DevEx Usability TestingResearch Findings

August 2023

Research goal



To understand the experience of finding this information before the Developer Experience team launches their MVP

→ We are planning to run the same experiment after launch, to determine whether our MVP has had an impact

Research method



Unmoderated Usability testing.

This means that participants completed tasks on their own while being recorded.

This allowed them to behave more naturally without feeling like someone was putting them on the spot.

Participants



- 5 participants

- All developers who are new to BC Gov

Varying levels of expertise (Co-Op to Senior Dev)

- 3 CITZ, 1 LWRS, 1 SDPR

Tasks: Find out more about ___ in the BC Gov



- 1. IDEs
- 2. Becoming a member of the github org
- 3. Troubleshooting options
- 4. Cloud hosting

- 5. Programming languages
- 6. Mobile development
- 7. APIs
- 8. Common components
- 9. Design system

Additional info



They had to show us how they would do this without asking someone

Some of these tasks are very difficult - official info may not exist

They had to rate each task from 1 (difficult) to 5 (easy)

Links

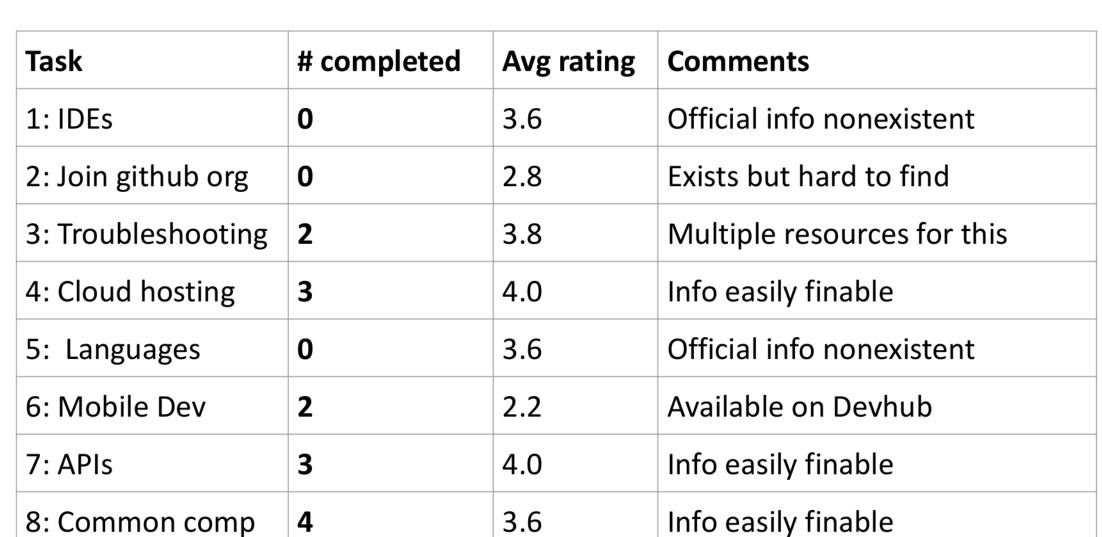


The usability test guide

Research findings spreadsheet



Task analysis



3.8

Available on Devhub

9: Design system







In this study, we're paying more attention to completion of the task (evidence) than personal ranking (opinion.)

Tasks got easier as the participants went through and explored different resources



Observations / comments

Common sources people looked for info



- 1. Internal documentation (internal team site, intranet)
- 2. "Well, if it's not there, I would ask _____"
- 3. Github (looking at other repos to find examples & documentation)
- 4. Comms channels (rocketchat, MS teams)
- 5. Public information google, public stackoverflow
- 6. BC Gov websites (devhub, digital.gov)





Internal documentation and word of mouth were how they approached most tasks. Searching the internet was usually a last resort.

"I only found this because I know it exists.

Maybe we need an internal copy of this entire site

(devhub) so we can find this stuff."

Having access to documentation is important



The participant from LWRS had an easier time with some tasks because the LWRS Developer Community maintains a confluence site with all the info needed to complete most tasks.

However when info was missing from that site, they struggled to think of other resources to check.





"This is quite unfortunate. It should be here (on digital.gov) but it's not"

"This showed me how much I rely on other team members."

