

NRM / 18F

Human Centered Design coaching

January 25, 2018

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18F

Agenda

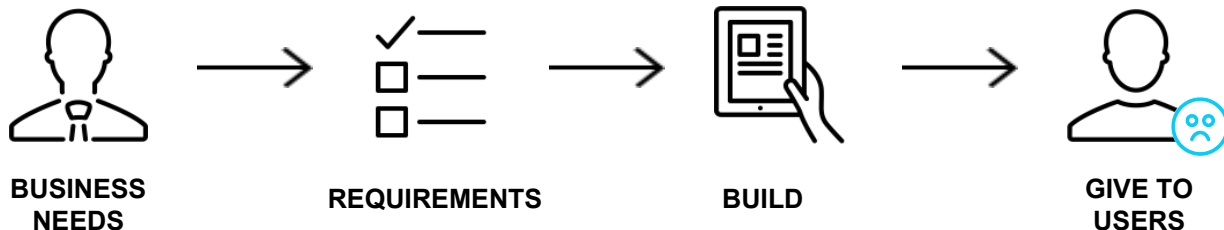
1. HCD refresher
2. HCD coaching at NRM
3. Activities to explore leadership's role in helping institutionalize HCD at NRM

1/ HCD refresher

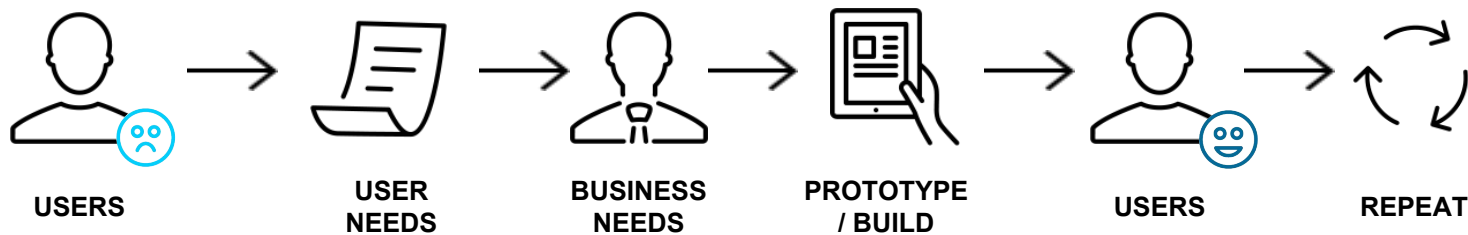


How we work: Human centered design

FROM



TO

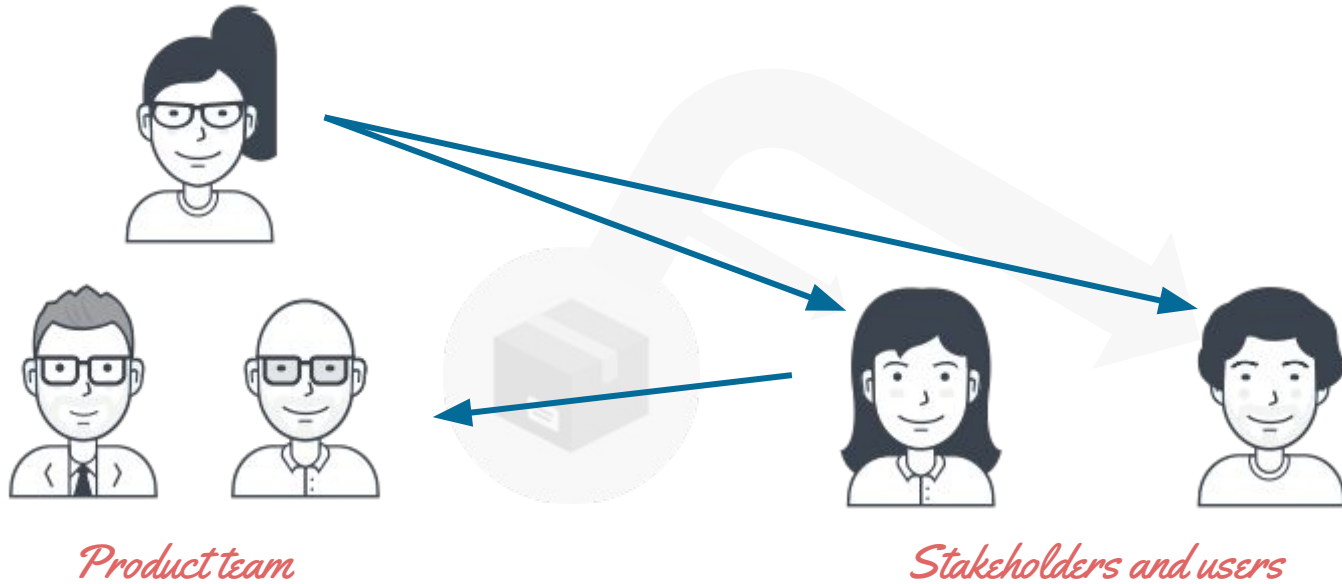




Many acquisitions plan
for creation of
new products and services.

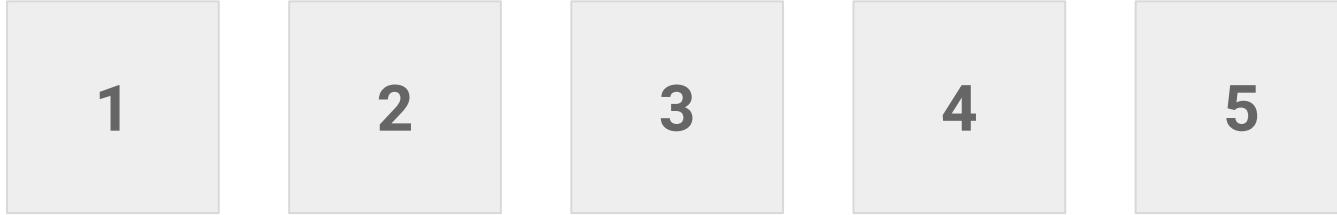


These products and services can
fundamentally change
how people get things done.



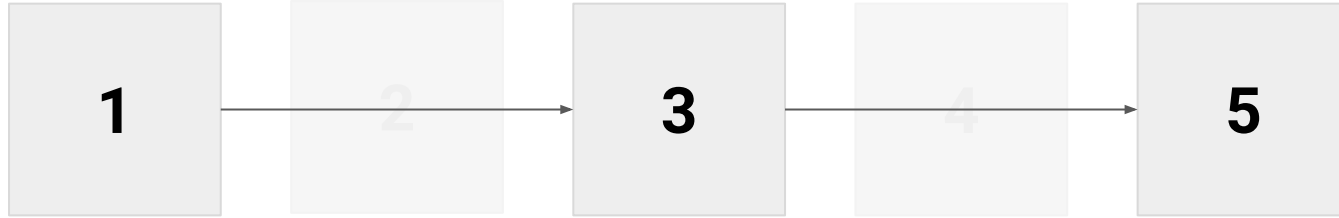
Human-centered design suggests we **observe** and **talk with people** to understand their existing roles, business processes, and technologies.

PERMIT APPLICATION AND PROCESSING



By articulating **current** business
processes...

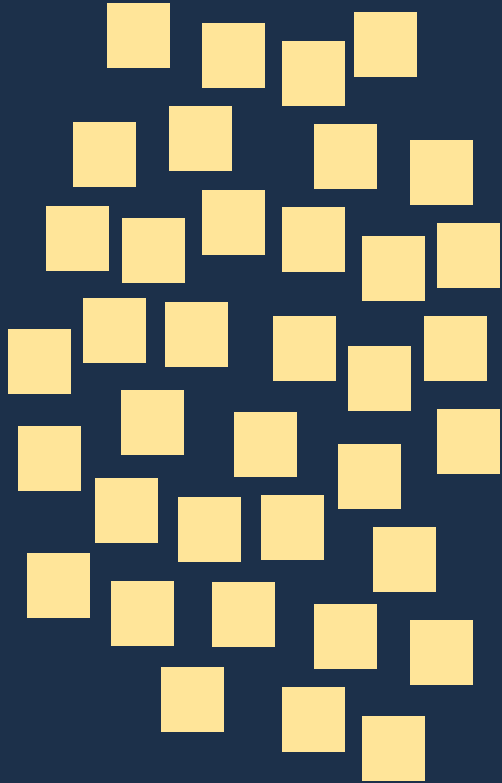
PERMIT APPLICATION AND PROCESSING



We can **hypothesize** ways
to improve them.

How this works...

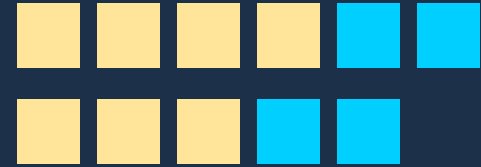
User needs (requirements)



Contract Modules



1. Discrete work, in sprints



2. Discrete work, in sprints



3. Discrete work, in sprints



4. Discrete work, in sprints



As an Applicant

● *Role*

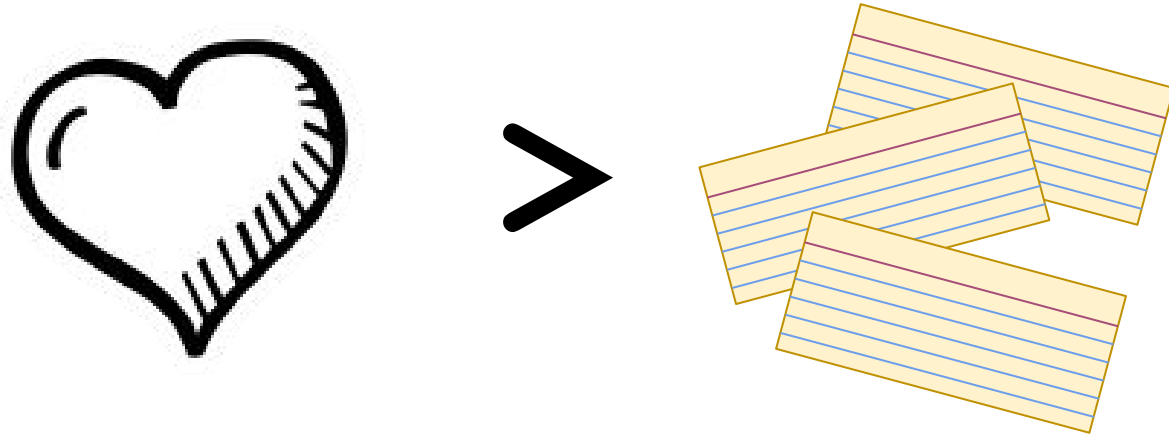
I want to choose what type of
permit application to
complete

