

# Wikibase Cloud Data Modeling Research

Conducting user interviews in Q1 2023 to uncover user flows and pain points in the data modeling experience.

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WIKIBASE CLOUD Q1 2023

## Identify the requirements for an improved data modeling flow

Wikibase Cloud was created without user flows in mind. Regardless, users found their way. However, we learned in the Q4 User Survey that data modeling and import, core to Wikibase Cloud's functionality, are particularly unintuitive.

In this research, we want to understand:

1. How users have been modeling their data
2. Where it hurts

So as to:

1. Establish user flow(s)
2. Prioritize improvements to their experience.

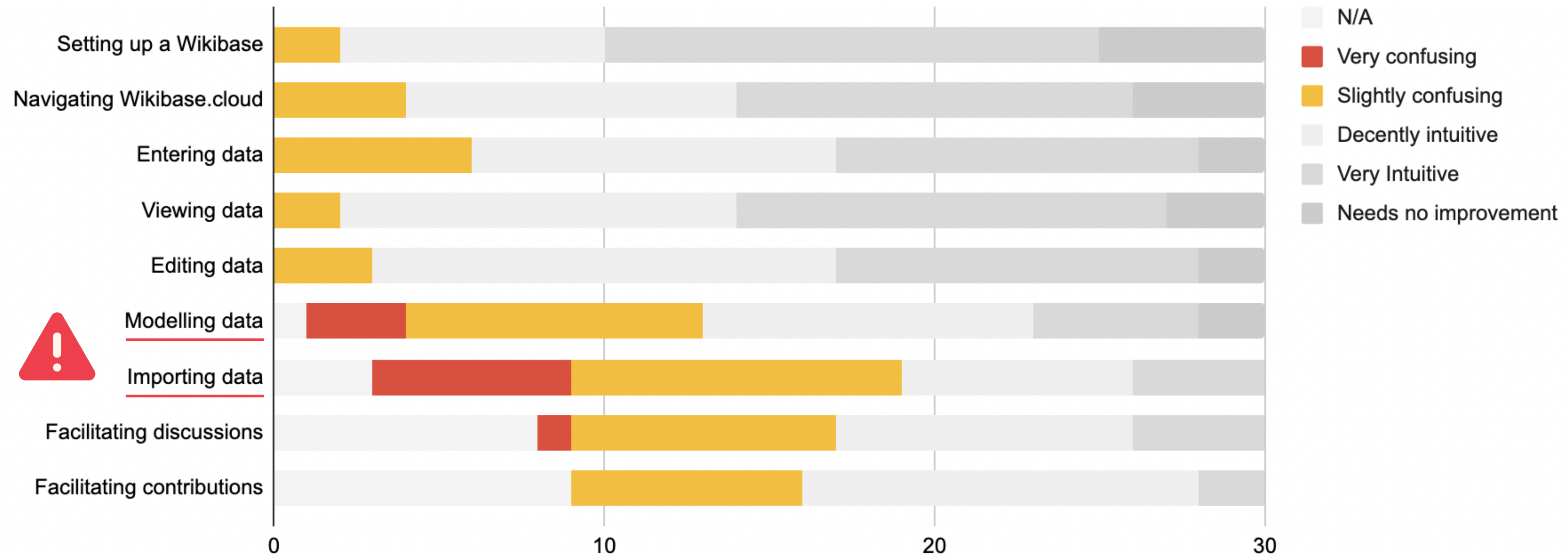




**Do you remember...**

# Q4 2022 User Survey

How intuitive are the following aspects of Wikibase Cloud?



# Q4 2022 User Survey



Users report modelling and importing to be the most confusing parts of their experience.

# Q4 2022 User Survey



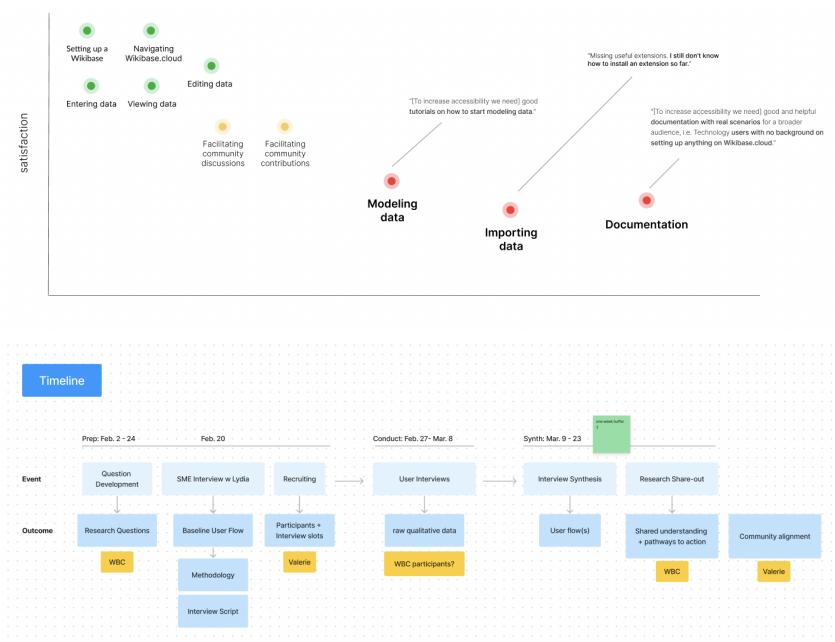
For this research, we decided to **focus on data modelling**.

In 2023 and beyond, we want to make it as easy as possible for anyone that's managing data to try out and get familiar with the world of Wikibase. Data modelling is a key and first step of onboarding onto Wikibase Cloud.

We hope that this research can enable Wikibase Cloud to be more intuitive and easy to use.

# Q1 2023 Research Process:

## Follow-up Research Plan



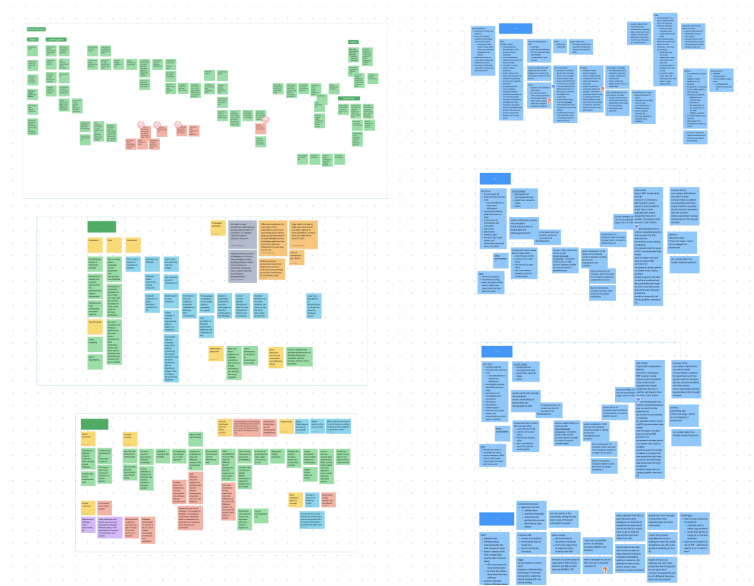
Participants: PM + UX Research

Content: Follow-up research goals, questions, methods, concerns, measurements of success, outcomes