"Wow, without asking anyone on my team this would be pretty difficult to find."





Information on APIs, common components, cloud hosting and design system were easily findable on google. They were also the tasks with highest completion rate.

"This is exactly the info I was expecting and hoping to find. Really nicely organized, exactly where I was expecting to find it. Better than I thought." - (API task)

That's all!

Here's a cute dog





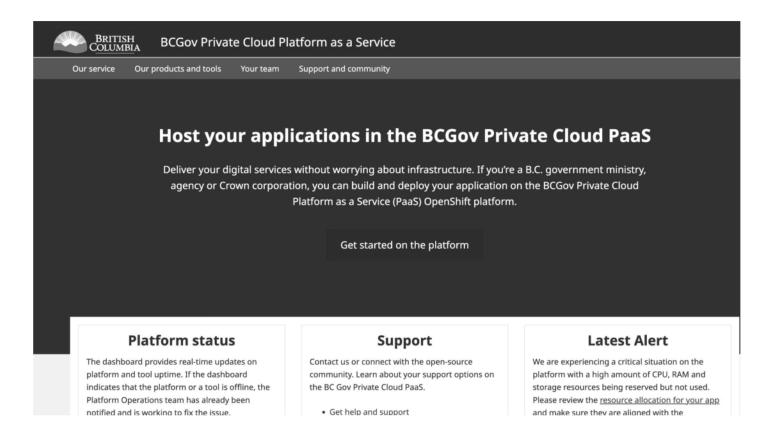
Private Cloud Website Testing Research Findings

2022

What this research is all about



Testing content of the non-technical <u>public website</u>



Rounds 1 and 2



Tested six people in a non-technical role on a digital team, who had not used (or were new to) the Openshift platform, for each round. Different participants were used for Rounds 1 and 2.

- → 15 min interview to understand their context, and what was important to them
- → 35 min completing tasks (usability testing)

50 minute sessions





These are the general things that we are looking to understand:

- → How do users make decisions about whether to use the platform?
- → How do they find our website?
- → Can they find and understand important information on our service? What language or words do they use and/or understand?

Links



Round 1:

- Interview guide
- Research data mural board (to view all the findings)
- Design decision spreadsheet

Round 2:

- → Interview guide
- → Research data mural board (to view all the findings)
- → <u>Design decision spreadsheet</u>



Round 1

June 2022

Q1: How do users make decisions about whether to use a platform?

Important factors for making decisions are:



- → Does the vendor/tech team recommend it?*
- → Cost
- → Reliability
- → Who else is using it? Is it proven in government?
- → How does it compare to the alternatives? Is it better than what we have?

^{*}As expected, most teams we talked to rely on vendor teams for technical tasks. Participants for the most part had basic understanding of cloud and perceived it as a positive thing.

Q2: How do they find our website?

How they'd find the website (hypothetically ...)



Word of mouth and BC gov sources (teams, intranet) were the initial reaction*. But they'd also google it. Search terms included:

- → Bc gov aws
- → Cloud platforms supported by BC Government
- → Cloud hosting, hosting servers + BC gov

*take this with a grain of salt because what people say they will do and what they actually can be different.

Q3: Can they find and understand important information on our service?





- 1. Find content to decide whether to use the platform
- 2. Figure out if their team is eligible / suited to the platform
- 3. Sign up for the platform
- 4. Sign up for training
- 5. Find out if it is secure
- 6. Get support when something goes wrong (after hours)

Generally, could users complete the tasks?



1 - Decide whether to use the platform	Difficult to find content
2 - Figure out if their team is eligible	Difficult to find content
3 - Sign up for the platform	Easy to find + understand
4 - Sign up for training	Easy to find, had some questions
5 - Find out if it is secure	Easy to find + understand
6 - Get support after hours	Easy to find, but didn't understand what steps to take

^{*}This is generalized across participants and not meant to be quantitative data

Top issues



- → Can't find info on pricing (it's there but buried)
- → Alert is distracting, people think platform is down
- → Roles/responsibilities diagram confusing and distracting
- → Some terms don't resonate (Silver and gold, "your team")
- → Some didn't know that case studies are case studies
- → Difference between platform and add-ons not clear
- → Clearer instructions on prep for onboarding, who training is for

View all findings and recommendations here.

