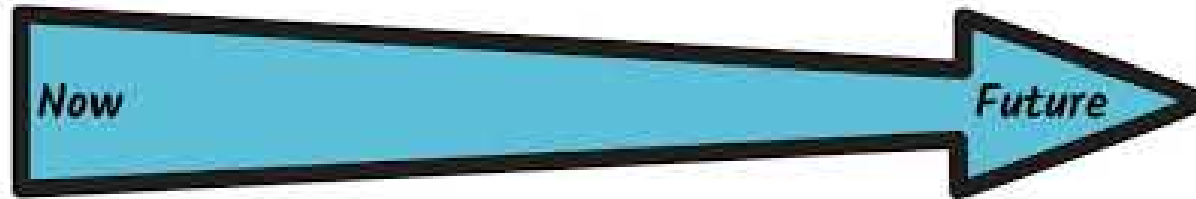
Product Roadmapping



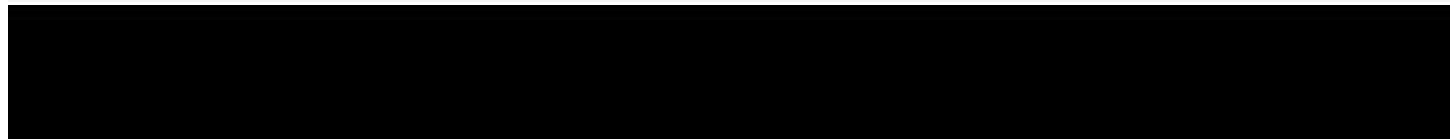
Product Roadmapping

Very Specific

Less Specific

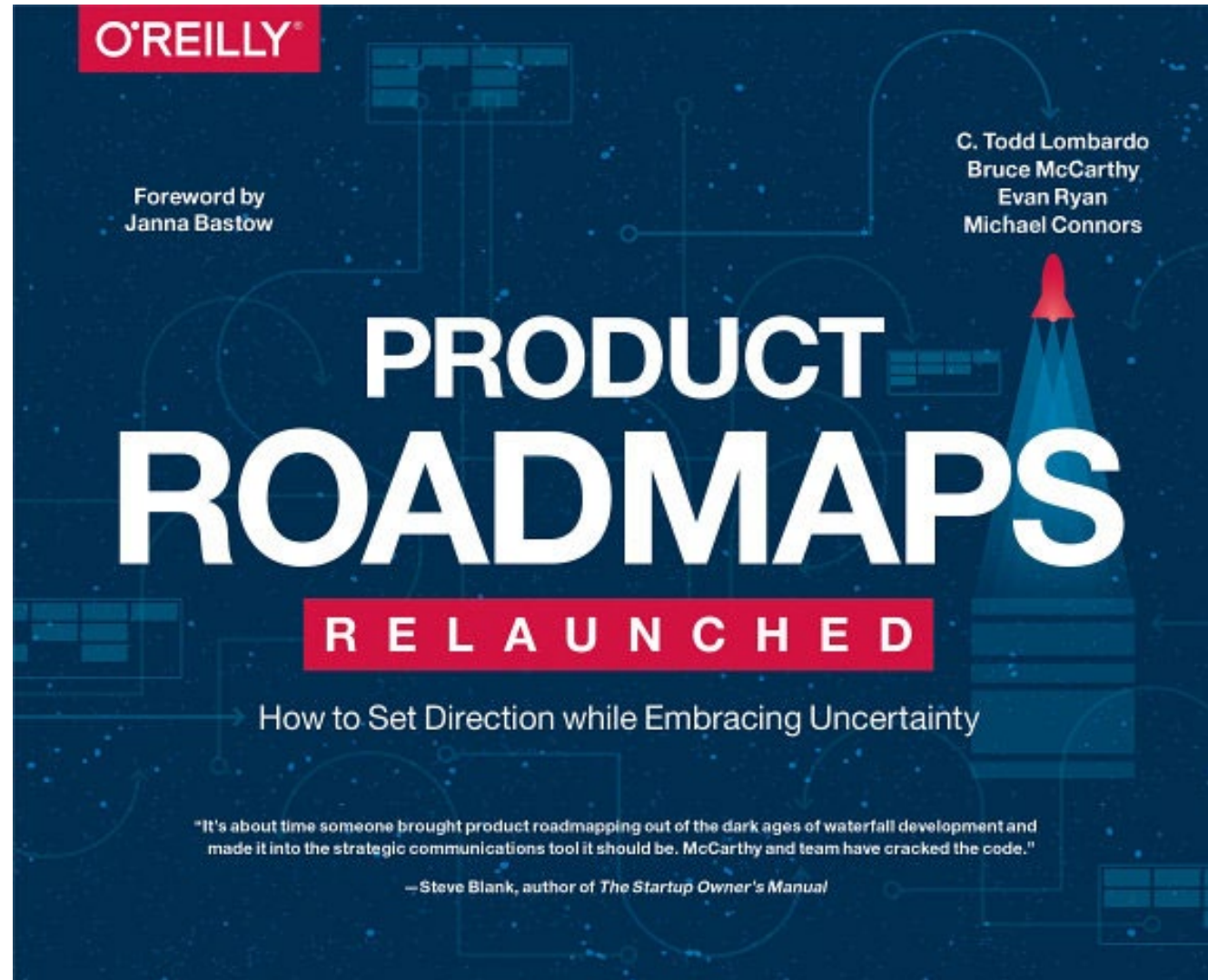


Priorit



Good Resource for Roadmaps

A product managers 2nd main deliverable after the backlog!