Outcome: Alignment, research questions

Tool: Figjam

## User Interviews



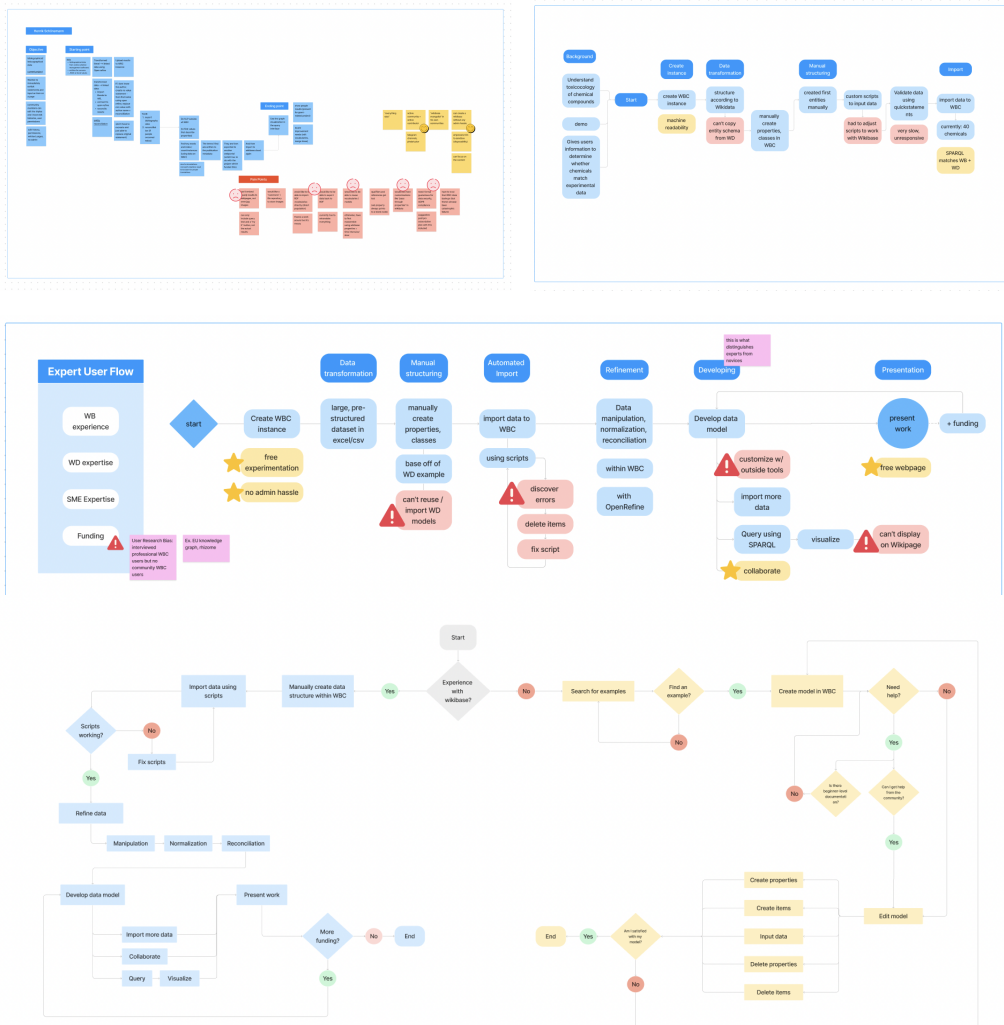
Participants: 7 users (3 novice, 4 expert)

Content: 1 hour - guiding questions to discover how users model their data with Wikibase Cloud

Outcome: Raw qualitative data

Tool: Google meet, Figjam

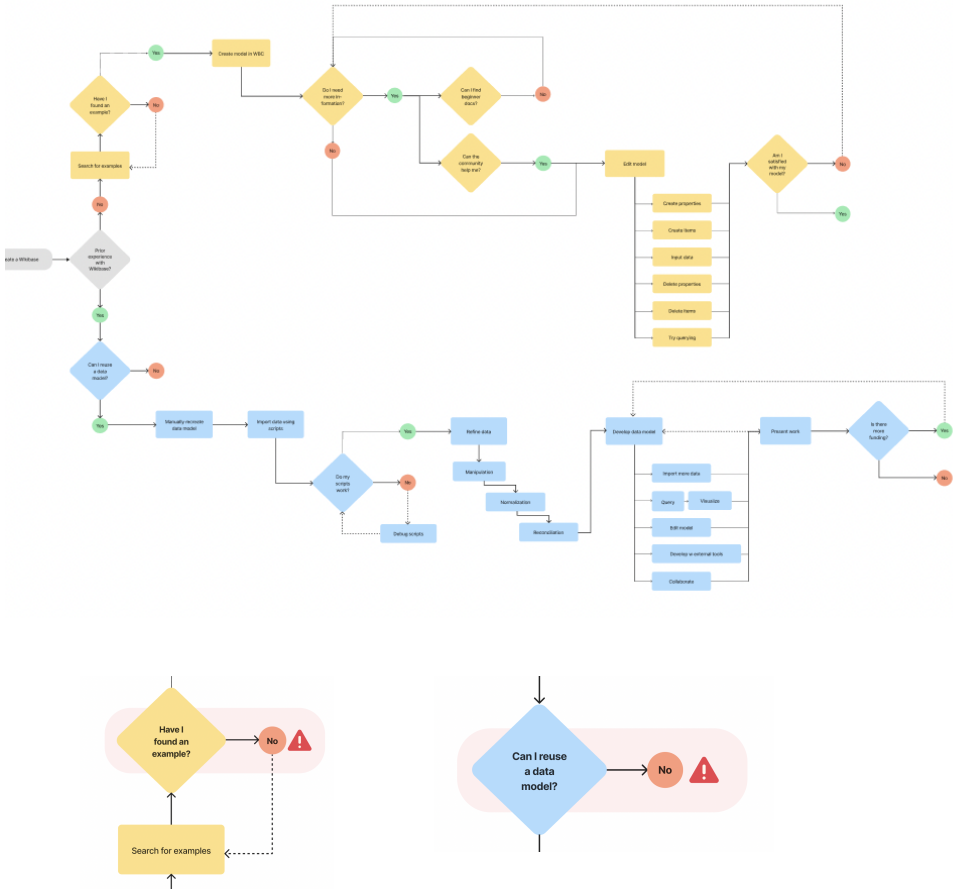
## Synthesis



Tools: Figjam

Outcome: Visualized, synthesized user flows

## Artifacts



Artifacts: User flows + pain points, research report

Outcome: Pain points, how might we statements

Tool: Figma

# 2 small updates:

Wikibase Power User



Wikibase Expert

## Wikibase Novice

Wikibase.cloud's newest users just want to explore the service but are impeded by a lack of necessary Wikibase and/or Wikidata expertise.

### Use Case

What experience are they coming to us with?

- **WB Experience:** 1-4 months, no previous experience
- **Data Experience:** Confident with data but mixed experience.
- **Demographic:** European/American, cis-male or, less frequently, female
- **Editor(s):** Themselves and their organization
- **Consumer(s):** Their organization, communities interested in the data
- **Data Set:** 65% over 1 million entries
- **Able to meet objectives?:** 50/50

### Goals

What do they want to achieve?

- To just explore Wikibase.cloud.
- To find a long-term home for their data
- To share their data with others

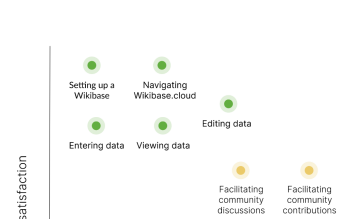
"It's not so easy to get started. There's a relatively long learning curve."

What is your favorite aspect of Wikibase.cloud?

"Free, open, the promise of a globally connected knowledge graph that anyone can contribute to."

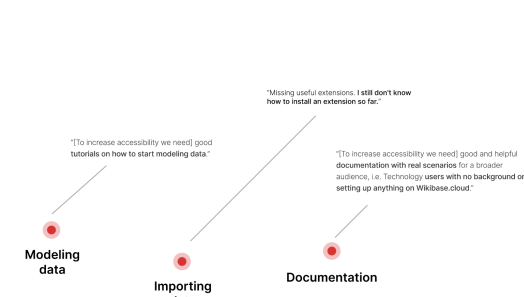
### User Experience

What works? What doesn't?



### Pain Points

What hurts the most? Why?



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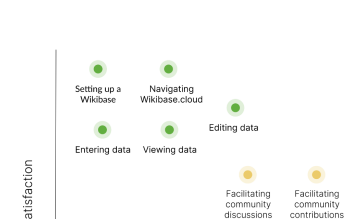
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# Updated User Groups:

## Wikibase Novice

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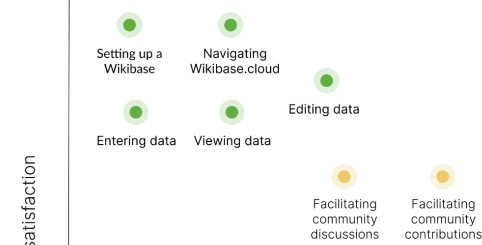
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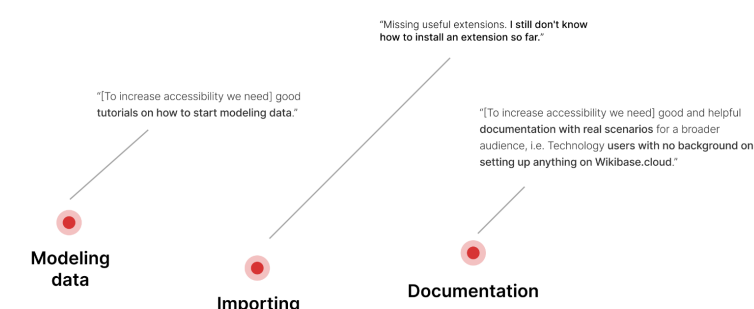
### User Experience

What works? What doesn't?