● *Functionality*

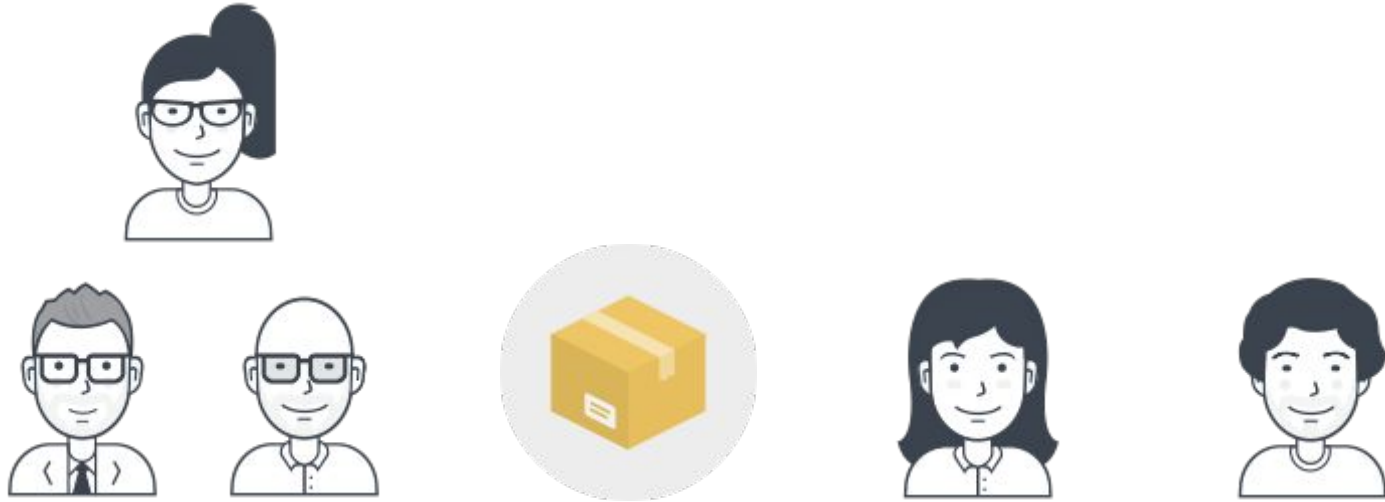
So that I can apply for my permit

● *Business value*

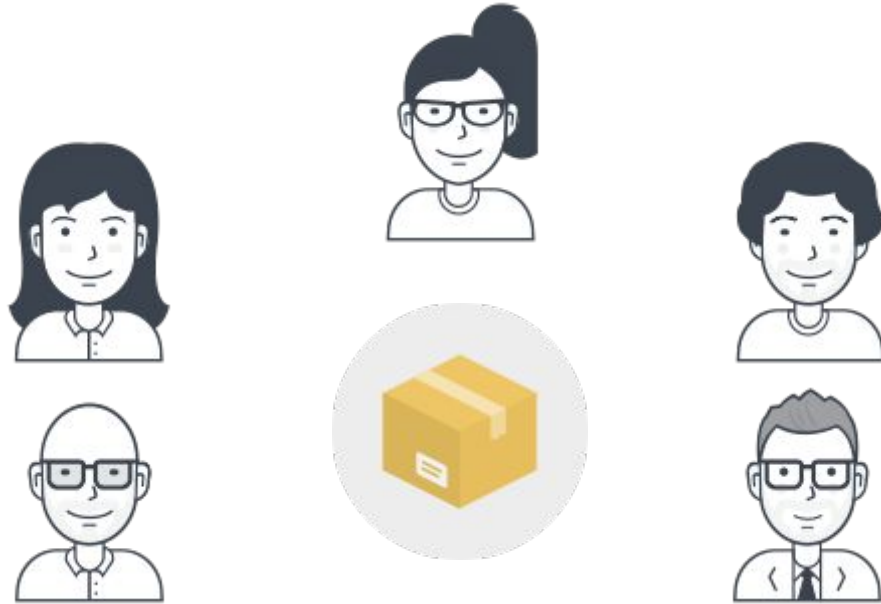
User stories can be helpful for breaking up
work...



But the product team needs **empathy**
to bring them to life.



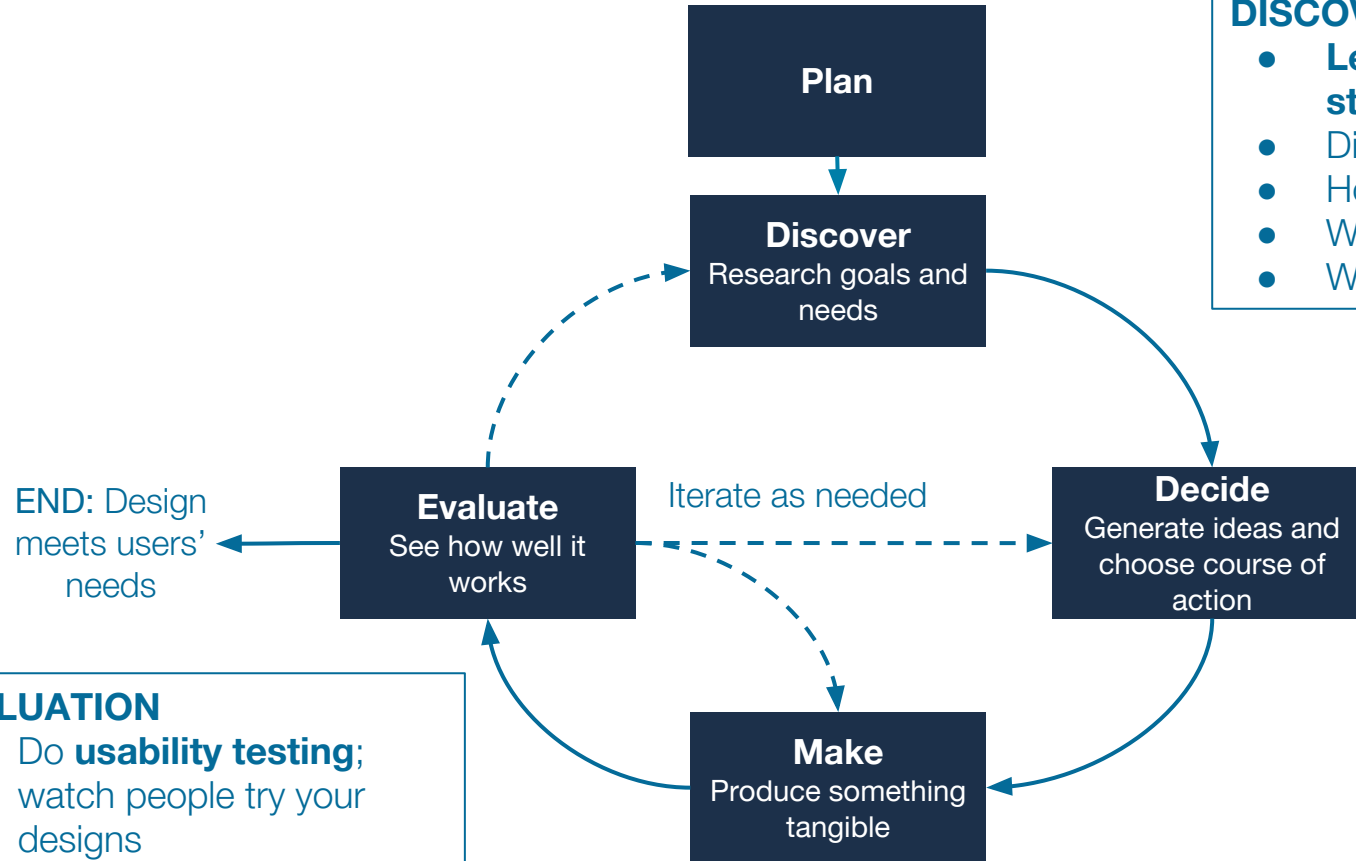
Instead of letting requirements gathering
and product design come between us...



Research helps facilitate a **dialogue** to ensure products and services that work for everyone!