What we're doing about it



- → Discussion and consensus between design, content & IA (we consulted Olena & Justin for more complex ones)
- → If changes were agreed on, we put it in the backlog
- → We will continue to validate these through research

This resulted in mostly content changes, and a few styling changes. You can find out exactly what changes we made here: <u>View all findings and recommendations</u>.

Here are some befores and afters....



BCGov Private Cloud Platform as a Service

Our service

Our products and tools

Your team

Support and community

Host your applications in the BCGov Private Cloud PaaS

Deliver your digital services without worrying about infrastructure. If you're a B.C. government ministry, agency or Crown corporation, you can build and deploy your application on the BCGov Private Cloud Platform as a Service (PaaS) OpenShift platform.

Get started on the platform

Platform status

The dashboard provides real-time updates on platform and tool uptime. If the dashboard indicates that the platform or a tool is offline, the Platform Operations team has already been

Support

Contact us or connect with the open-source community. Learn about your support options on the BC Gov Private Cloud PaaS.

Latest Alert

A

We are experiencing a critical situation on the platform with a high amount of CPU, RAM and storage resources being reserved but not used. Please review



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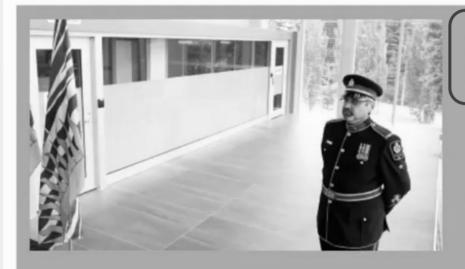
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notified and is working to fix the issue.

Up-to-date status of our systems

- Get help and support
- · Report an incident
- Technical documentation on DevHub

the <u>resource allocation for your app</u> and make sure they are aligned with the guidelines.



<u>Leveraging OpenShift to modernize application</u> <u>integration</u>

The Justice and public Safety sector's Integration Services team is in the process of modernizing how their sector integrates applications. Learn how they're using Red Hat[®] OpenShift[®] in the BC Gov Private Cloud PaaS to connect all of their sector's applications on one platform.

Read more platform stories:

- · Natural resource ministries: Finding new solutions on OpenShift
- · Health Gateway: Improving access to health information across B.C. on OpenShift
- Justice and public safety sector: Protecting high-risk data on OpenShift

Product team expectations

Before starting on the platform, make sure you're prepared for success.

Teams who join the platform should be willing to adopt modern technology architecture and development approaches, including DevOps, Agile and continuous delivery.

Events and training

Learning how to work in OpenShift can be hard. We've put together some resources to help you and your team make the most of the BC Gov Private Cloud PaaS.

We also host a number of events and training to help you learn the platform and stay part of the community.

OpenShift 101 training

Our service

The BC Gov Private Cloud PaaS team strives to:

- Build a constantly improving application platform for delivery of modern government services.
- Inspire a DevOps culture shift, which values opensource, collaboration, communication and speed.
- Create a community that takes care of each other
 and works together to solve the unsolvable.

Platform Operations team has already been notified and is working to fix the issue.

<u>Up-to-date status of our systems</u>

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Our products and tools in the BCGov Private Cloud PaaS

Our products and tools

- Silver and Gold hosting tiers
- Platform Project Registry
- Sysdig Monitor
- AppAssessment
- Artifactory
- Vault Secrets Management
- Repo-Mountie
- RedHat Advanced Cluster Security
- Developer registry

Learn about the products and tools offered in the BC Gov Private Cloud PaaS.

<u>Silver and Gold hosting tiers</u>

Learn about our Silver and Gold platform hosting tiers, and find out which one is the best for your application.

<u>Platform Project Registry</u>

Provision your projects on OpenShift using the BC Gov Private Cloud PaaS self-serve registry service.

Sysdig Monitor

Track metrics and build dashboards to monitor the health, availability and resource usage of your application.

<u>AppAssessment</u>

Make sure your application is configured to adhere to platform best practices.