### Pain Points

What hurts the most? Why?



## Wikibase Expert

They are Wikibase experts and its biggest advocates, who want data modeling to be quick and effortless but are hindered by broken or flawed extensions.

### Use Case

What experience are they coming to us with?

- **WB Experience:** WikibaseStack, self-hosted Wikibase, or both
- **Data Experience:** Independently designed the structure of a data set.
- **Demographic:** European/American, cis-male
- **Editor(s):** Themselves
- **Consumer(s):** Communities interested in the data
- **Data Set:** 50% over 1 million entries
- **Able to meet objectives?:** Mostly

### Goals

What do they want to achieve?

- To model their data as quickly and effortlessly as possible.
- To share their data with others
- To find a long-term home for their data

**"Not everything I need works yet. Elastic search, Openrefine, federation with Wikidata..."**

What is your favorite aspect of Wikibase.cloud?

"The ease with which I can create a Wikibase."

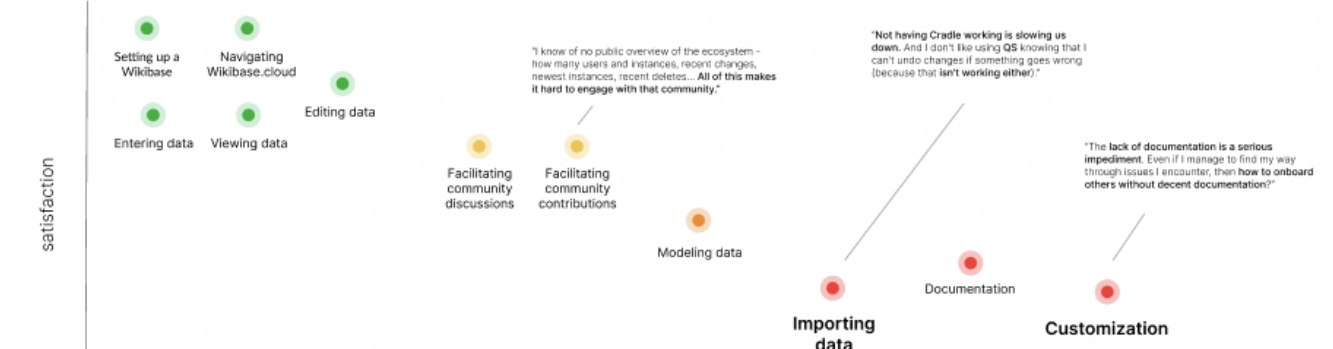
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# Wikibase Cloud

## User Flows

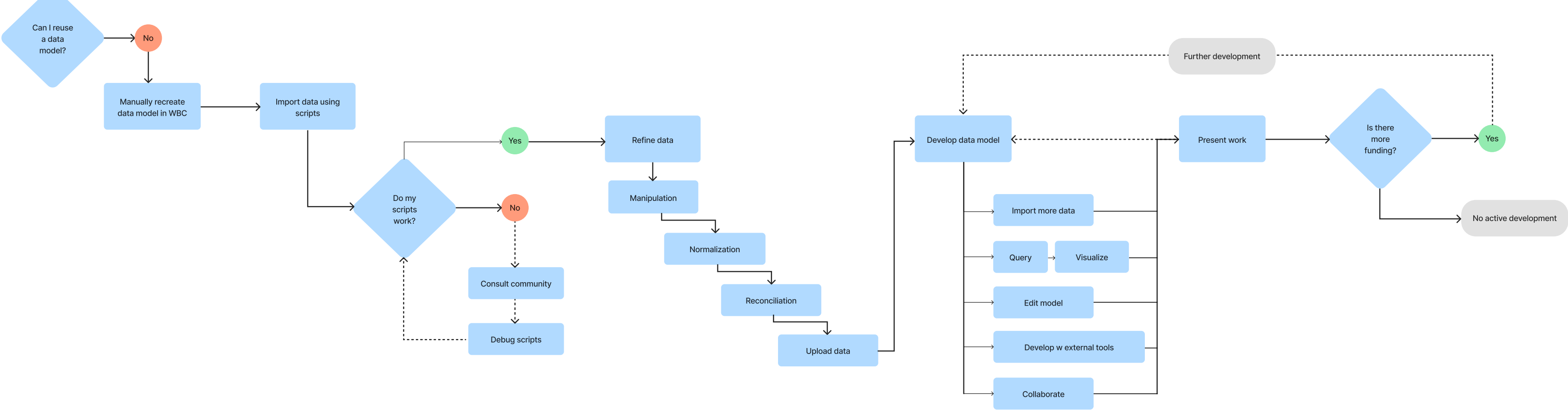
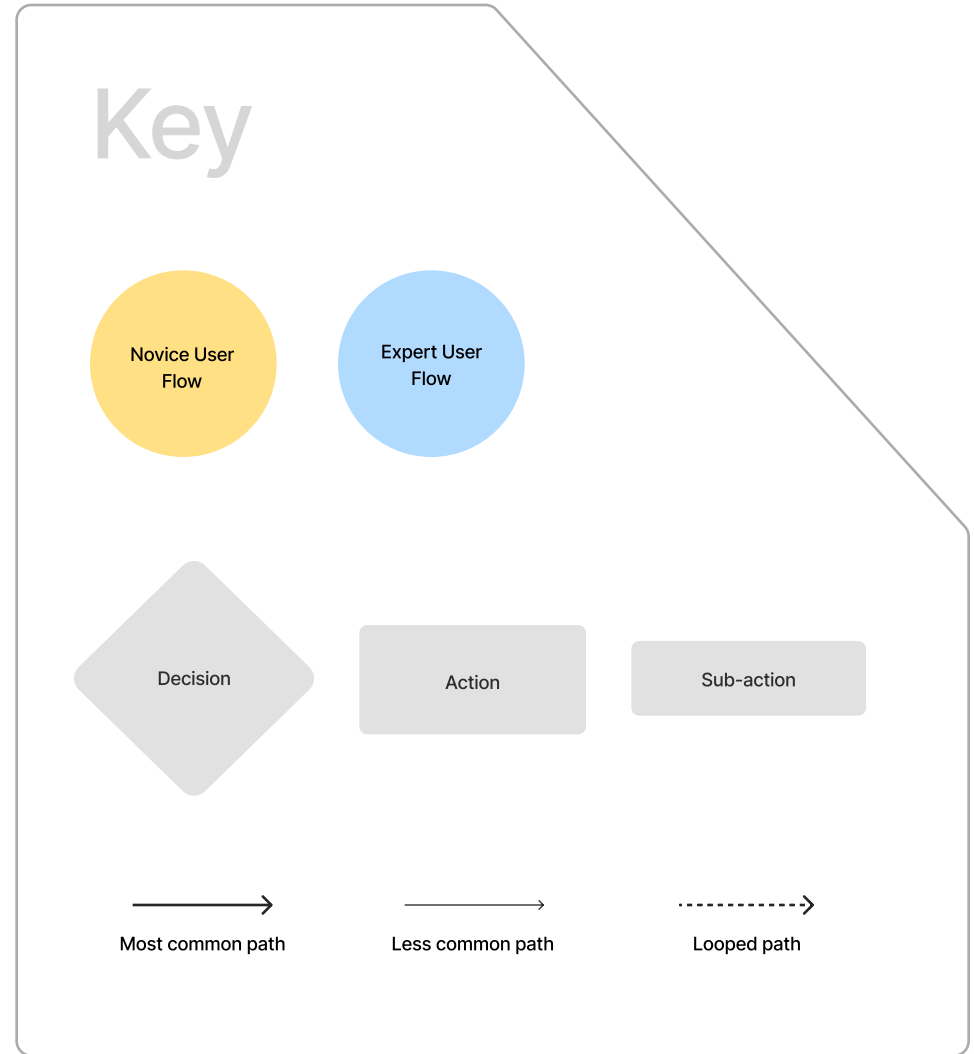
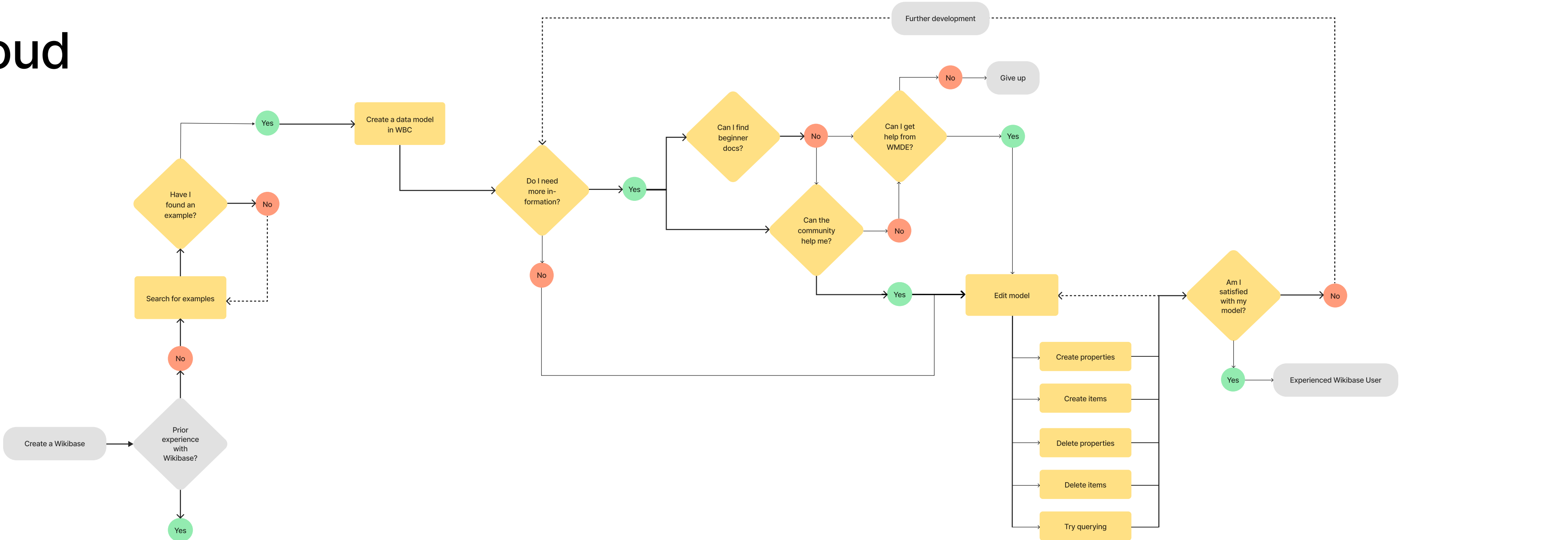
These flows **describe how 2 user groups model their data**, a core part of Wikibase Cloud's functionality.