DISCOVERY

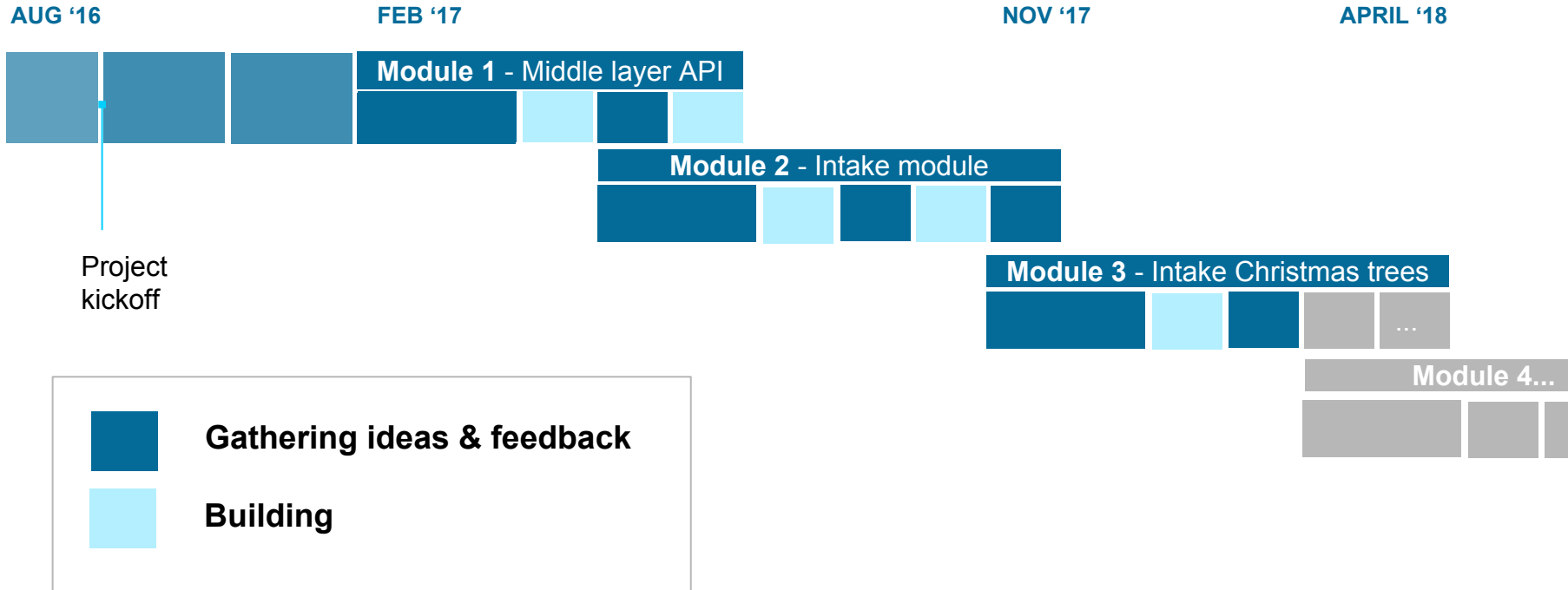
- **Learn about users and stakeholders**
- Discover goals and needs
- How is it done now?
- What is needed?
- What else has been tried?



EVALUATION

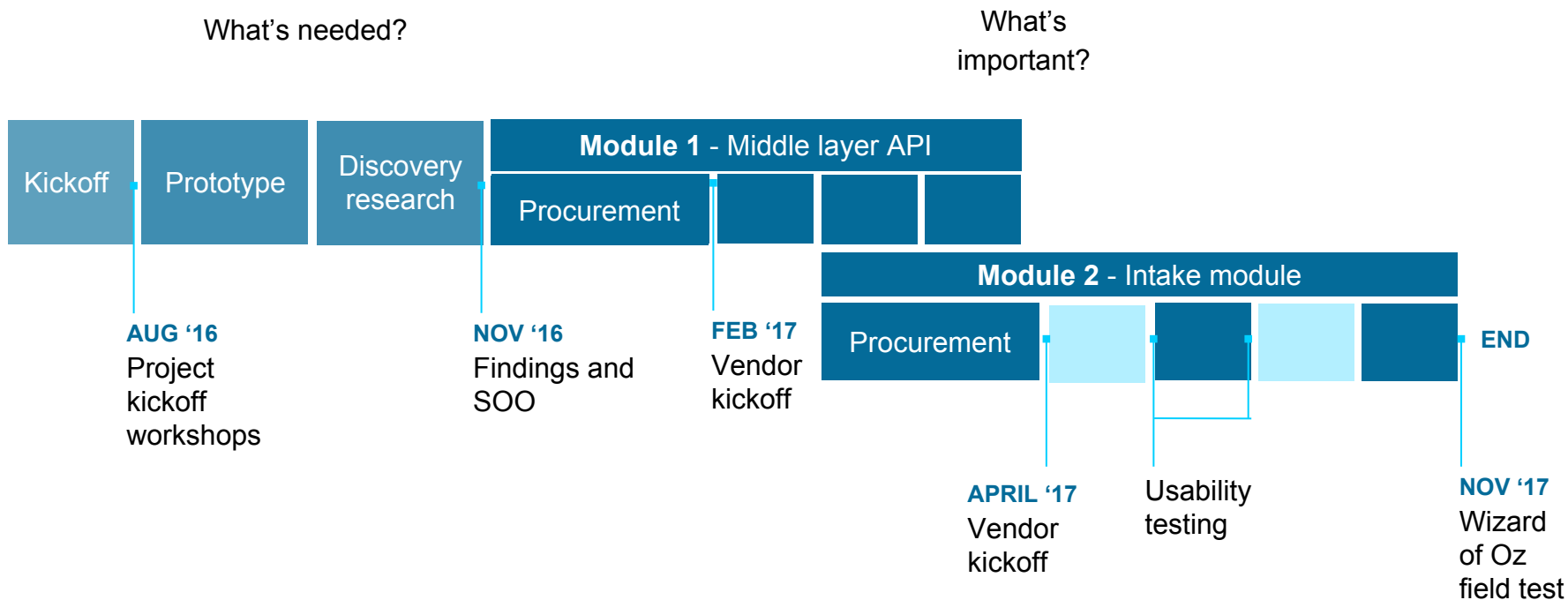
- Do **usability testing**; watch people try your designs
- Discover problems
- Evaluate progress
- Determine next steps

Timeline



MODULES 1 & 2

Special use permits

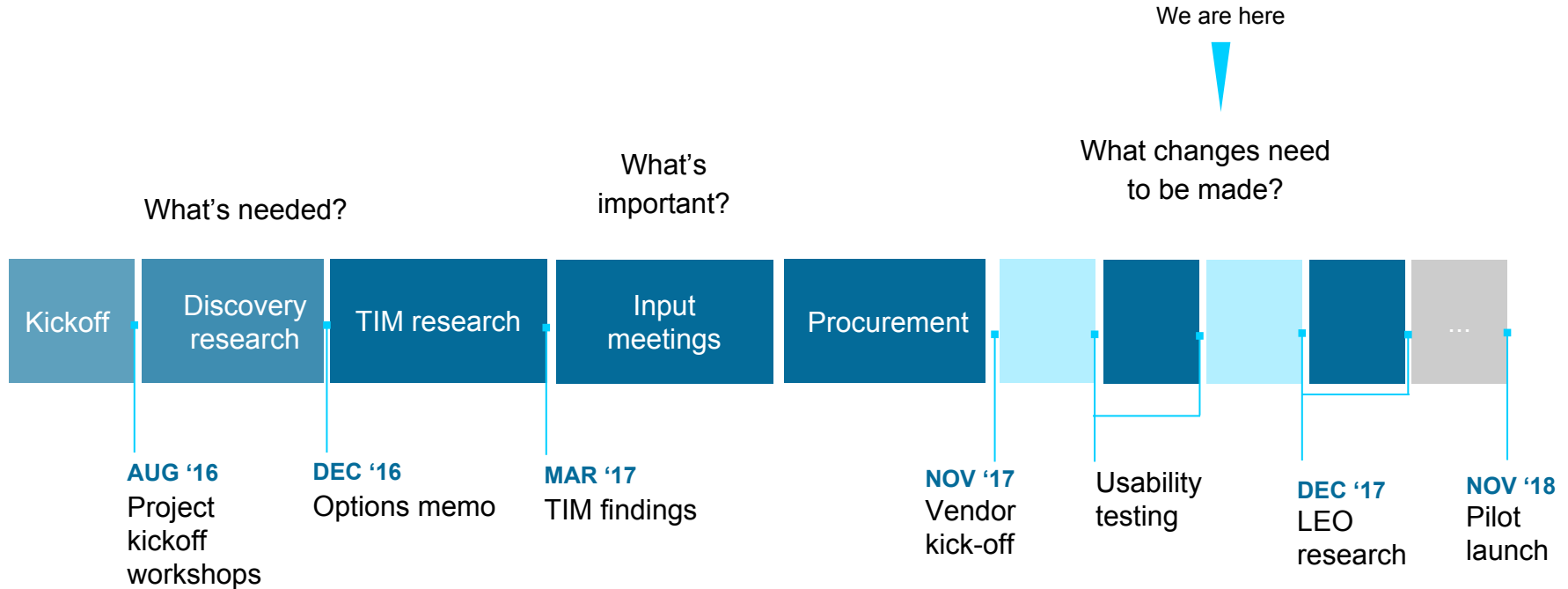


Special use permits

- Kick off workshop
 - Affinity mapping to help surface stakeholders current understanding of users and their needs
 - Journey mapping
- Initial discovery research
 - Interviews and observations with Special Use Administrators, frontliners, and outfitters and guides.
 - Interviews with outfitters and guides re: e-permit entry points
- Usability testing
 - At regular intervals throughout the project
- Wizard of Oz field test

MODULE 3

Christmas tree permits



DESIGN RESEARCH ACTIVITIES

Christmas tree permits

- Project kick off workshop
 - Journey mapping and protoskething with stakeholders to identify opportunities
- Initial discovery research
 - Spike 1: Interviews with FS staff at the various pilot forests
 - Spike 2: Interviews and field observations with FS staff and Law Enforcement Officers (LEOs) during Christmas tree season.
 - Interviews with potential Christmas tree cutters re: e-permit entry points
- TIM research spike
 - Interviews and observations with FS staff processing payments
- LEO research spike
 - Interviews and field observations with FS LEOs during Christmas tree season
- Ongoing usability testing

HCD in practice:

Examples from

e-Permits

For special uses, three challenges:

1

**Public confused by
form questions.**

2

**Forest Service
reviewing
incomplete
applications.**

3

**Applicants unclear
what happens
next.**

Permittees struggle to identify the right kind of permit to use.

Permittees struggled to figure out whether their organizational status meant they were “non-commercial.” They wondered whether collecting donations for a trip made them commercial or whether being a 501c3 exempted them from any commercial permitting process. The answers varied by Forest.



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BETA

[Log in or create an account](#)

Apply for a permit

If you know which permit you need, click on the permit type below to submit an application using a login.gov account.
If you are unsure of which permit you need, click on "Help me find a permit," and we'll provide you with additional guidance.

Non-commercial permit

- Activity involving a group of 75 or more people, either as participants or spectators.
- Organizers do not charge a entry or participation fee.
- The event's primary purpose isn't selling goods or services.
- This type of permit is free.