<u>Artifactory</u>

Get access to a trusted and secure repository for storing images, packages, libraries and other artifacts.

Vault Secrets Management

Vault is a secure way to store and manage credentials, API tokens and other sensitive information.

Repo-Mountie

Make sure your repositories meet B.C. government requirements for open-source development and security governance.

<u>RedHat Advanced</u> <u>Cluster Security</u>

Red Hat Advanced Cluster Security services help you improve policy and industry compliance across the lifecycle of your application.

<u>Developer registry</u>

How to get support on

Stay connected in

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Products

The BC Gov Private Cloud PaaS has two hosting tiers: Silver and Gold. Learn more about the two hosting options, and find out which one is the best for your application.

Silver and Gold platform tiers

Host your application on the Silver or Gold platform hosting tier. Learn more about our two hosting options, and find out which one is the best for your application.

<u>Platform Project Registry</u>

Provision new projects or make changes to existing projects on OpenShift using the BC Gov Private Cloud PaaS self-serve registry service.

Tools

We provide additional tools that you can leverage to build and maintain your applications in OpenShift.

Sysdig Monitor

Track metrics and build dashboards to monitor the health, availability and resource usage of your application.

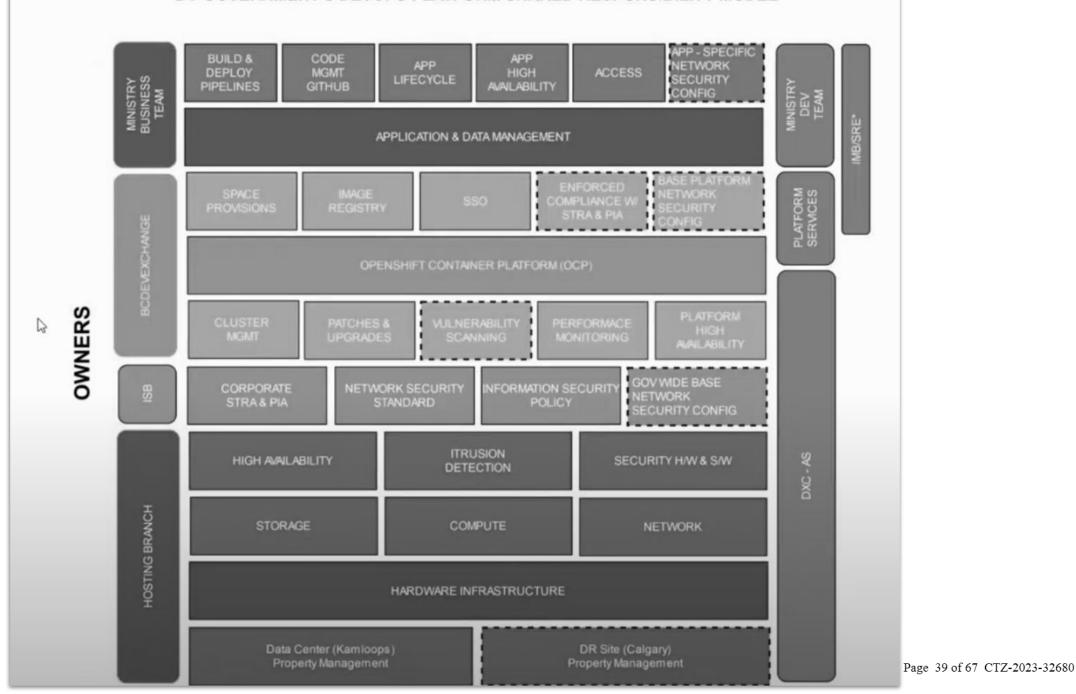
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BC GOVERNMENT'S DEVOPS PLATFORM SHARED RESPONSIBILITY MODEL

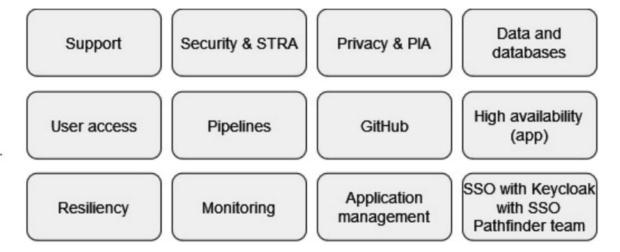


Responsibility diagram

This diagram illustrates how responsibility for the platform and its tools are shared. More detail on responsibilities is included below the diagram.