THE WOMBATTER Hose



PRODUCT VISION

Perfecting American lawns and landscapes by perfecting water delivery

H1'17	H2'17	2018	Future
Indestructible Hose Objectives: <ul style="list-style-type: none">• Increase unit sales• Decrease number of returns• Decrease overall defects Features: <ul style="list-style-type: none">• 20' & 40' lengths• No-leak connections• No-kink armor Stage: Pre-production	Delicate Flower Management Objective: <ul style="list-style-type: none">• Double ASP Stage: Prototype	Putting Green Evenness for Lawns Stage: Discovery	Infinite Extensibility Pro Market
	Severe Weather Handling Objective: <ul style="list-style-type: none">• NE Expansion Stage: Materials Testing	Extended Reach Stage: Discovery	Fertilizer Delivery Pro Market

Updated 3/30/17, subject to change without notice.

More clear and specific on the left = current work

More assumption based to the right = informed by research

Optional: More Detail of Agile and Roadmapping

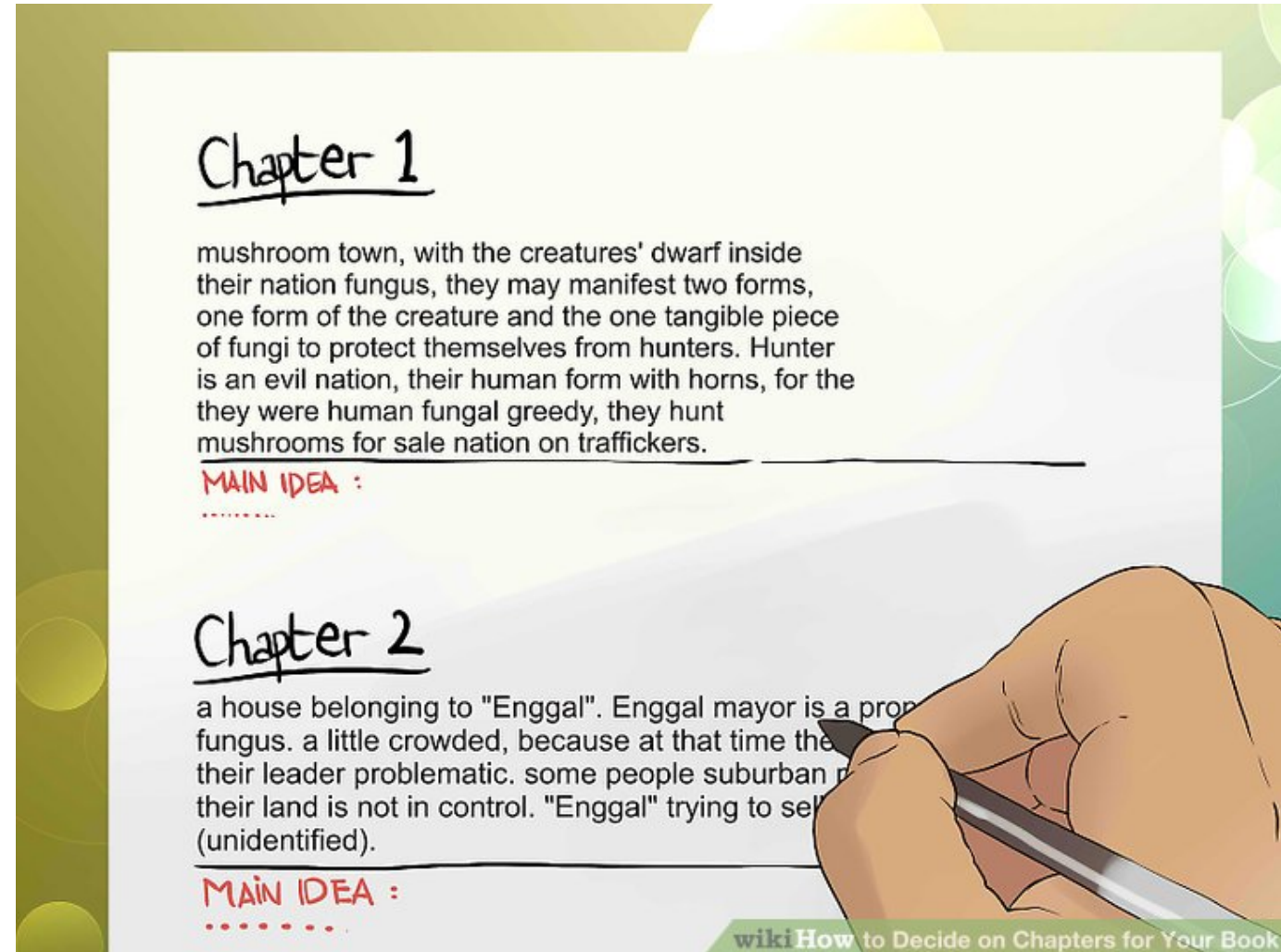
Agile uses Stories to drive the conversation