Noncommercial permit

Log in to apply now with [LOGIN.GOV](#)

[Click here to learn more about this permit.](#)

Temporary outfitter's permit

- For outfitters & guides.
- Authorizes short-term, non-renewable outfitting and guiding.
- Used in increments of 50 service days.
- Valid for up to 200 service days in a 180-day period per use area.

Temp outfitter's permit

Log in to apply now with [LOGIN.GOV](#)

[Click here to learn more about this permit.](#)

I'm not sure

If you're not sure about what kind of permit you need, click on the button below to answer a few questions. We will guide you to the permit that best meets your needs.

[Help me find a permit](#)

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FOIA

(800) 832-1355

Privacy Policy
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Are you charging a participation fee for your activity?

Yes

No

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Does your activity involve guiding or outfitting?

Yes

No

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[Apply for a permit](#) > [Help me find a permit](#)

The correct permit for you is the "temporary outfitter and guide permit."

You can apply online.

[Temp outfitter's permit](#)

[Click here to learn more about this permit.](#)

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A temporary use permit is

Applicant requirements

Number of permits and service days

Benefits of a temporary use permit

Activities and locations

Costs

Application due dates

Temporary outfitters permit information

If you charge a fee for someone to participate in a service that you are providing or otherwise stand to gain from providing that service, you generally need a permit. This includes non-profit organizations.

[See definitions](#) for "Commercial Use", "Guiding", "Outfitting".

A temporary use permit is

- Authorization to conduct short-term outfitted or guided use on national Forest Service land.
- Held by an outfitter qualified to provide the service.
- Valid for up to 200 [service days](#) in a 180-day period per [use area](#).
- Based on a flat-rate fee schedule (see "Costs" below).
- Non-renewable and non-competitive.
- Revocable, suspendable and not appealable.

Applicant requirements

Qualified applicants must submit the following documentation as part of the permit application process:

- Annual use reports
- Liability insurance
- Operating plan
- NOTE: Violations of laws, customer complaints, and adverse performance and/or permit compliance will be considered in evaluating qualifications.

Number of permits and service days

Costs

Cost chart

A temporary use permit is
Applicant requirements
Number of permits and service days
Benefits of a temporary use permit
Activities and locations
Costs
Application due dates

Number of service days	Flat fee	Maximum gross revenue for each period of service days
1 to 50	\$150	\$10,000
51 to 100	\$300	\$20,000
101 to 150	\$450	\$30,000
151 to 200	\$600	\$40,000

(See [FSH 2709.11](#), sec. 37.21c)

Application due dates

[Administration of the temporary permits varies by pool and is specified in the land or river pool permit documents found here.](#)

Ideally, there would be plenty of service days available to allow all temporary use permits to be issued on a first-come, first-served basis. However, some permit pools have high demand and are limited in service day capacity. In this case, we will allocate the permits using a lottery based on due date. Due dates are months ahead of their respective permit period so that applicants who are granted a permit by means of our lottery will have plenty of time to advertise and prepare. In the event there are unallocated days left over after the lottery, additional permits may be issued on a first-come, first-served basis.

[For more information on Forest Service outfitter and guide policies and regulations, visit the national website.](#)

[Back to permits](#)[Temp outfitter's permit](#)

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The most important information for a permit to convey is that it IS a FS Christmas tree permit.

When LEOs see a Christmas tree permit from afar, they assume it's valid. Under the current inspection authority, LEOs reported that they cannot make a traffic stop simply to check compliance—whether a permit is valid or filled out correctly. If they see a car with a tree on top and they also see a permit, they will not make a traffic stop, even if they cannot distinguish any of the information on the permit.

CHRISTMAS TREE PERMIT

PERMIT NUMBER

0000000001



2017

THIS PERMIT EXPIRES AT MIDNIGHT OF THE HARVEST DATE FILLED IN BELOW OR DEC 25 12:00AM 2017

MONTH



DAY



ARAPAHO - ROOSEVELT

NATIONAL FORESTS

PLEASE FILL OUT THE MONTH AND DAY YOU PLAN TO CUT YOUR TREE DOWN

FOLD OR CUT ALONG DOTTED LINE AND DISPLAY IN FRONT WINDSHIELD

CHRISTMAS TREE CUTTING GUIDELINES	PERMIT NUMBER 0000000001	<input type="checkbox"/> I HAVE PRINTED THE RULES AND REGULATIONS	
YOU MUST BE ON NATIONAL FOREST LAND TREE DIAMETER MUST BE 6 INCHES OR LESS AT THE STUMP YOU MUST LEAVE A STUMP OF 6 INCHES OR LESS DO NOT CUT TREE TOPS OFF - TAKE THE WHOLE TREE LEAVE NO TRACE - PACK IT IN, PACK IT OUT	ISSUE DATE NOV 10	LAST NAME SMITH	FIRST NAME SIMON
	PERMIT EXPIRATION DEC 24 12:00AM 2017		
	SAFETY IS YOUR RESPONSIBILITY		

CHRISTMAS TREE PERMIT



(MM)	(DD)

TREE 2		TREE 3		TREE 4		TREE 5	
(MM)	(DD)	(MM)	(DD)	(MM)	(DD)	(MM)	(DD)
		N	A	N	A	N	A

FILL IN THE MONTH AND DAY YOU CUT YOUR TREE(S)

2018

PERMIT MUST BE PLACED AND CLEARLY VISIBLE ON DASHBOARD FACING THIS SIDE UP

MT. HOOD

NATIONAL FOREST

PERMIT VALID FOR
2 TREES

MAX TREE HEIGHT
12 FEET

MAX STUMP DIAMETER
6 INCHES

MAX STUMP HEIGHT
6 INCHES OR LESS

PERMIT NUMBER
9A48D5947F

ISSUE DATE
JAN 16

PERMIT EXPIRATION
DEC 24, 2018 12:00 PM

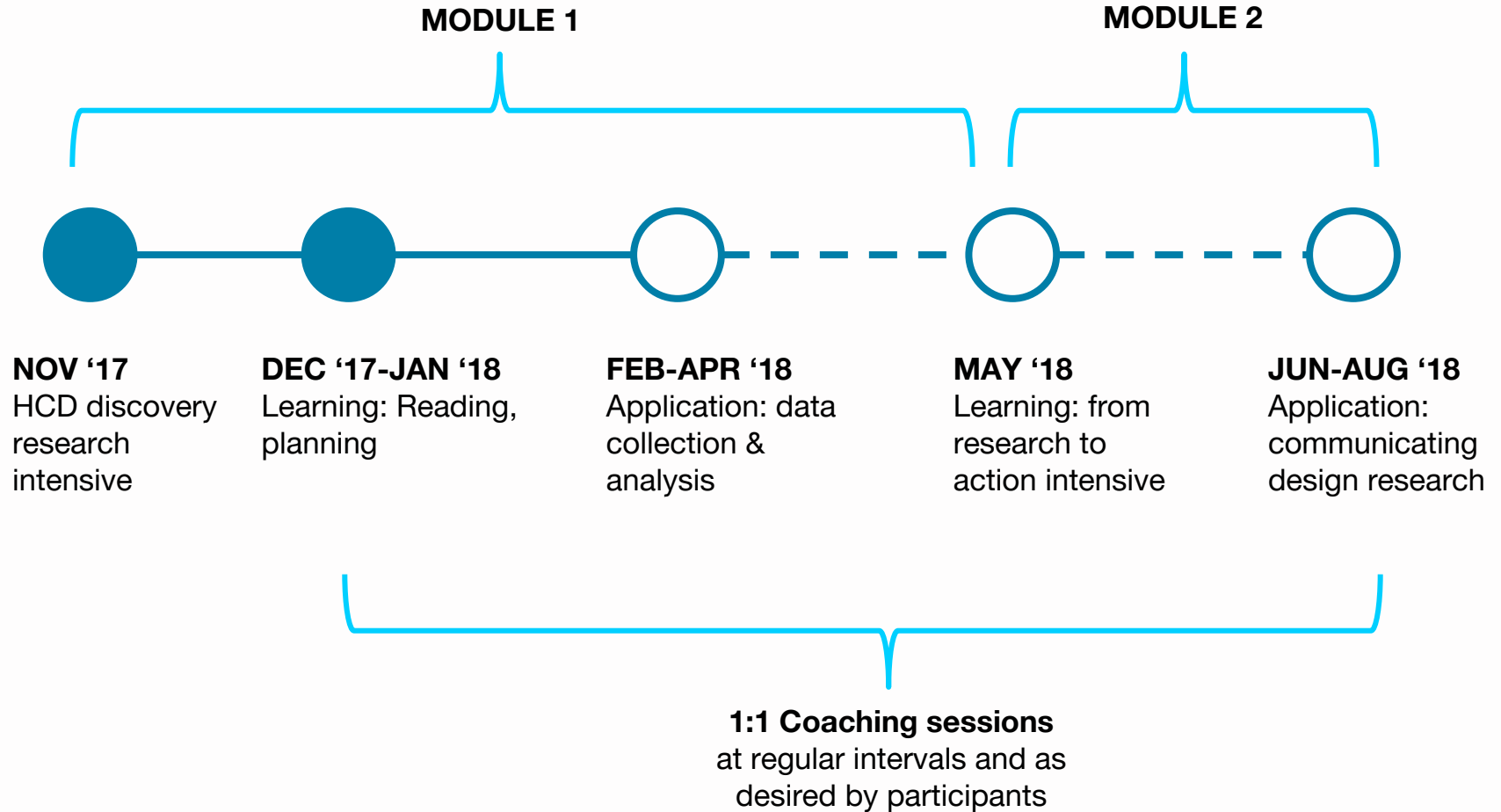
PERMIT HOLDER
TEST TEST

GUIDELINES:

- Fill in dates (month, day) **must** be filled out using bold black ink only. (i.e. Sharpie, marker, felt-tip pen)
- Month and day should be filled out on the date you cut your tree.
- Permit **must** be completed before transporting tree.
- Permit holder **must** be present at time of tree cutting.
- Do **not** cut tree tops off - take the whole tree.
- Leave no trace - pack it in, pack it out.
- You **must** be on National Forest land when cutting your Christmas tree(s) under this permit.
- It is unlawful to reuse or duplicate this permit for the purpose of removing more products than the permit holder has purchased.