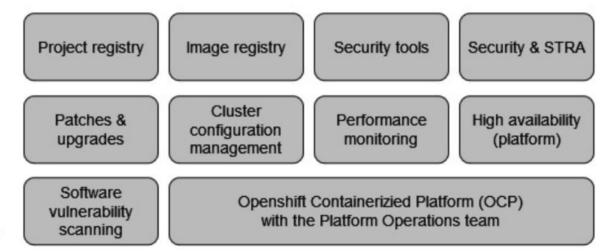
Application and product teams

Product teams are responsible for managing and supporting all aspects of their application(s).



Platform and Platform Services team

The Platform Services team is responsible for these aspects of the platform. We also work with Platform Operations to manage the Private Cloud PaaS.







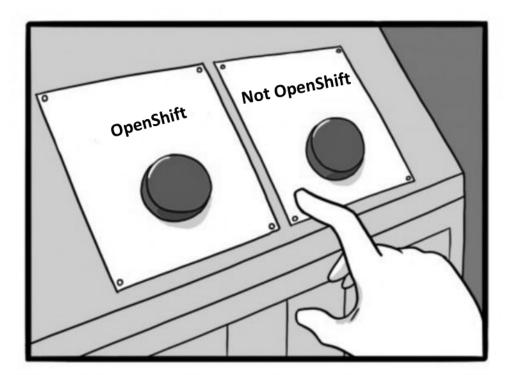
- → Recruit users more closely matched with our persona
- → Validate the higher priority changes we made from this round
- → Gain more insight into a user's understanding (this research was more along the lines of, "could they find it?")



Round 2

August 2022

Q1: How do users make decisions about whether to use a platform?









Similar results as Round 1, with a few new factors:

- → Cost
- → Dev's familiarity with platform
- → Security (meets privacy needs)
- → Reliability and scalability
- → Control over hosting environment (deployments)
- → Will my app be accessible to a wide array of people if hosted on this platform?

Q2: How do they find our website?



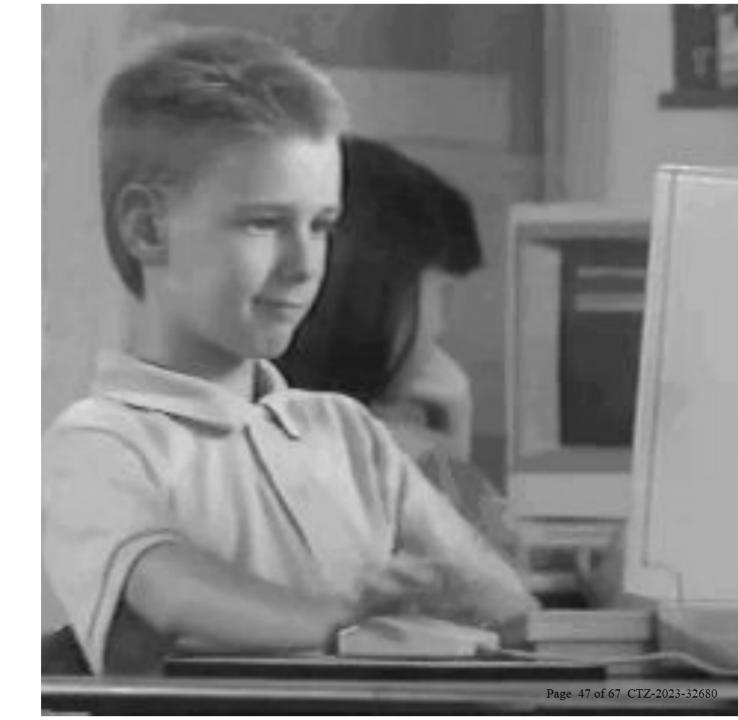
How they'd find the website (hypothetically ...)



Compared to Round 1, more users relied on external sources to find the site.