If a book is the product:

Epics = Chapters

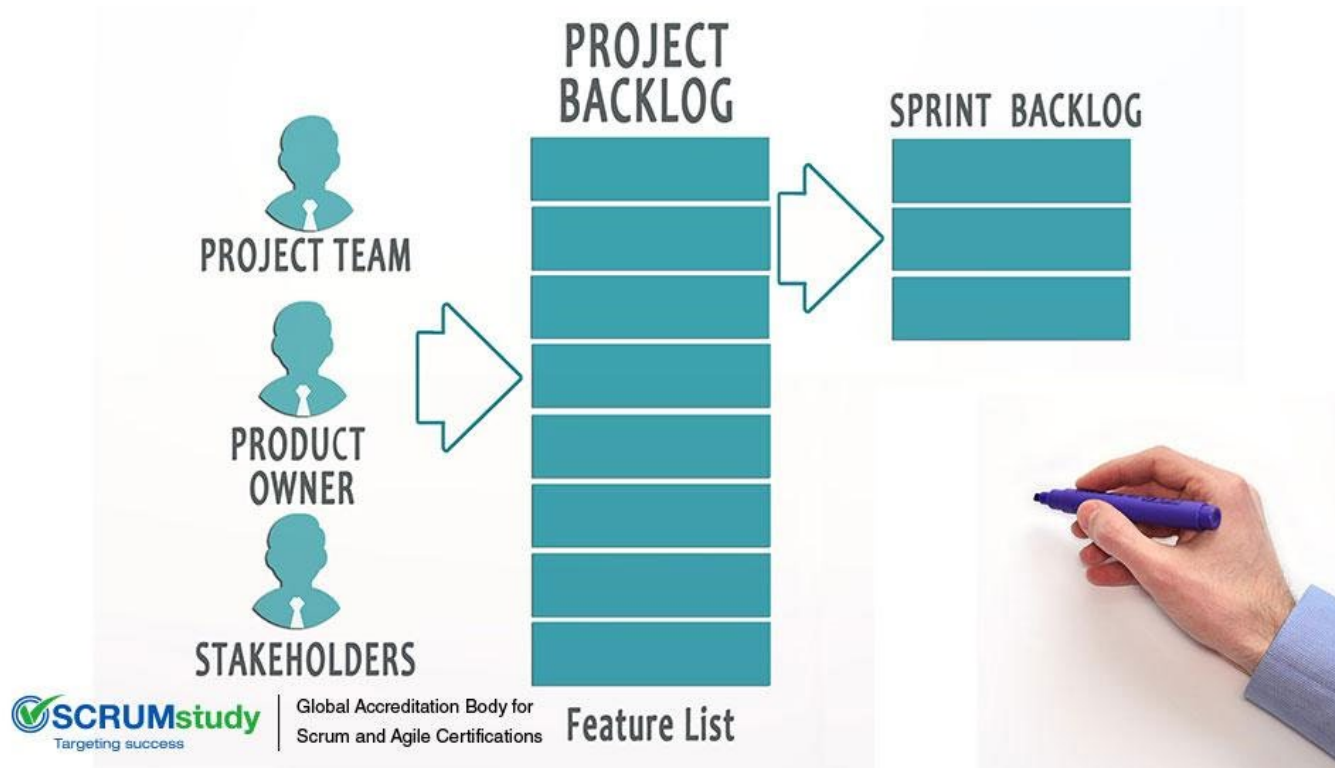
Stories = sub-headings

Tasks = content in the paragraphs



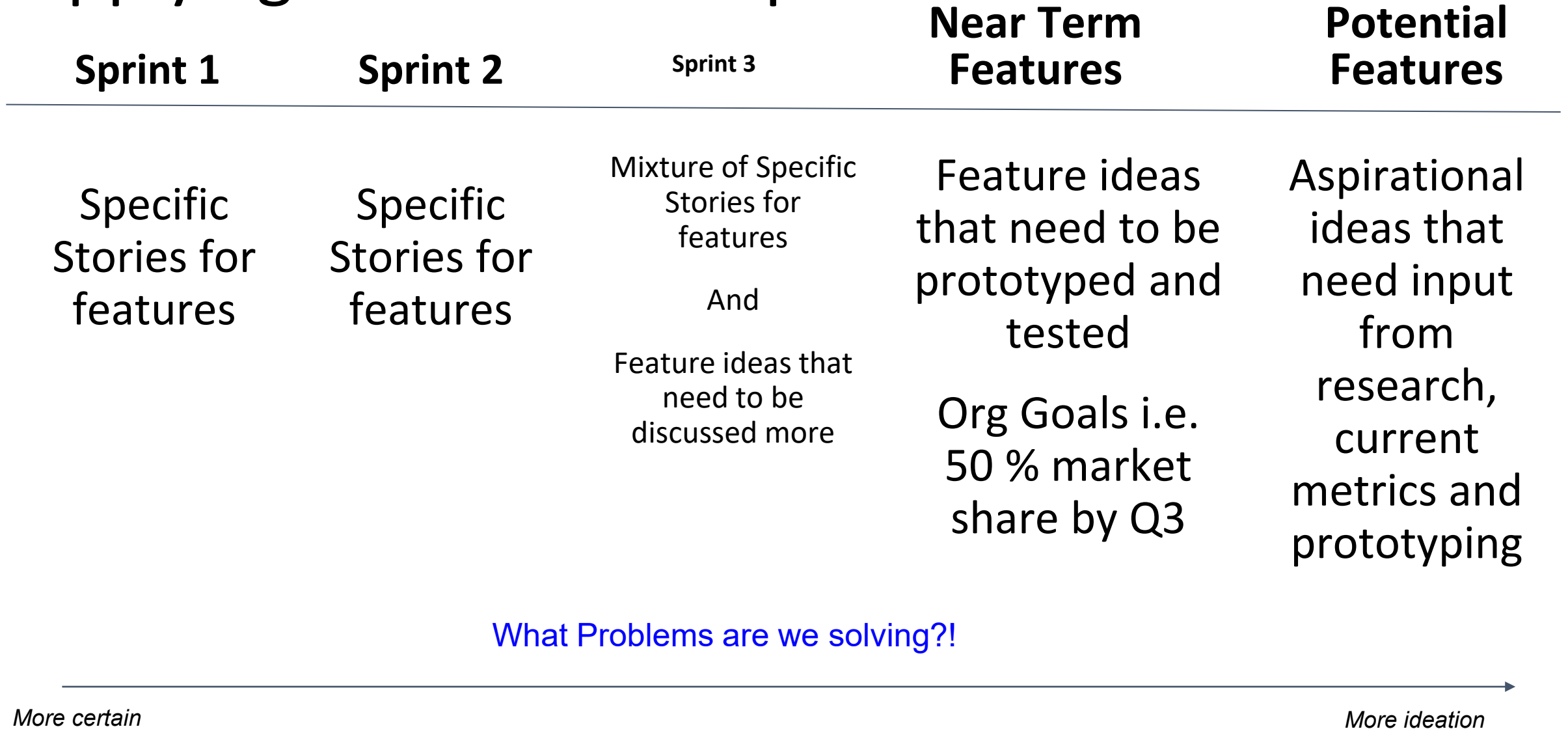
Agile Processes and Stories

Backlog - Sprint 1 - Sprint 2 -



The product owner owns the backlog and is the sole person responsible for prioritizing stories (and therefore guiding what gets built).

Applying it to a Roadmap



Applying it to a Roadmap (continued)



Specific
Stories for
features

Specific
Stories for
features

Mixture of Specific
Stories for
features

And

Feature ideas that
need to be
discussed more

Feature
ideas that
need to be
prototyped
and tested

Aspirational
ideas and
learning
objectives
from
research
and metrics

More certain

More ideation

Applying it to a Roadmap (con't)



Specific Stories for
features

Specific Stories for
features

Mixture of Specific
Stories for features and
feature ideas that need
to be discussed more

Feature ideas that need
to be prototyped and
tested

Aspirational ideas and
learning objectives
from research and
metrics

F
E
E
D
B
A
C
K

Faster,
but I
need
more
stability

More
stable,
but I
need to
carry
things

Great, but I
need to
carry
something
heavy

I want to
bring
passengers
too

Government
standards say
add safety belts

Adding Releases to your Roadmap



Specific Stories for features

Specific Stories for features

Mixture of Specific Stories for features and feature ideas that need to be discussed more

Feature ideas that need to be prototyped and tested

Aspirational ideas and learning objectives from research and metrics

R
e
l
e
a
s
e

Alpha build
(internal release only)

Beta (key & sympathetic external stakeholders)

Public release

Public release #2

Release for sometime in next year

NOTE: external deadlines like legislation can move features up in the release cycle like seat belts can be added to the scooter release

Getting Quality Feedback

Don't Ask Them

Watch them!

Observing direct behavior with your product to solve a realistic problem is the best way to gather quality feedback