☒ I HAVE READ, UNDERSTOOD, AND AGREED TO THE RULES

2/ HCD coaching at NRM



We've broken the next few months into 2 modules. Each module has 4 components:

Module components



Module 1 - Planning and conducting design research



Learning

11/14-11/15/17:
2-day intensive



Coaching

1:1 remote sessions +
additional reading

We are **here!**



Applying

~NOV '17-MAY '18: Planning
and conducting a discovery
research sprint



Reflecting

Reflection exercises
throughout and a retro at the
end of the module

Module 2 - Translating research into action: Visioning, framing, and decision making



Learning

Onsite workshop, **APRIL '18**
+ optional reading



Coaching

1:1 remote sessions +
additional reading



Applying

MAY-SEPT '18 ... Basing
project decisions on design
research

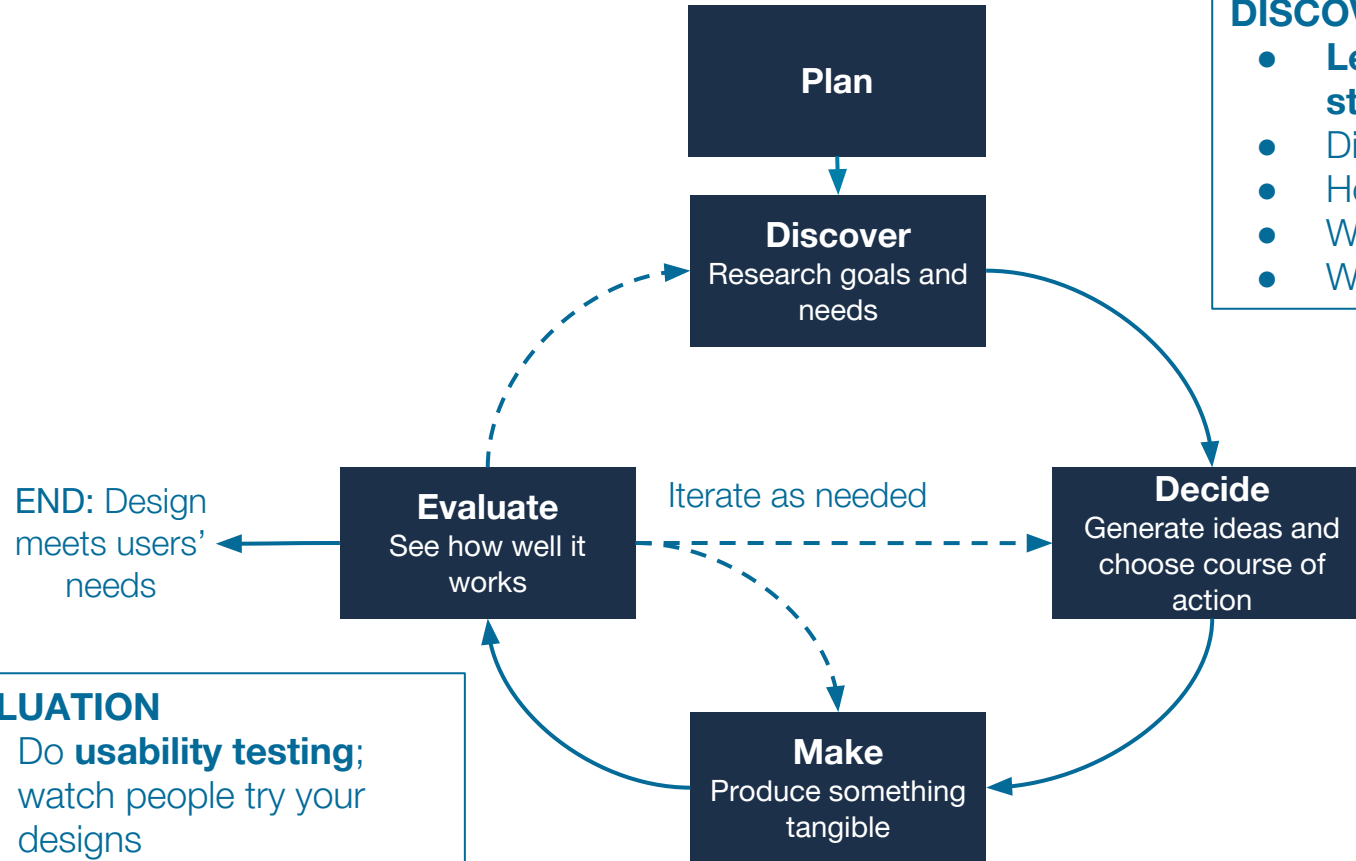


Reflecting

Reflection exercises
throughout and a retro at the
end of the module

DISCOVERY

- **Learn about users and stakeholders**
- Discover goals and needs
- How is it done now?
- What is needed?
- What else has been tried?



EVALUATION

- Do **usability testing**; watch people try your designs
- Discover problems
- Evaluate progress
- Determine next steps

Elements of a good discovery plan

1/

Research question(s)

2/

Who you hope to talk to

3/

How you plan to recruit people

4/

The methods you'll use

Characteristics of a good research question

The question is feasible.

The question is clear.

The question is significant.

The question is ethical.

“The result of formulating questions is it helps you to circumscribe a specific area of a more or less complex field which you regard as essential.”

Agee, Jane. "Developing qualitative research questions: a reflective process." International Journal of Qualitative Studies in Education 22.4 (2009): 431-447.

Review of team projects

Participants

Core participants

Roy Mita & Kathy Sleavin
Portia Jelinek & Lena Ahad
Emilie Lang & Bill Belton
Gene O'Donnell
Callie McConnell
Carly Bier
Gina Seroy

Peripheral participants

Steve Lammey
Sue Emery
Anna Fargo

Project focus

*Range Inventory and Monitoring (RIM)/FSVeg
Wilderness Monitoring application
Communications Systems/Radio Tower Data
Shared reference tables
Go with the flow
Mineral Materials Application
Automated testing*

SUDS

Roy Mita & Kathy Sleavin

RIM/FS Veg

PRIMARY RESEARCH QUESTION(S):

Can/should the RIM Functionality be accommodated in FS Veg?

- What impact would moving RIM functionality into FS Veg have on its users?
- What considerations are important in potentially combining the functionality of the two applications?
- What are the technical, organizational, and policy constraints that might impact this change?

Shared Reference Tables (Project #514)

PRIMARY RESEARCH QUESTION(S)

What new challenges/opportunities does the current modernization effort hold for how developers and tech leads manage data across applications?

- What are the tradeoffs between centralized data management and application-specific data management solutions?
- What (if any) data should be centrally managed for all applications?
- What are the success factors/potential barriers for developers and tech leads centrally managing data for their application(s)?
- What technical, organizational, and business constraints must we consider in moving toward a more centralized data management approach?

Carly Bier

Mineral Materials

PRIMARY RESEARCH QUESTION(S)

What, if any, opportunities are there for a modernized application to improve:

- the experience of Front-liners at Forest Service offices who issue permits to the public?
- the public's experience with FS Front-liners?
- the experience FS employees have with the mineral materials database?
- Would offering a spatial component improve the data usability for employees of the Forest Service?
- What are the workflows each group goes through and how can we make it more streamlined?
- What are the database constraints? What other applications need to be considered?
- What elements (features, data types, etc.) are necessary for upward reporting or are particularly useful?

Communications Systems/Radio Tower Data

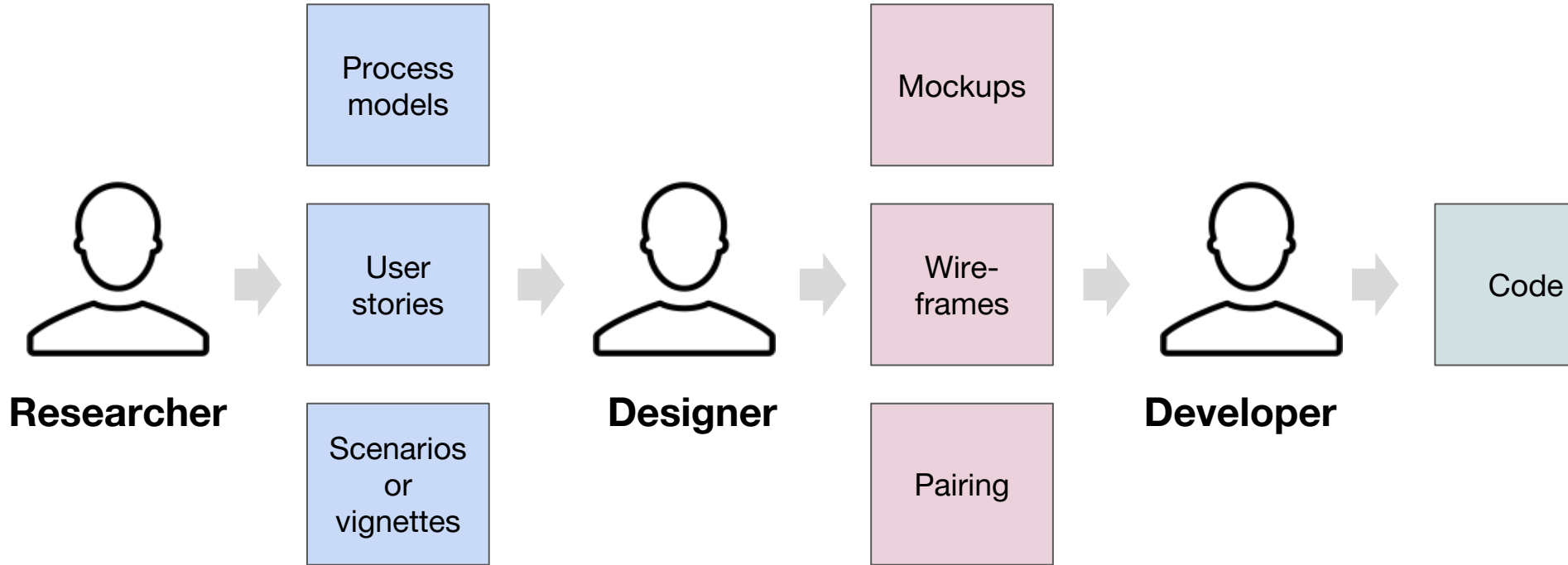
PRIMARY RESEARCH QUESTION(S)