- → 5 out of 6 users used a search engine like Google or Bing to find the website.
 - Common search terms include: "cloud hosting BC government," "bc gov cloud pathfinder," "bc gov cloud hosting"
- → Some users relied on word of mouth and internal government websites, such as Compass or their Ministry's intranet

Q3: Can they find and understand important information on our service?



We gave them 6 tasks (some new, some old)



- 1. Find content on the platform tiers
- 2. Find out who is eligible to use the platform
- 3. Sign up for the platform
- 4. Find out about learning resources for new OpenShift users
- 5. Find content on data residency
- 6. Get support when something goes wrong

Generally, could users complete the tasks?



1 - Understanding the two hosting tiers	Difficult to find content
2 - Figure out if their team is eligible	Difficult to find content
3 - Sign up for the platform	Harder to find but easy to understand
4 - Find learning resources	Easy to find and understand
5 - Find out about data residency	Harder to find but easy to understand
6 - Get support	Easy to find and understand

^{*}This is generalized across participants and not meant to be quantitative data





- → The Service Overview page is not useful as is and inhibits people from finding more relevant information
- → Non-technical users feel this is too technical for them
- → Some users felt the website doesn't address "why use this" very well, without a lot of digging
- → The name of the service might not be resonating with users
- → Cost continues to be important to users
- → Too many links which some users found overwhelming

View all findings and recommendations here.





- → Discussion and consensus between design, content & IA (we consulted Olena for more complex ones)
- → If changes were agreed on, we put it in the backlog
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This resulted in mostly content changes, and a few styling changes. You can find out exactly what changes we made here: <u>View all findings and recommendations</u>.

The end.

What we've heard so far

In order to make sure digital.gov.bc.ca is addressing the needs of its intended audience, the team started initial conversations with ministry service delivery teams to help us to understand their current process, pain points, and opportunities for us to help.

We hope to learn:

- Understanding our audience better who is helps lead modernization efforts today, what's their team size and skill? How supported to do they feel today?
- What resources are they using today? Internal and external resources, and what format do they prefer?
- What are they looking for when they seek out help?

Based on what we learn, the team will determine priority areas to start work, which would address a real user need.

BACKGROUND

For this first round of meetings, we met with...



Project teams

16 people



Ministries

(HLTH, AEST, AG, FIN, PSA, PSSG, MUNI)

Recruiting:

These were pulled from a list of contacts from Daniel Pizzaro & Caroline Tansley for business owners from IMB's or POs in digital teams across government

People were offered a survey to capture some of their thoughts and/or an introductory conversation. 10 people filled the survey.

BACKGROUND

How people described themselves



Product owners/ managers



Directors



Architects/ develoeprs



Scrum master

Note: there are some overlapping roles and unnamed survey results so the count is higher than the number of people we talked to

Today, the top way people sought out resources was talking to people or seeking expert advice (both internally and externally)

In the survey, we asked people how well supported they felt today, what resources they were using and what resources they'd like to see.

"person-to-person connections is what

works in the government"

Therefore have now been any controlled the second to account the account the account to account the account to account the acco

-Interview quote

However, ministries self-reported on issues with relying on people and their networks alone

Not knowing who to talk to get help, especially if you haven't been here a long time

You might learn someone is doing something, but you don't know if they're doing the right thing either, or if they view it as a success

Over-relying on vendors who might have different incentives. "The vendors are not motivated to have fewer applications"

Find it difficult to work across ministries to learn what other people are doing. "I don't hold a lot of confidence in getting people talking between diff ministries."

"Unless you've been around long enough or have the right friends. There is not enough people who know all those people"

-336 team

WHAT WE LEARNED

People want a centralized, trustworthy, and specific guidance across BCgov

1 | Centralized and trustworthy

So they can rely on it and know that it will be consistent with policy or best practices in government

2 | Specific

Want more guidance, not just general information. Expect BC gov to have best practices of some kind to align to, knowing that not everything in the private sector works in gov

"felt a little bit unmoored" we feel like there should be a corporate standard that we should be doing... that just felt weird

-356 team

3 | Understandable to non-technical roles

Ex: Want to understand the trade-off between options in business terms. Or understand what PMs need to know vs what Devs need to know

Maybe you right now: "But there's no 'right way' to do something"