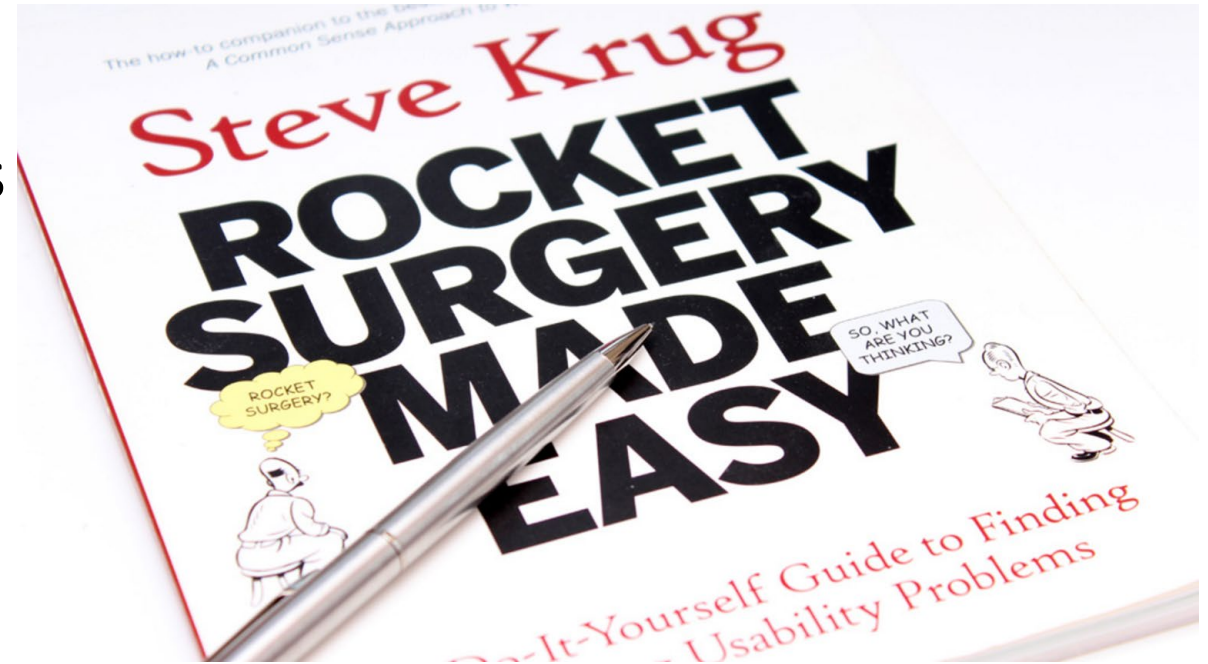
User Testing

Based on the Steve Krug Model

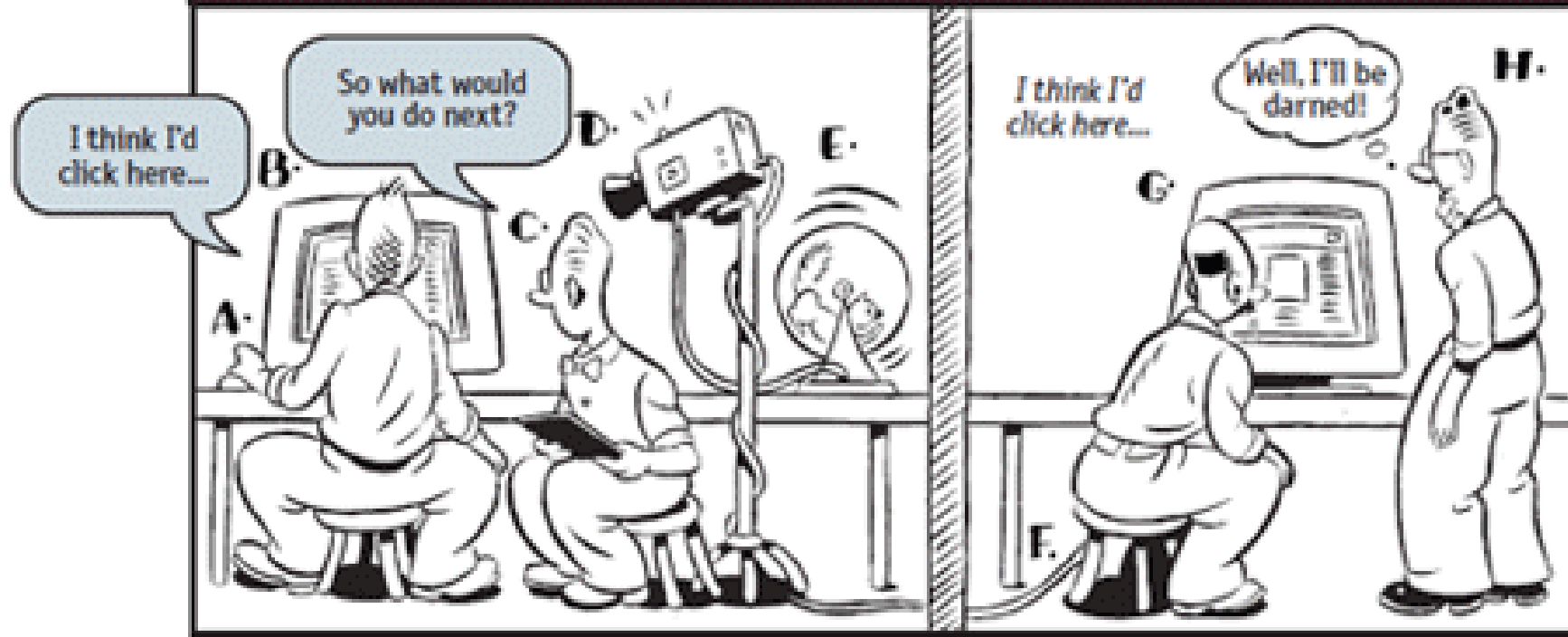
- Ask test subjects to complete tasks
- Observe the behavior
- Don't help or prompt
- Ask them to think out loud

The results:

- Uncovers hidden expectations and
- Incredible feedback on creating human centered products



LOST-OUR-LEASE USABILITY "LAB"



Test subject (A) sits in front of computer monitor (B), while facilitator (C) tells him what to do and asks questions. Camcorder (D) powered by squirrel (E) is pointed at the monitor to record what the subject sees.