They **synthesize patterns that emerged from 7 user interviews** conducted in Q1 2023, which follow-up on Q4 survey insights.

**The experiences and needs of interview participants may not reflect all users.** For example, not all expert users present their work and require funding. It happened that the 4 expert participants we interviewed did.

We hope to **continue to revisit and revise these flows** as we learn more.

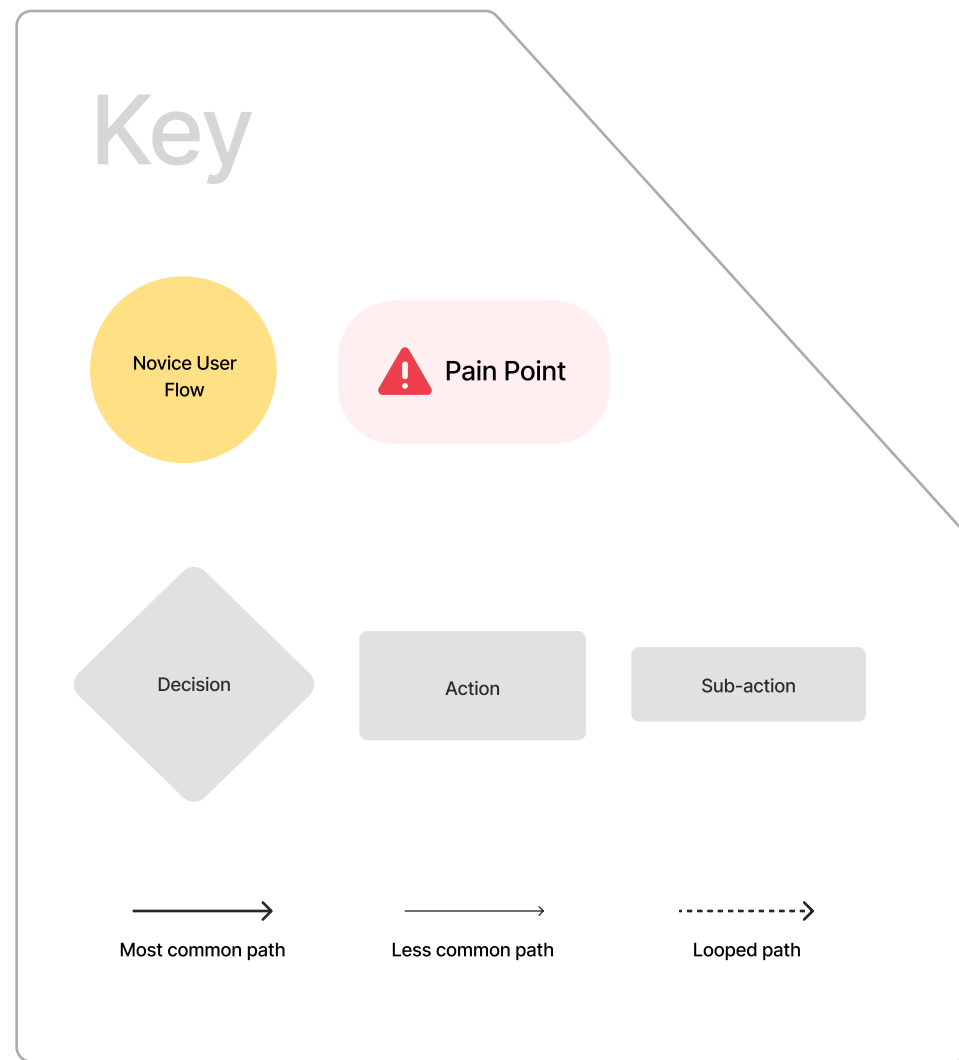
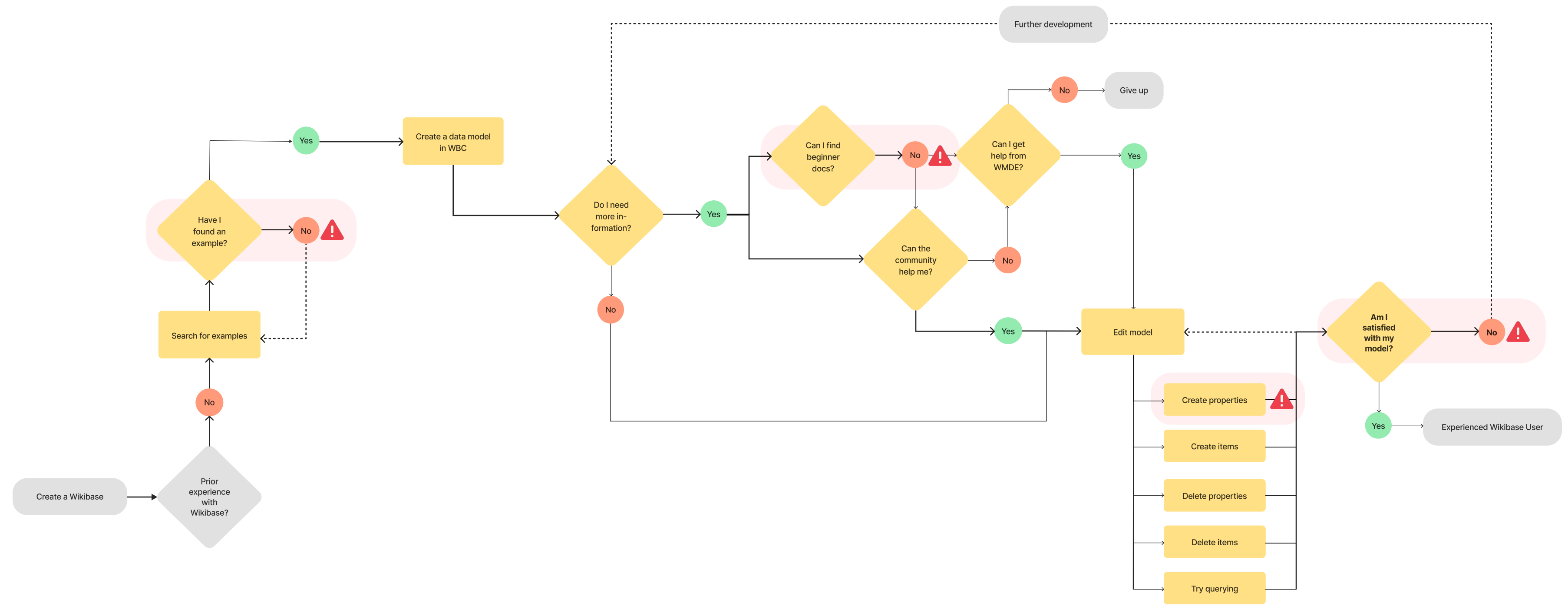
# Wikibase Cloud User Flows