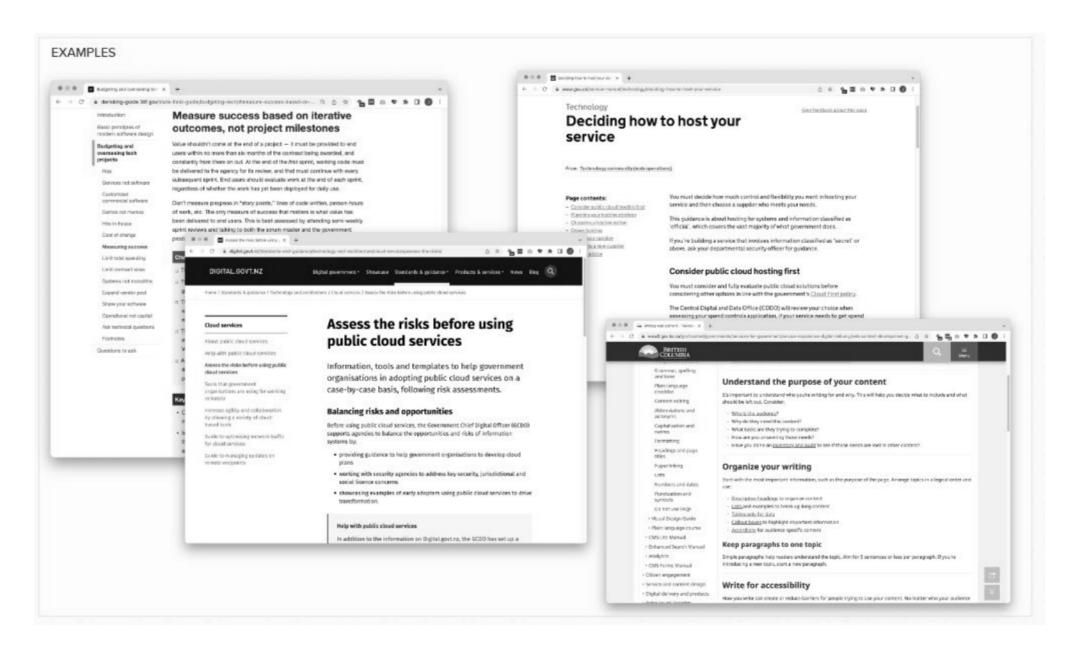
Yes, and...there is a way you know that that you could make more visible to others.

There are questions you know to ask, things you look for, that you could still have provide without necessarily recommending something without their full context.

Most teams we talked to wanted *more* guidance on how to make decisions about technology, from the perspective of wanting help.

"People running projects don't have all the information they need to be successful."

-336 team



There is an opportunity for centralized guidance would benefit more mature teams

More mature tech teams who might be leading tech changes/modernization in their organizations, also wanted guidance or documented evidence of what other teams were doing so that they could advocate for moving towards more modern technology stacks.

Guidance being more specific to BC gov would also make sure they're following policies correctly. They know everything available to the private sector isn't available to them, but not sure what is and isn't "We could say "here are 5 other areas using that and where we learned" **that would be invaluable to us.**"

_325 team

WHAT WE LEARNED

Ministries described not being able to find or use solutions that were already out there, although it was consistently brought up as a step in their modernization process

AKA and interest in common components, shared licensing, or some other shared services.

Once they find what's available, documentation is lacking about whether it's right for them or not (exauthentication)