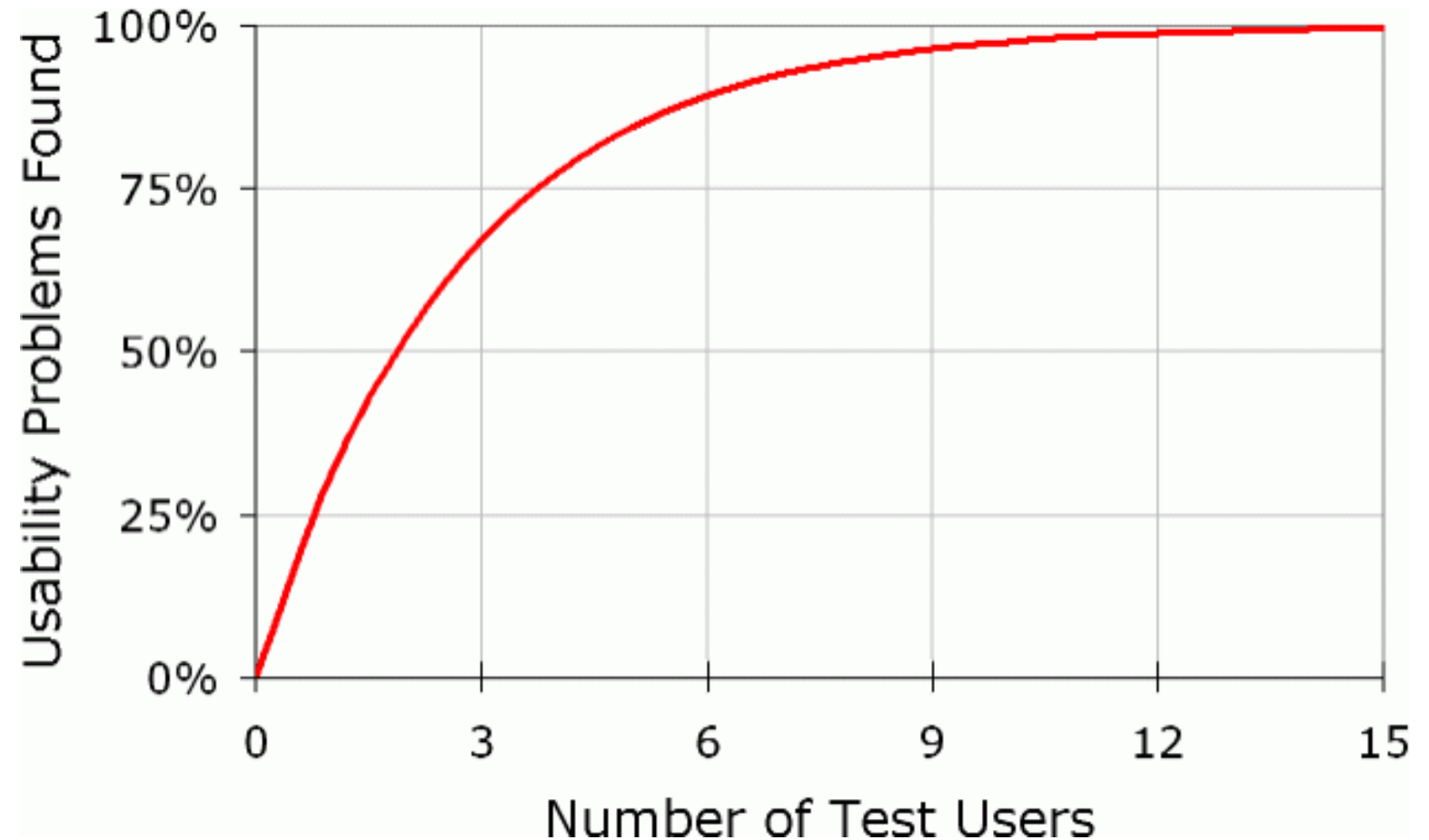
Meanwhile, cable (F) carries signal from camcorder to TV (G) in a nearby room where interested team members (H) can observe.

Credit: Steve Krug - Don't Make Me Think

But, I need x many users to be statistically significant

Nope. Just 3!