# Wikibase Cloud

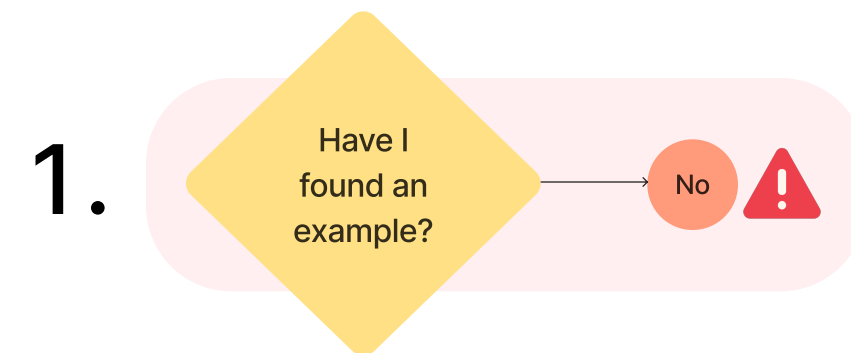
## Novice Flow +

## Pain Points



# Wikibase Cloud

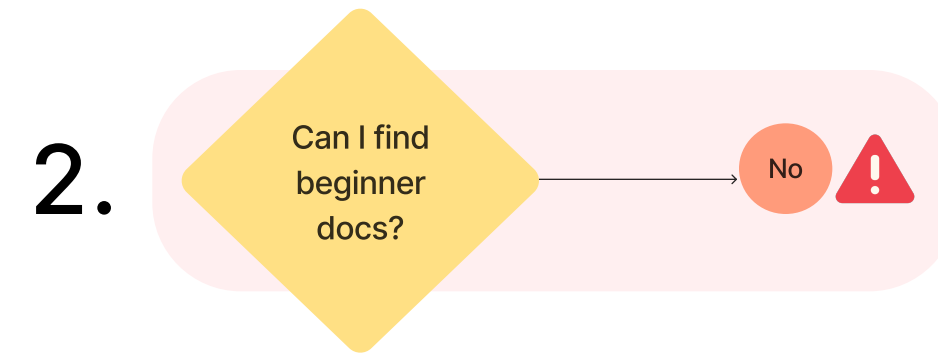
## Novice Pain Points



### Searching for examples

*"The biggest source of help has been the Belgian Wikibase."*

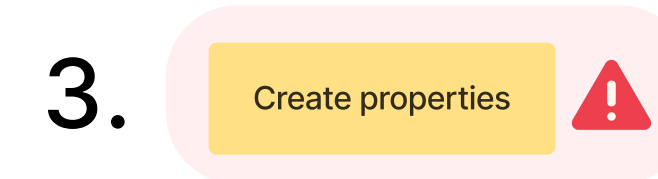
- Novice users say the easiest way to learn how to use Wikibase.cloud is by **seeing and replicating** other Wikibases.
- However, users report that it is **difficult to find examples**. When/if they find them though, they also find documentation and a sense of support and community.
- And so, examples are key but unfortunately, not easily discoverable.



### Missing entry-level documentation

*"Sometimes, as with MediaWiki stuff, there is a lot of documentation and it misses a little thing to help us understand when we are not developers."*

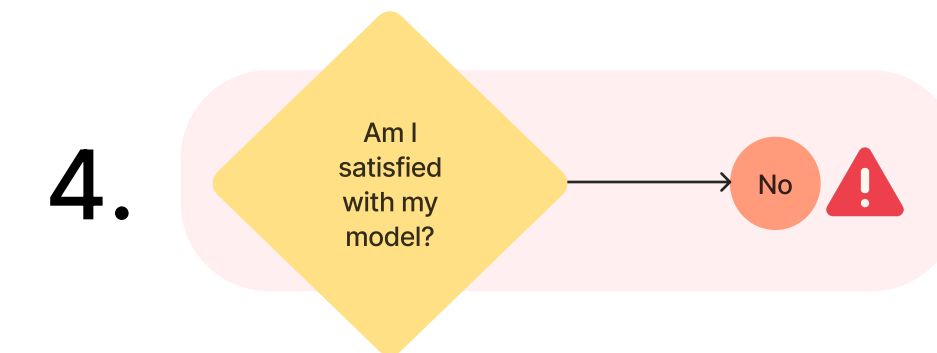
- Novice users report MediaWiki being **inaccessible to true beginners**. Users cited the level of detail and the visual presentation of the information as being overwhelming and unengaging
- Instead, they highlight the support they got from **other users and their documentation**.
- If we want to continue with internal documentation, we need to reconsider what is and isn't working with MediaWiki.



### Learning to model

*"Having an empty Wikibase is quite difficult. To create properties when there is nothing in the base - it's not easy."*

- Most users have a dataset that needs to be structured into triples. How to do that, however, isn't immediately obvious.
- **Properties are particularly complicated** - there are so many choices.
- Users struggle with making the first decisions aka confronting an empty Wikibase. Often, they opt for trial and error, learning from making mistakes that cost them when they have to delete items one-by-one.



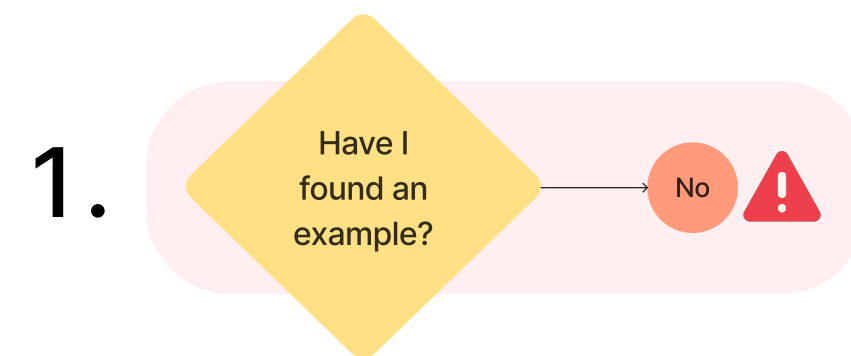
### Developing a model

*"I don't know what it should look like. I understand it can look many different ways."*

- Even once users have tackled the first hurdle - getting started with Wikibase.cloud - the **learning process is long** and continuous for modeling.
- Without prior experience, users are **unsure whether their choices are right**, good, effective, or meaningful.
- However, if/when they do find experts or mentors, their relationship can be incredibly supportive and helpful.
- Having an active, generous community is particularly important to Novice users.

# Wikibase Cloud

## Novice Opportunities

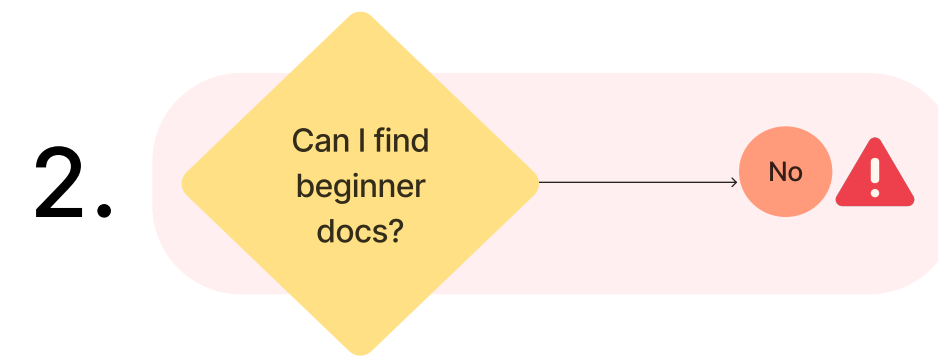


Searching for examples



How might we make Wikibase Cloud **examples more discoverable** to help Novice users onboard?