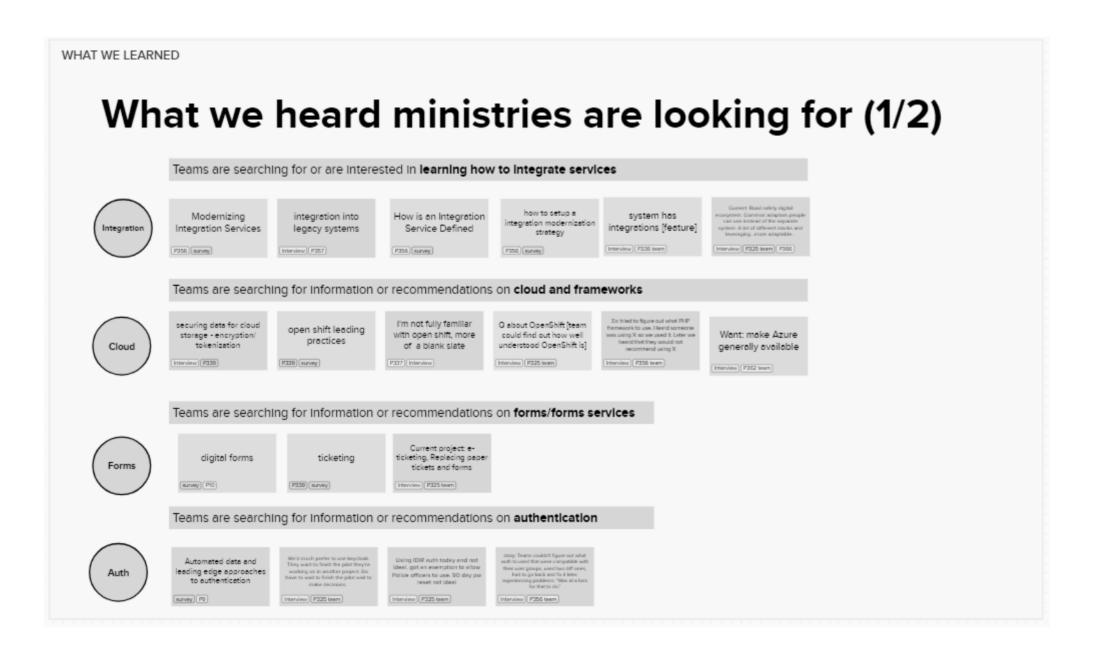
Opportunity: dig into the human & organizational factors that are still barriers for finding and using common services

Example human factors:

- Ministries want to see evidence that other teams are using the services successfully.
- Don't understand "common component" language (we had questions about what that means)
- Mental model of common components might be around shared 'software licenses'

Example organization factors:

- Funding model lacks incentives
- Lack of leadership support
- Uncertainty if aligns with policy requirements for their organization
- ISB/IMB doesn't support or more hesitant to adopt different technology
- Don't have a dedicated dev team (and may not want one)



What we heard ministries are looking for (2/2)

Software

There could be a whole architecture catalogue. In 4-5 hours I could piece it all together. But now it's all siloed

[Interview] [P325 team] [P367]

Software licensing information.

P360 Survey

Consistency on tools across Ministry.Use Pie chart to aid that

P337 clebrief

system has address lookup [feature]

Interview P335 team

Common component by functionality, e.g. analytics and reporting

erview P339

more support regarding tool selection and/or standard tools the BCPS use

P231 Survey

Atlassian

P330 survey

programming language

want guidance: What

sterview P355 team

tecktron

survey PD

Kafka tools

survey P10

Conceptual

Business rules engine, common components for a set of business rules

Interview P339

data as common components - ownership, flow of data, forms catalogue, etc.

Interview P339

Documentation

Looking for ISB (to provide information like:) What's the documentation standard? What should it look like? What's gov's approach to documentation? Templetes!

[Interview] [F325 team] [F367]

transitioning to Unicode to support first nations languages, working with tribal governments

Interview F339

Other patterns we saw

Wanted more funding support or guidance.

Challenges in coordinated funding and feeling like funding types were limited

Internal knowledge management and staffing

Hiring and retaining talent to work on these projects, coordinating across ministry or teams to prioritize work, relying on vendors who may not always have their best interests in mind...were all brought up as challenges teams are facing

Navigating policy

Want to understand upfront what policy that should keep in mind or when relevant (ex: security, financial, PIA...), but it's difficult to understand.

WHAT WE LEARNED

Other patterns we saw (continued)

Moving to an agile development process for the first time without having enough information or guidance

Agile isn't information to just read, it's a way of working that teams haven't experienced and they may not have the experience or support to try it on their teams.

"Sometimes agile teams is presented as a panacea that will solve everything" Agile teams are not just solutions that solve everything. Only if everyone is dedicated.

—356 team



For more details, visit our Mural!

Go to >