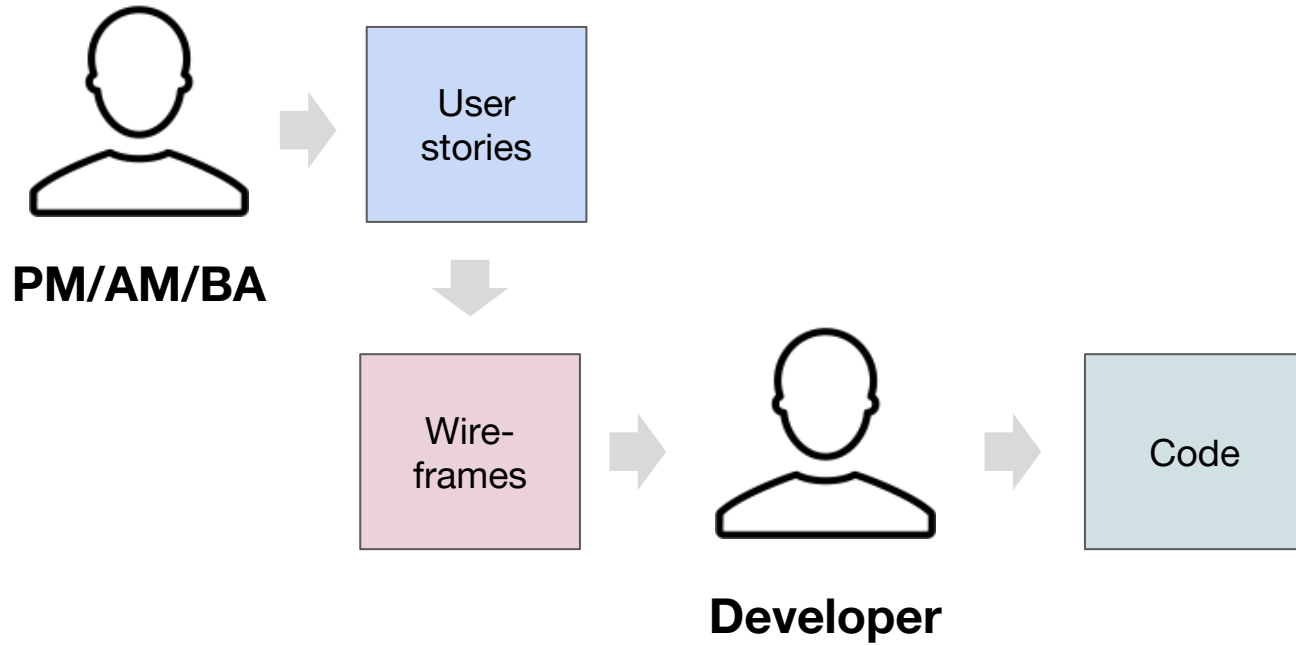
How can the Communications Systems application be modified to improve the user experience of both **field users** and **program managers** in collecting, maintaining, and reporting data on their communications systems?

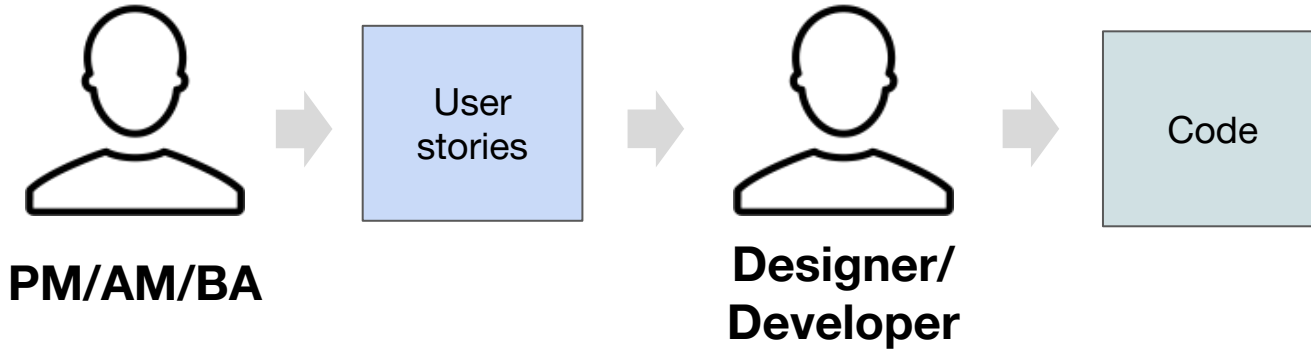
- What opportunities and/or barriers does the current modernization effort pose to improving these users' experience?
- How might the current modernization effort shape how we approach modifications to the application
- When and how should we modify the system—in the legacy environment or in the next gen environment?

Design research challenges

Communicating design research to developers







Design research and the SDLC

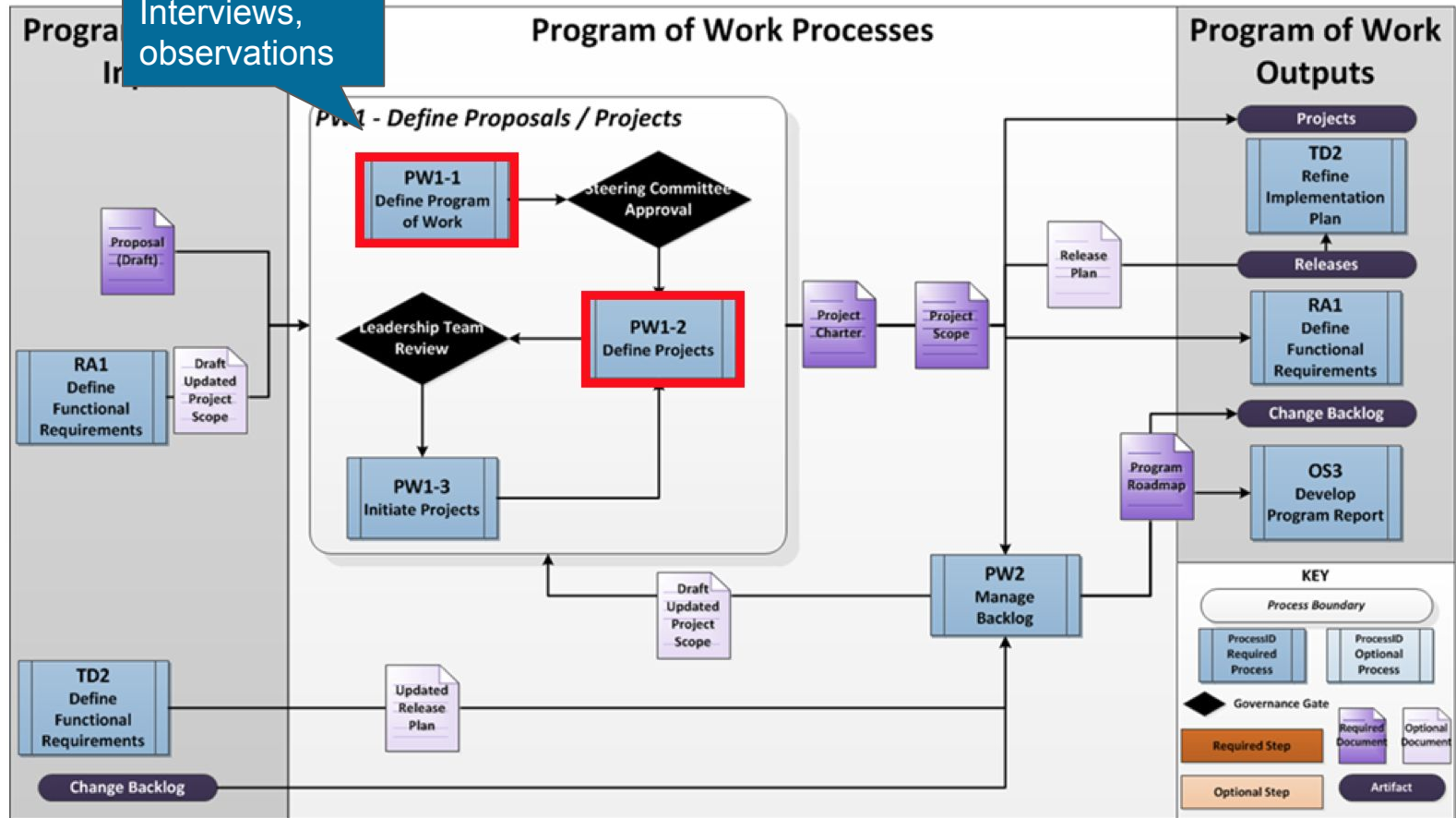
Which phase does design research happen in?

Table 1: NRM SDLC's Six High-level Stages

Program of Work	Requirements Analysis	Technical Design	Development / Testing	Deployment	Operational Support
The <u>Program of Work Stage</u> is where program needs are identified, prioritized, and scheduled to be worked on.	The <u>Requirements Analysis Stage</u> is where program needs are decomposed into functional requirements that will drive solution development.	The <u>Technical Design Stage</u> is where functional requirements are translated into technical requirements and development tasks.	The <u>Development and Testing Stage</u> is where new and modified application code is created and finalized to meet functional requirements.	The <u>Deployment Stage</u> is where new and modified application code is built into a release package and deployed to production servers.	The <u>Operational Support Stage</u> supports users in their operations of applications and where production applications are maintained.