*Status:* Discover Cloud Instances in progress ★

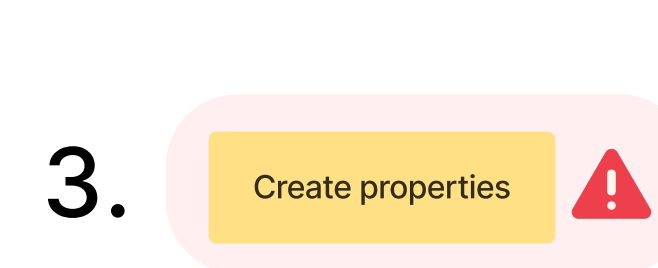


Missing entry-level documentation



How might we make **beginner-accessible documentation** to help Novice users onboard?

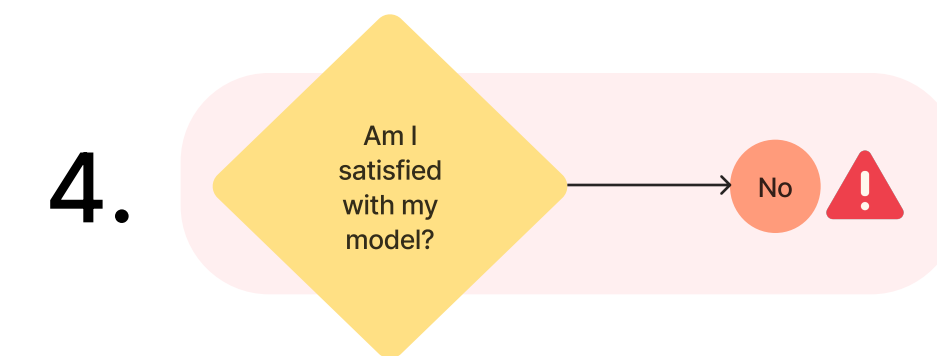
*Status:* Newbie docs in progress ★



Learning to model



How might we make **creating a first data model less daunting** to help Novice users work towards their objectives with Wikibase Cloud?



Developing a model

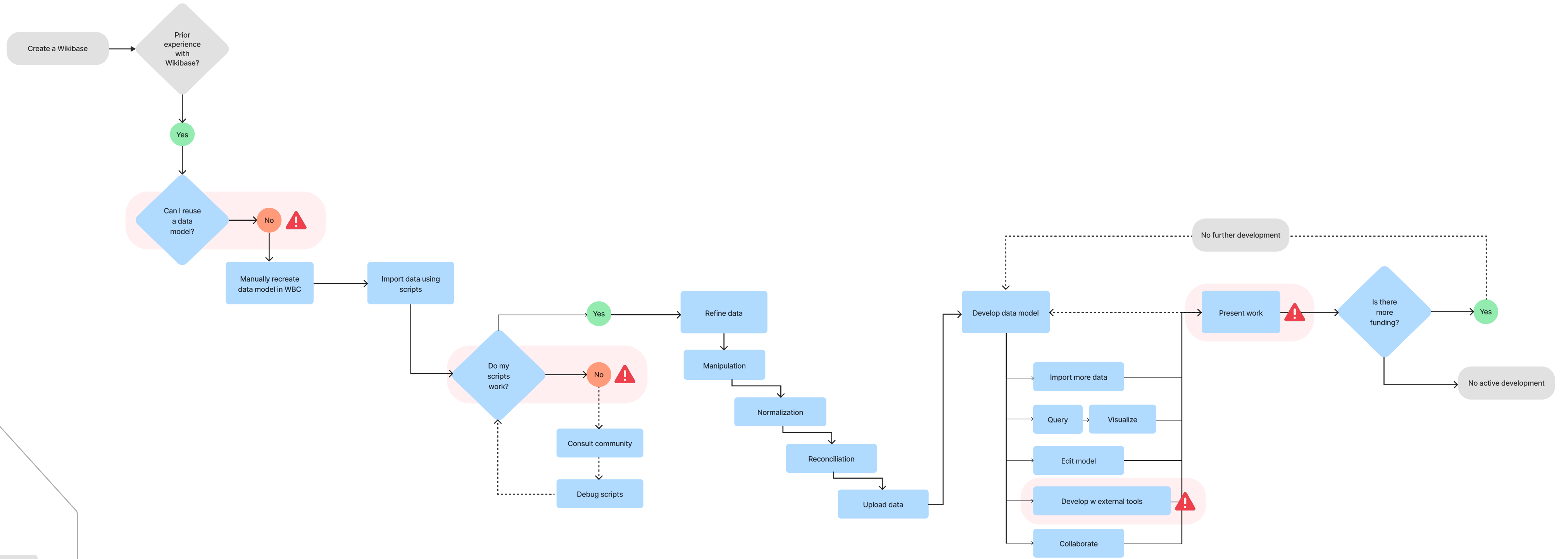
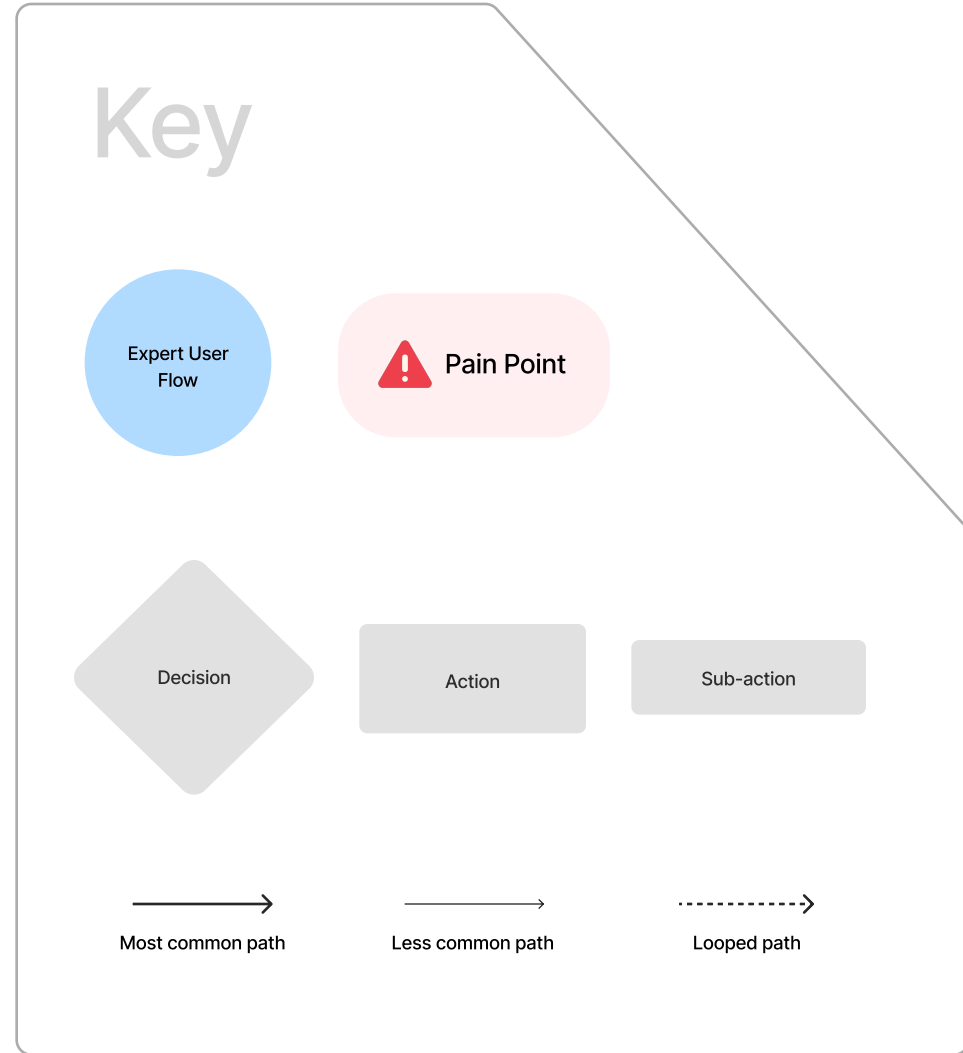


How might we **demystify the longer-term data modeling process** to inspire confidence and continued interest in Novice users?