Your finding
design flaws,
not
administering a
double blind
study



Credit: <https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/>



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CDT Office of Critical Services Stabilization Program

Tracy Lee, Sergio Gomez,
Ila Zapanta

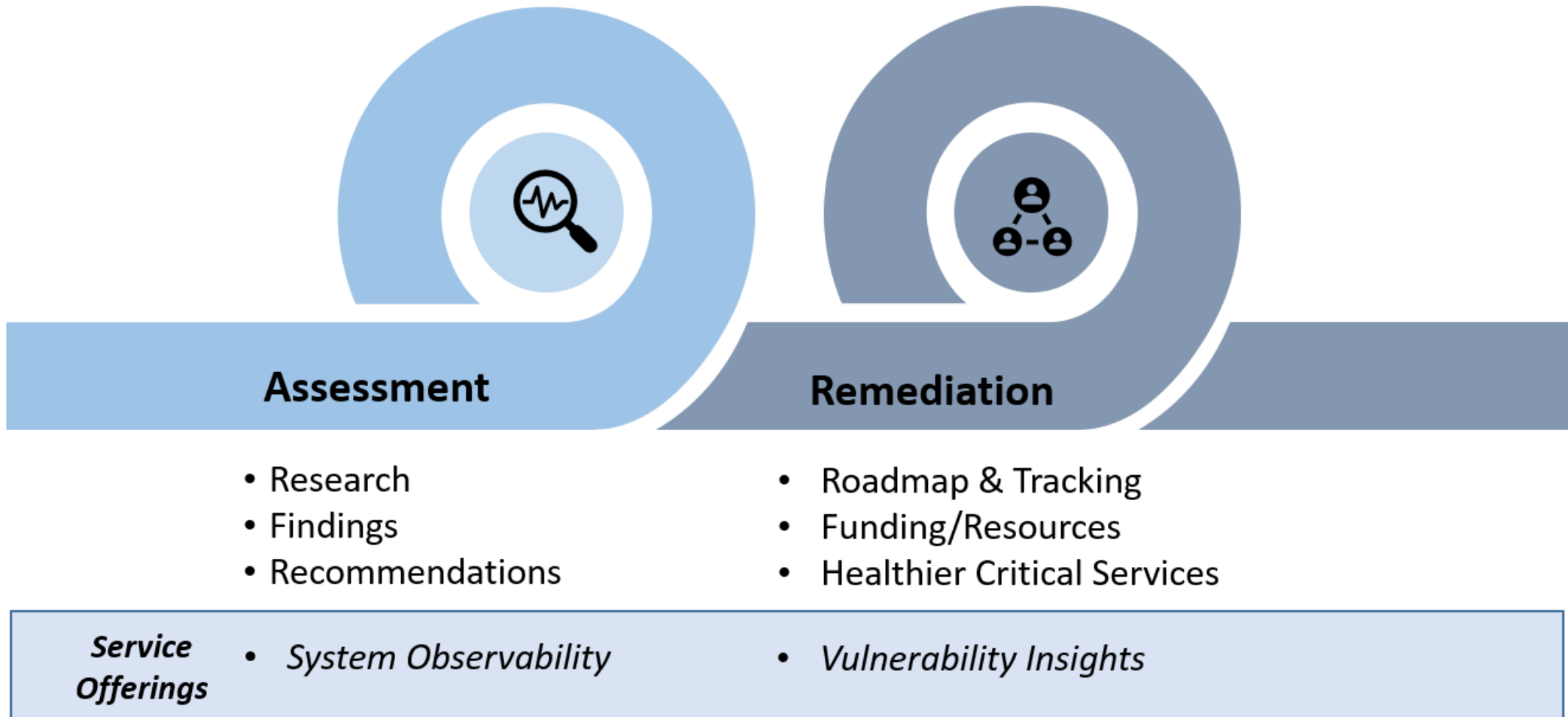
Critical Services - Stabilization

- Per Government Code 11546.45 -
 - *The Department of Technology shall identify, assess, and prioritize high-risk, critical IT services and systems across state government for modernization, stabilization, or remediation.*
- The service was established to be a proactive approach to assess the technical stability of active critical systems for the State.
- Evaluation of the System, the business processes that support the System, and the services provided by the System.

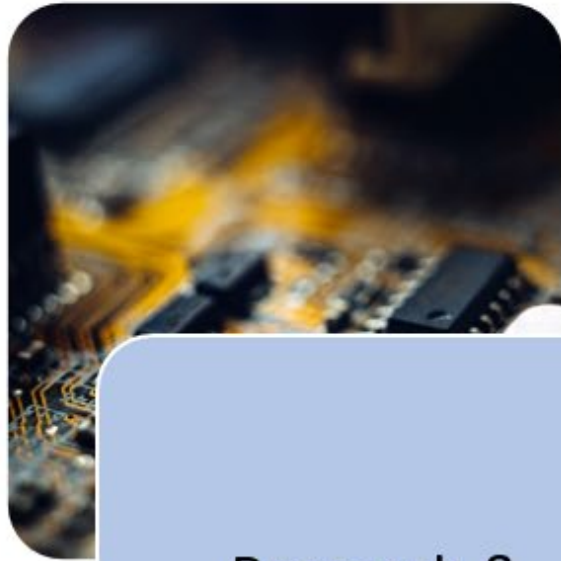
Potential areas of focus (in alphabetical order):

- Business processes
- Contracts
- Data integrity
- Development and operations
- Disaster recovery
- Infrastructure
- Resources (staffing and funding)
- Security
- System performance
- UX/UI

Stabilization Framework



Public-Facing Portal Component



Research &
Findings

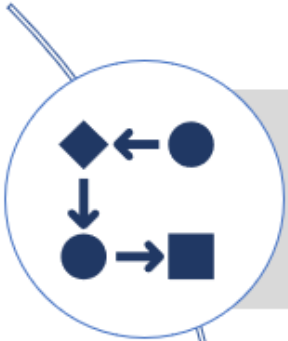


Conduct user
research for a
better customer
and user
experience.