Discovery
research:
Interviews,
observations

Figure 1: Program of Work Stage



Strategy to include design research

Figure 3: Requirements Analysis Stage

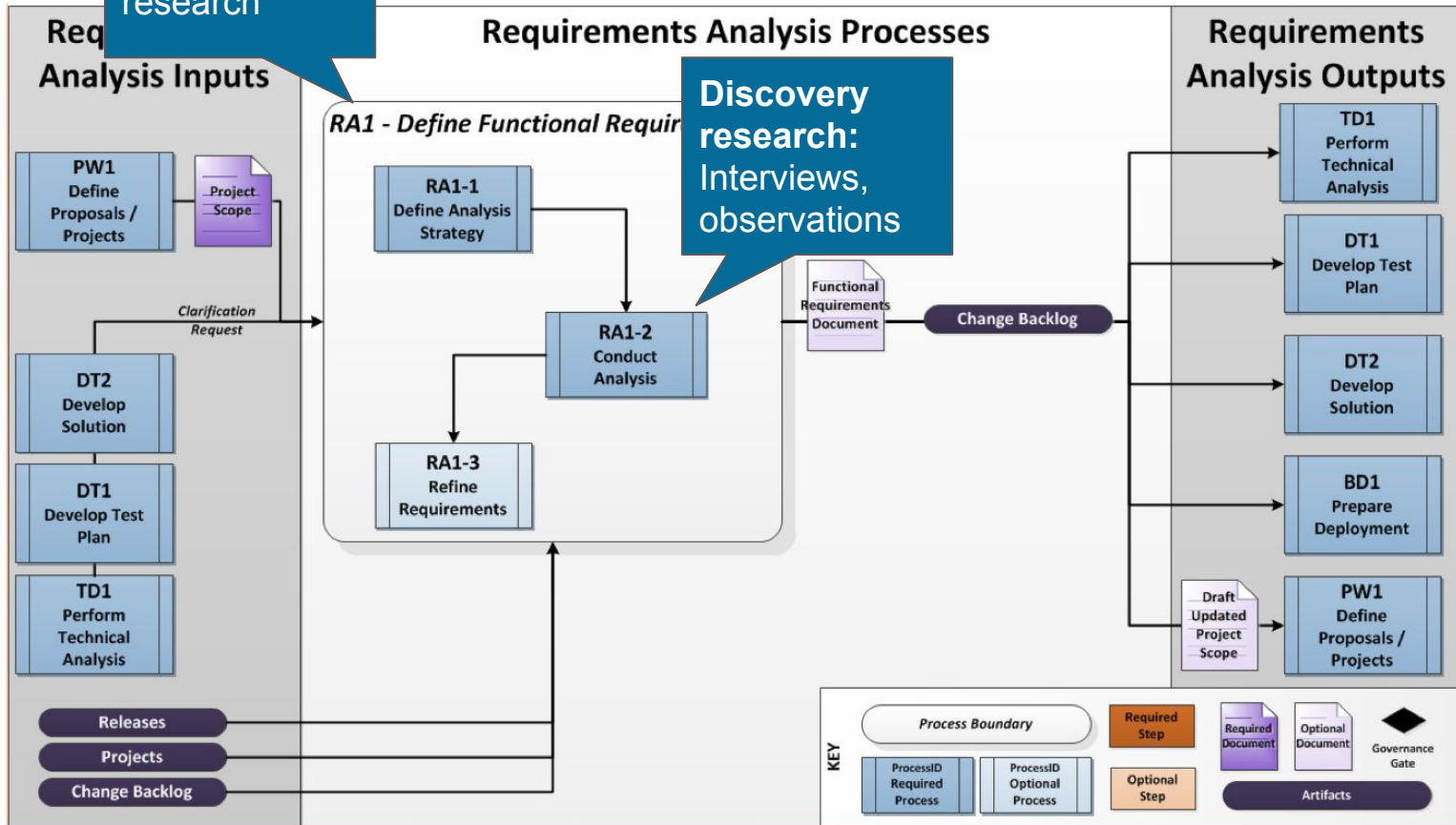


Figure 5: Technical Design Stage

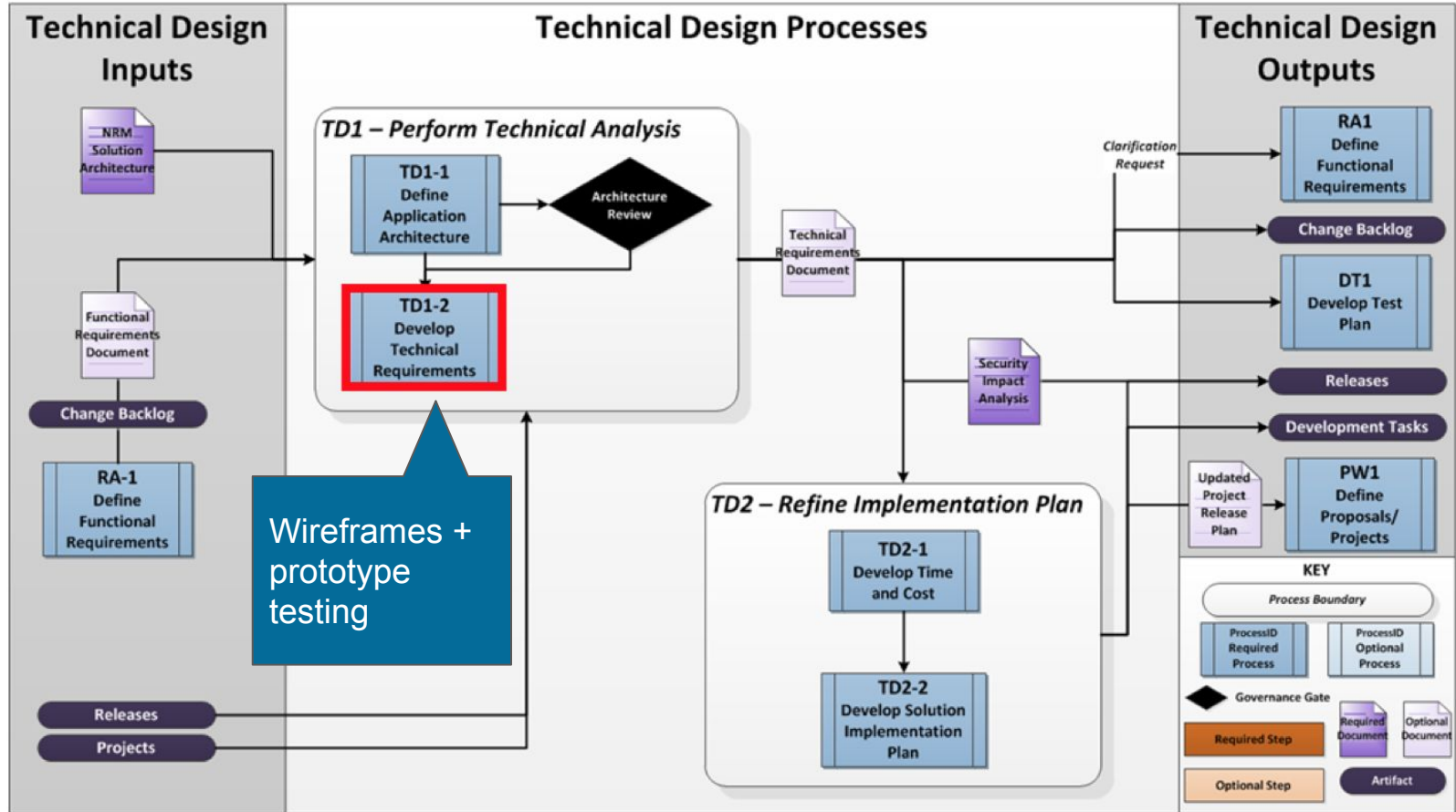


Figure 8: Development and Test Stage

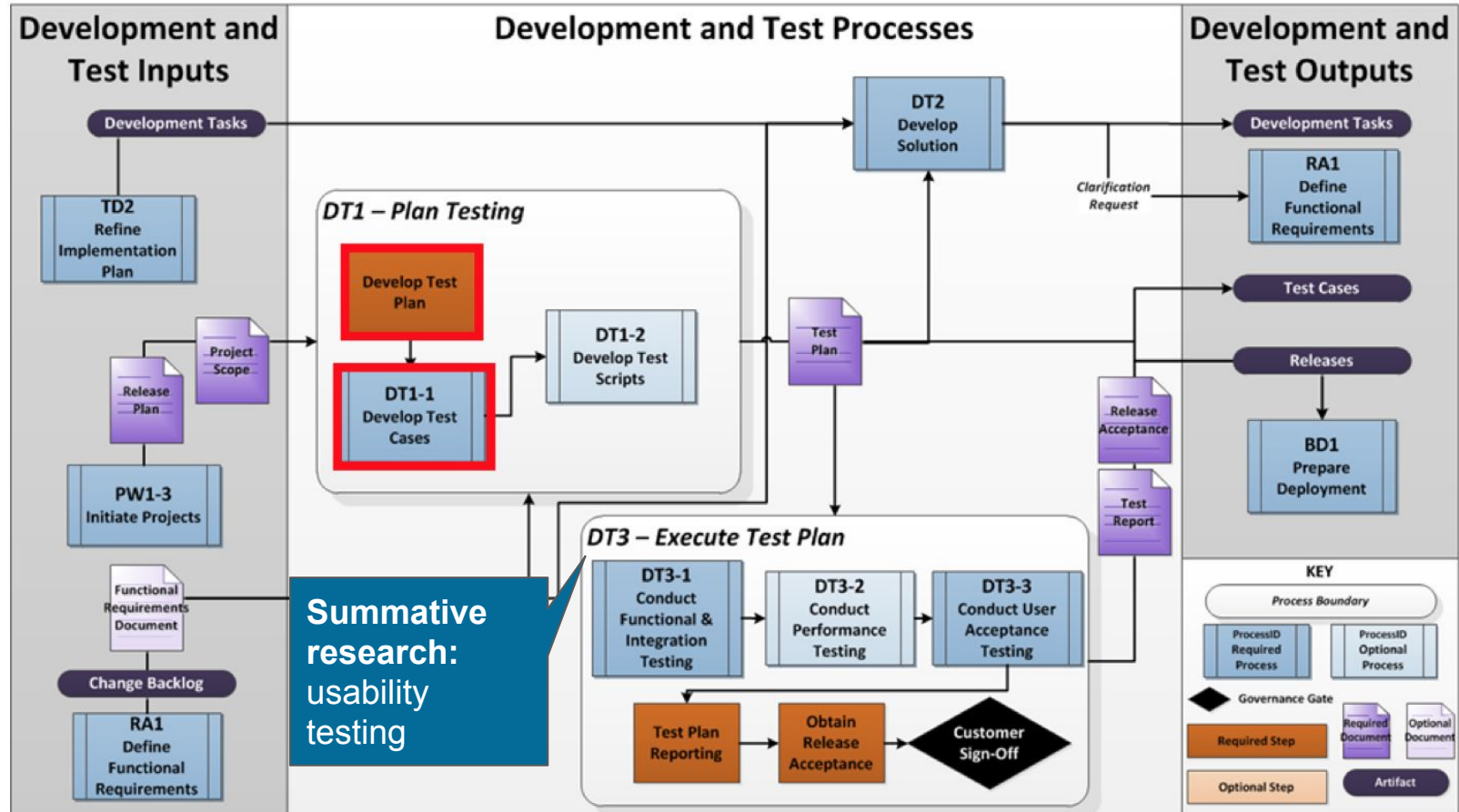


Figure 12: Deployment Stage

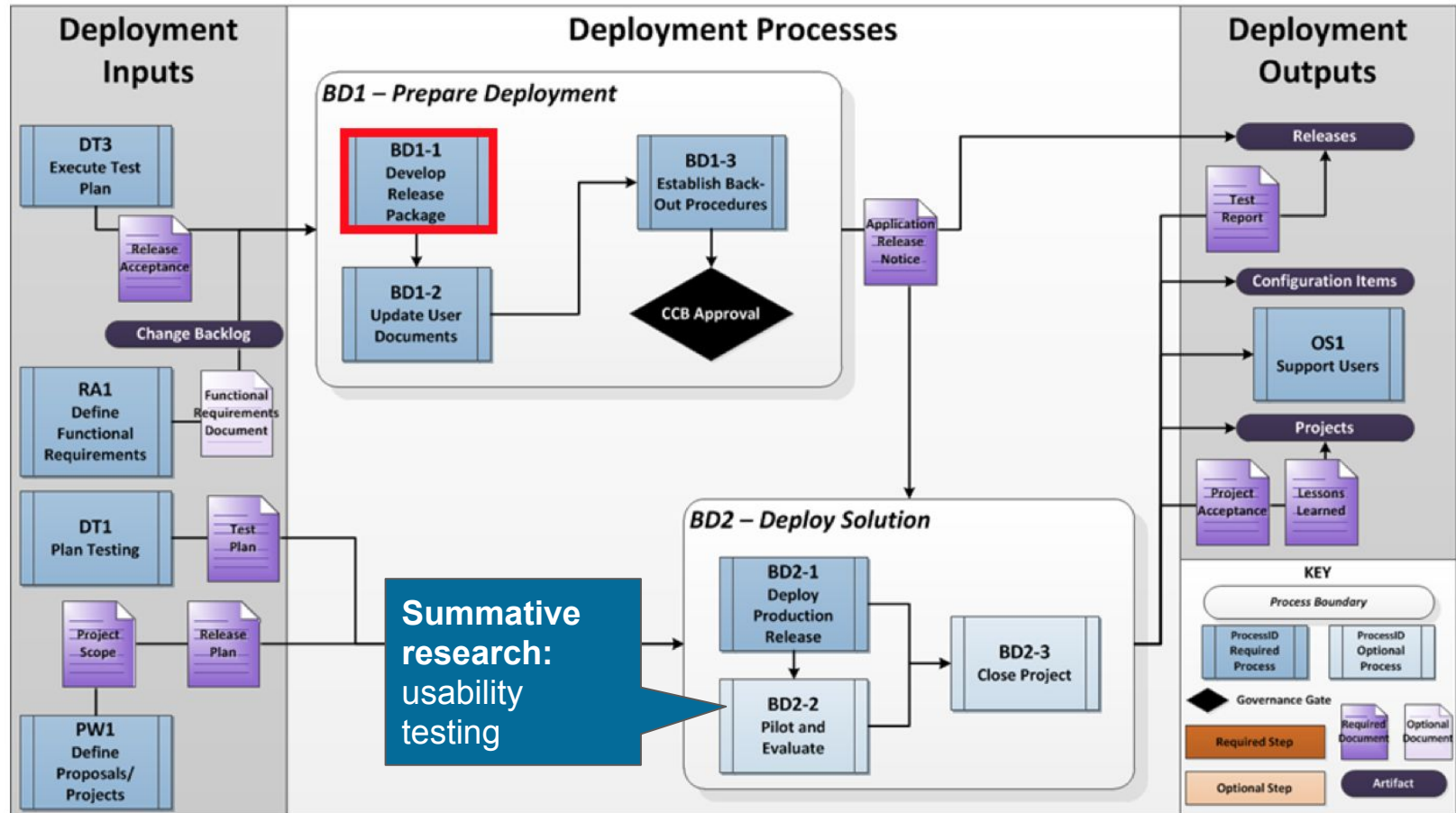
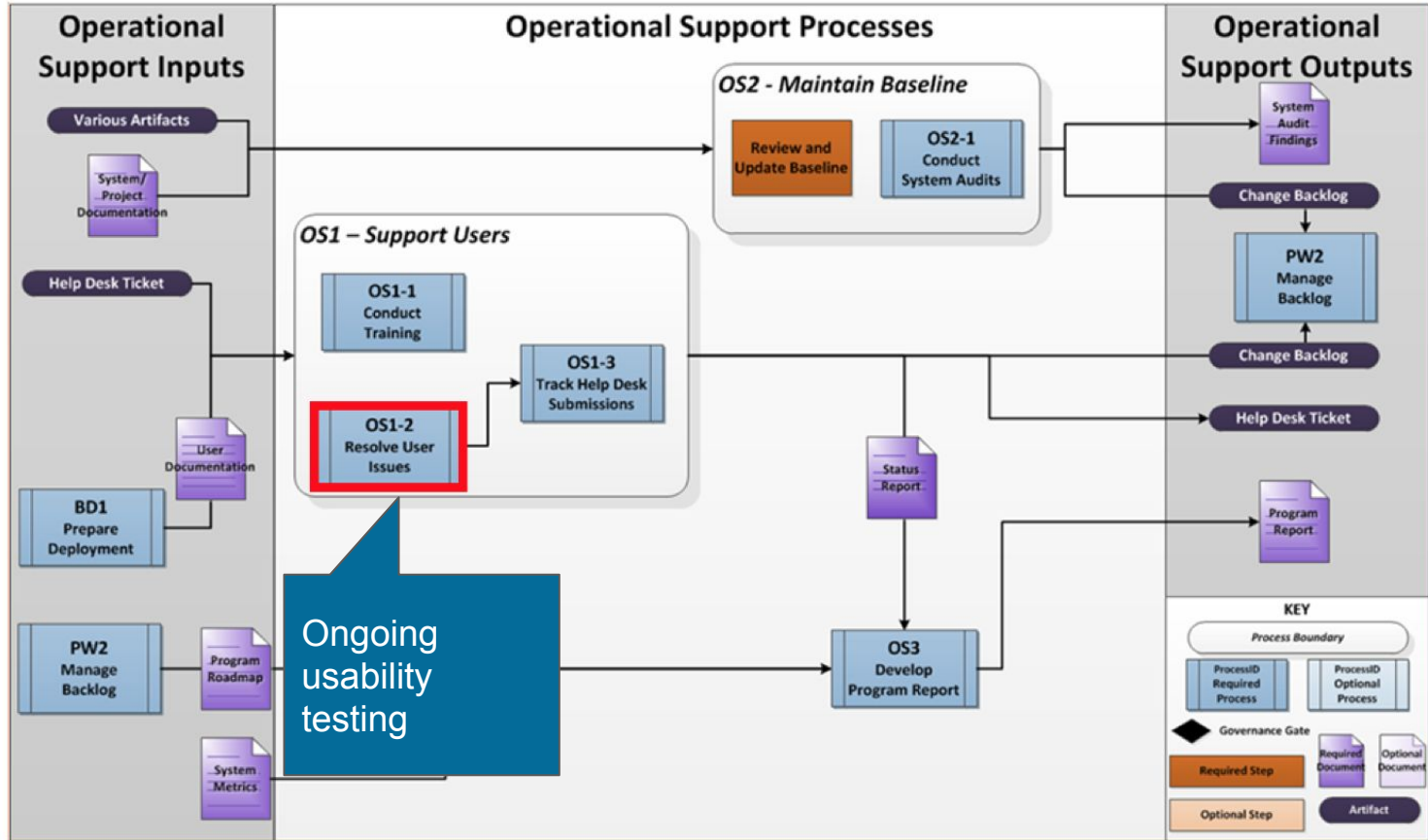


Figure 15: Operational Support Processes



SDLC stages and HCD phases

Table 1: NRM SDLC's Six High-level Stages

Program of Work		Requirement s Analysis	Technical Design	Development / Testing	Deployment	Operational Support
Discover		Make				
Decide		Evaluate				
identified, prioritized, and scheduled to be worked on.		decomposed into functional requirements that will drive solution development.	are translated into technical requirements and development tasks.	application code is created and finalized to meet functional requirements.	code is built into a release package and deployed to production servers.	operations of applications and where production applications are maintained.

HCD
phases:

3/ ACTIVITIES

Key questions for next steps

1

Who are the champions
we should expose, inspire
and train?

2

**Where do we find and
create** explicit authority?

3

What other projects are
**opportunities to show
what's possible?**

Link to Mural

ACTIVITY 1: What is leadership's role in helping institutionalize HCD at NRM?

ACTIVITY 2: What is leadership's expectation of the HCD cadre?

ACTIVITY 3: How might we improve communication going forward?

4/ Questions

#/ PARKING LOT

A/ Frontliners, guides, members of the public, managers all want responsible access to National Forests.

A/ Frontliners, managers, region staff and leaders all want to deliver good customer service.

B/ For Christmas trees, current systems don't save time. They create work.