# Wikibase Cloud

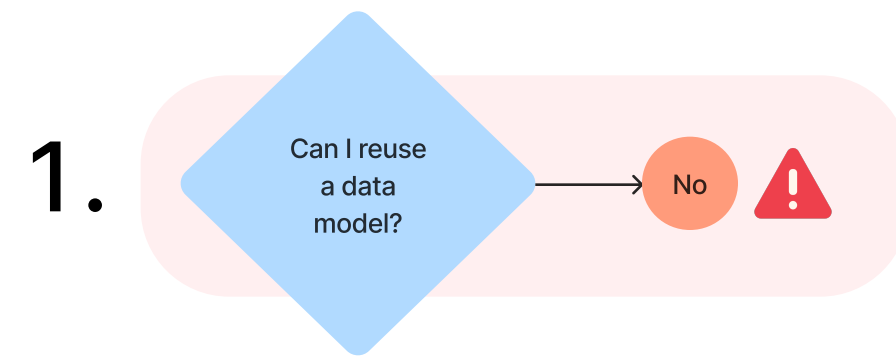
## Expert Flow +

## Pain Points



# Wikibase Cloud

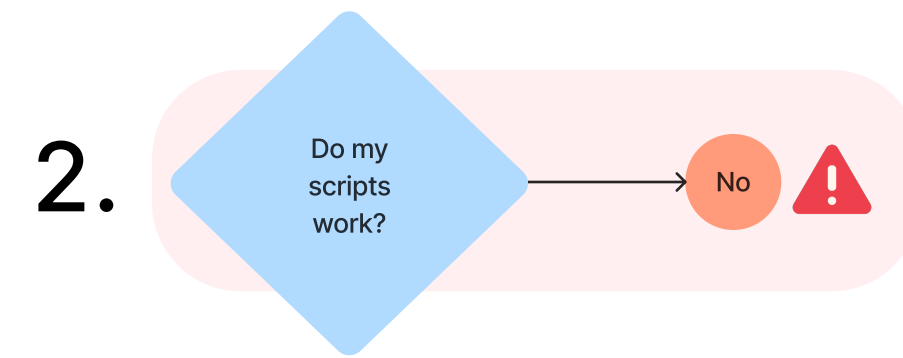
## Expert Pain Points



### Recreating existing models

*"I need to reuse models in my task. The first step is always reassembling using Wikibase properties, which is not very fast."*

- Expert users know how they want to model their data and already have either their own model or one from Wikidata but can't reuse the model. Instead, they **have to recreate it in Wikibase each time**.
- It takes time away from more meaningful aspects of their work such as **customizations** or queries.



### Incompatible import scripts

*"I had to do many dry runs/iterations because my code wasn't working the first time. ... I had to do it a few times and had to manually delete everything each time."*

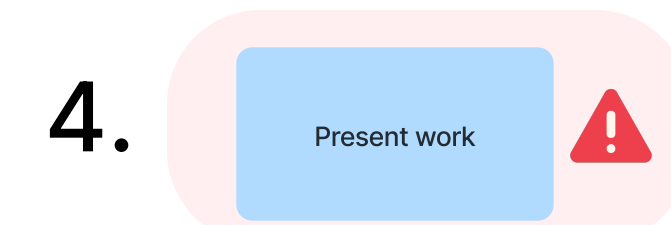
- Expert users have custom scripts or bots - their own or from the community - to run imports for Wikidata but they **aren't compatible with Wikibase**.
- Data import becomes very cumbersome and **frustrating** as users have to rewrite/ **debug** their scripts.



### Lacking customizations

*"The only con to Wikibase Cloud is that I can't add extensions to my Wikibase... there are a lot of extensions I would like to use."*

- Expert users need domain-specific customizations that don't exist/ aren't compatible as extensions with Wikibase Cloud. It might be possible with Wikibase Suite, but they don't have the technical budget for it.
- Instead, many users report leaving the platform to fulfill the need and then returning to Wikibase. Others are concerned that the lack of customizability will prevent them from using Wikibase Cloud further.



### Presenting query results

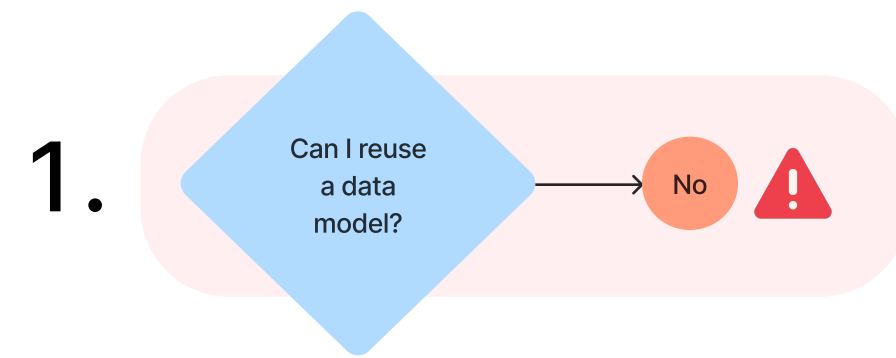
*"You can't embed SPARQL results into WikiText pages, not even jpg images, only query text and a "try it button."*

- Expert users are particularly excited to have a free, public domain for their Wikibase but are frustrated that they can't embed their query results onto WikiText pages.
- Because many expert users having grant-funded projects, it's important that they have a way to share the results of their work.
  - It prevents them from making as much use of the free public domain as much as they know they could.



# Wikibase Cloud

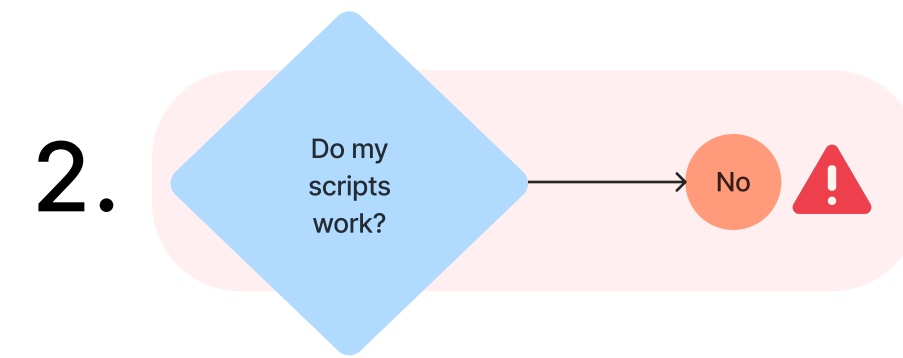
## *Expert Opportunities*



Recreating existing models



How might we **enable reusing data models** to prevent Expert users from having to duplicate their work?



Incompatible import scripts



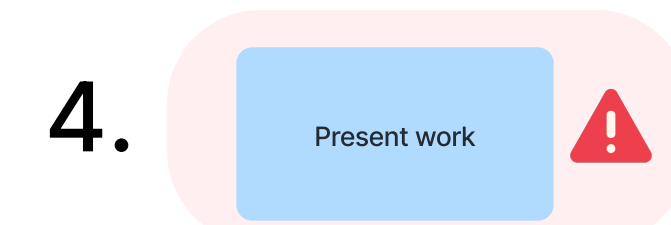
How might we **enable compatibility across LOD products** to prevent Expert users from having to rework their scripts?



Lacking customizations



How might we **enable greater customization within Wikibase Cloud** to give Expert users what they need without requiring external or alternate software?



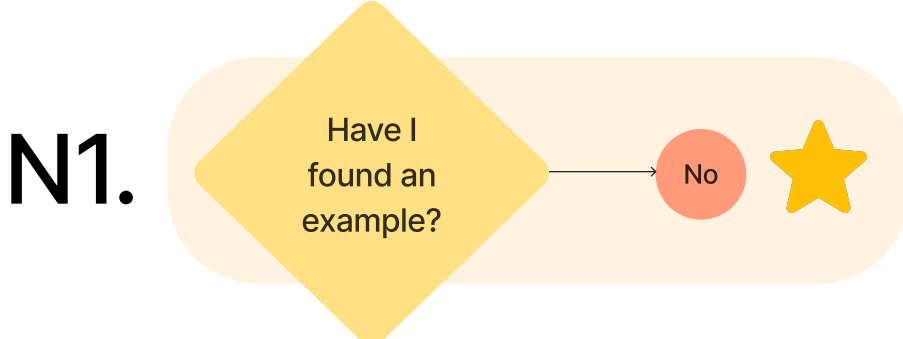
Presenting query results



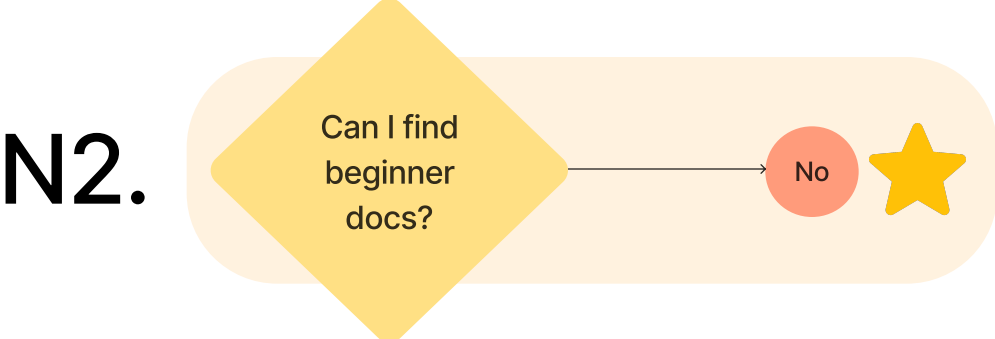
How might we **enable embedded query results and visualizations** to empower Expert users to make the most of their free, public domain?