Remediation

Improved Process/Service/Technology



Assistance with problem definition and discovery - Office of Digital Innovation (ODI), Data & Innovation Fund (DIF)



Well-defined business case, needs quick, low-cost, and low-risk IT solution - CDT Office of Critical Services, Technology Modernization Fund (TMF)



Critical system with signs of potential disruption or failure in need of a stabilization assessment and remediation assistance - CDT Office of Critical Services, Technology Stabilization Fund (TSF)

Partner With Us

- Visit our website:
<https://cdt.ca.gov/stabilization/>
- Send us an email:
stabilization@state.ca.gov
- Submit a critical system via [quick intake.](#)
- For all state entities, there is no cost for Stabilization Assessments





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2023 Accessibility Certification Update

Greg Duncan

Digital Accessibility Specialist

Department of Technology

2023 Accessibility Certification

- July 1st 2023 - Certifications need to be Posted
- Make sure your Websites and Documents are updated
- Want to meet WCAG A and AA standards
- WCAG 2.2 update is planned on being released Dec 2022
- We recommend reviewing the differences between WCAG 2.1/2.2
- [Understanding WCAG 2.2 \(w3.org\)](https://www.w3.org/2021/12/wcag22/)

Web Accessibility Community of Practice(WACoP)

Join a forum of state staff across a wide variety of public entities discussing digital accessibility. Post questions and find information on digital accessibility on the WACoP collaboration site. Participate in online meetings where members of various departments discuss accessibility topics. Discuss your current accessibility projects or just listen in for ideas to further your own work. Join the WACoP today by emailing: WebAccessibilityToolkit@dor.ca.gov.



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Google Analytics 4

Linda Tracy

California Department of Technology

Reminder: Universal Analytics (UA)

Sunsetting in 2023

- UA properties are still schedule to stop collecting data in 2023
 - Standard: July 1, 2023
 - Optimized 360: October 1, 2023

Historical data

- UA data will be available for **at least 6 months** after your sunset date
 - Standard: December 31, 2023
 - Optimized 360: March 31, 2024



Since we last met, CDT has:

- Updated analytics pages on webstandards.ca.gov
- Added Google Analytics 4 (GA4) JavaScript (JS) code to
 - Our webstandards.ca.gov pages
 - The State Template on GitHub
- Set-up CAWeb managed sites with GA4 accounts*

*Some agencies decided to manage their own accounts

Analytics pages on Webstandards.ca.gov

Overview

- Analytics (landing page)
- Transition from Universal Analytics to Google Analytics 4
- Add analytics to your site
- Access your analytics
- Help with analytics

<https://webstandards.ca.gov/analytics/>

GA4 JavaScript code has been updated on:

- Our webstandards.ca.gov pages
- The State Template on GitHub

CAWeb managed sites

- Created GA4 Accounts for CAWeb manage sites
 - Primary GA4 Property
 - Connected Search Console
 - Configured data retention from 2 months to 50 months
 - Customized Reports view
 - Confirmed account is collecting data
- Reached out to contacts so we can grant access
- Some agencies opted to manage their own GA4 account



What's next?

CDT will:

- Continue to create GA4 accounts with primary property for sites
 - Google is still rolling out updates to GA4 – we are limited how complex filters can be
- Contact your agency once your account is ready.
 - Request a list of users who should have access to your account
 - Provide your GA4 Measurement ID
 - Provide a link to instructions on how to add JavaScript/your GA4 measurement ID to your site



Questions

Contact our Analytics team:

- analytics@state.ca.gov

State template V6 release

Timeline

- November 4: Beta launch
- December 23: Production launch (go-live)
- January 2023 forward: Focus on design system

We want your feedback

- November 4 – November 11
- Feedback link on sitewide banner

V6 Demo

State template V6 timeline

The final release (V6) of the State Web Template is part of a planned move to the Design System. This moves us one step closer to a new statewide digital standard.



State template V6: Your feedback

Timeframe: November 4 to November 11

Feedback link: Sitewide banner after beta launch

Feedback per page:

- What do you like
- What needs improvement
- How useful is it

State template V6 Demo

- Homepage
- Site navigation
- Get started
- Visual Design (icons)
- Components
- Patterns



Suggested Future Topics Closing Remarks

Blaine Wasyliw
California Department of Technology

Thank you

Post-conference materials will be published on the [DWSN Website](#).

For questions, please write to: DigitalWebServicesNetwork@state.ca.gov



Bringing together digital product managers, designers, and engineers.



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**Next DWSN Quarterly Forum
Thursday, January 26, 2023**