# Wikibase Cloud

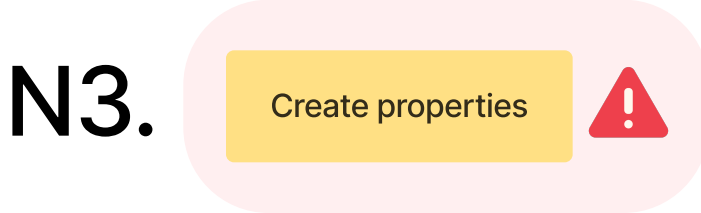
## Novice + Expert Pain Points



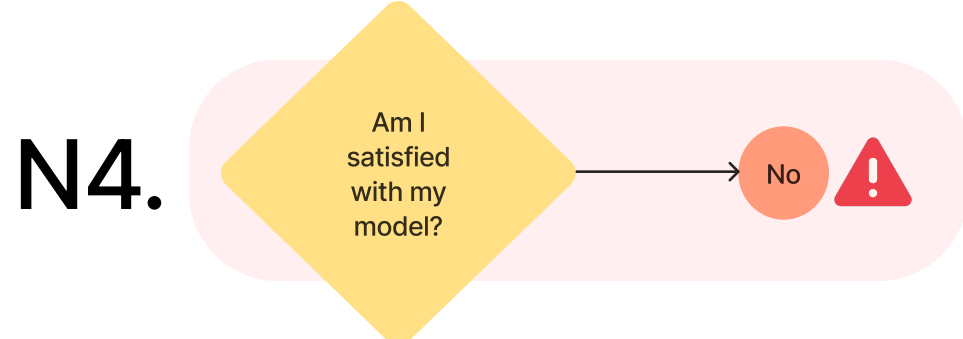
Searching for examples  
*\*in progress*



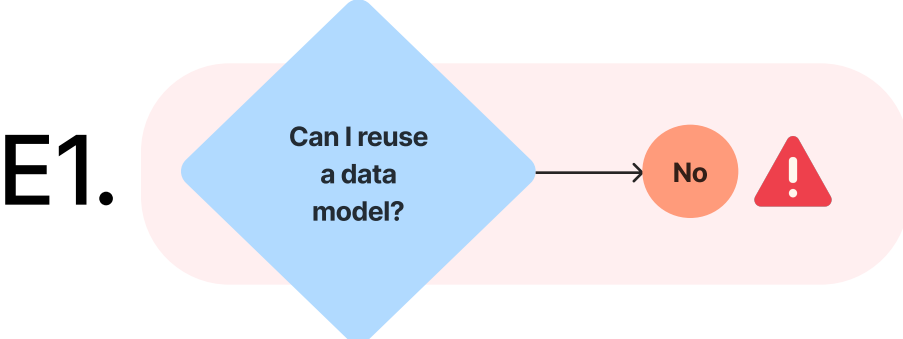
Entry-level documentation  
*\*in progress*



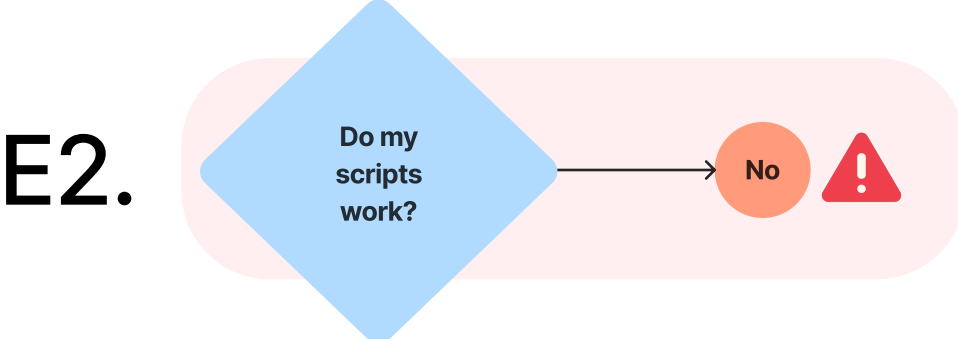
Learning to model



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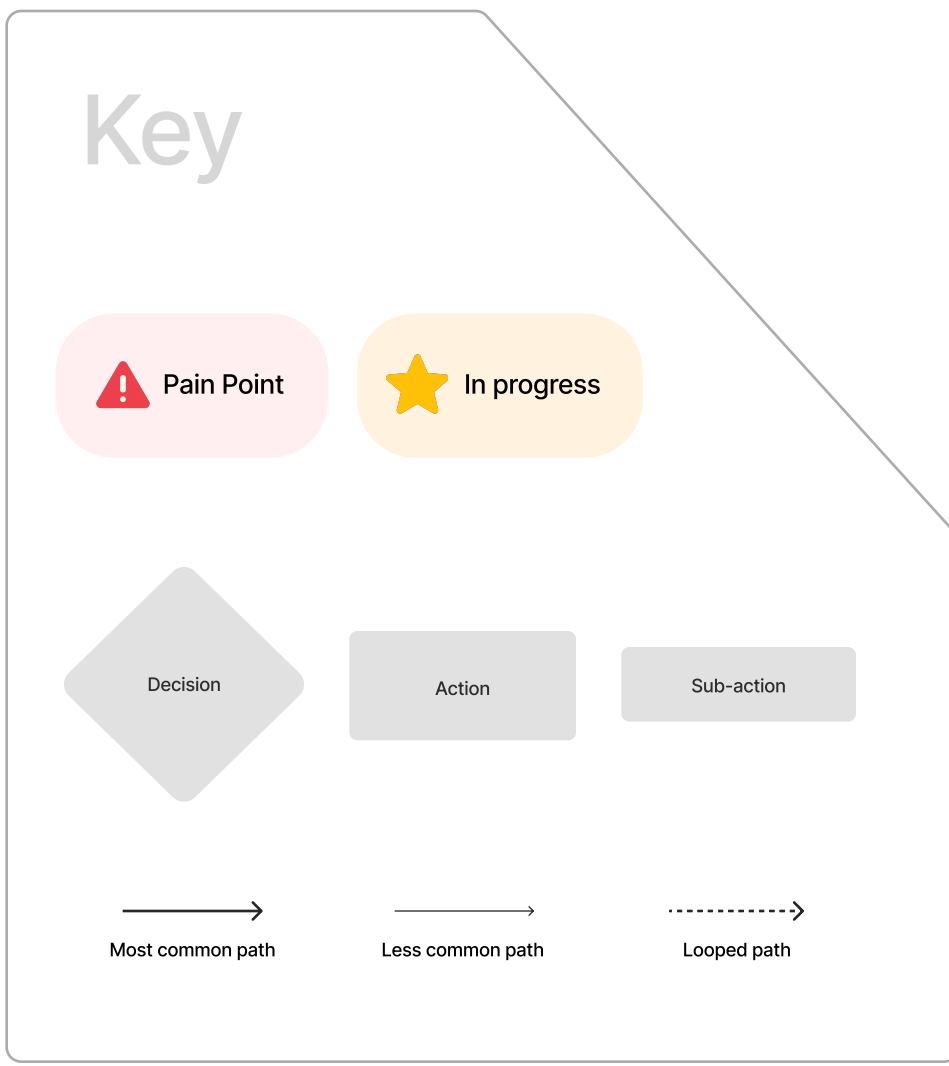
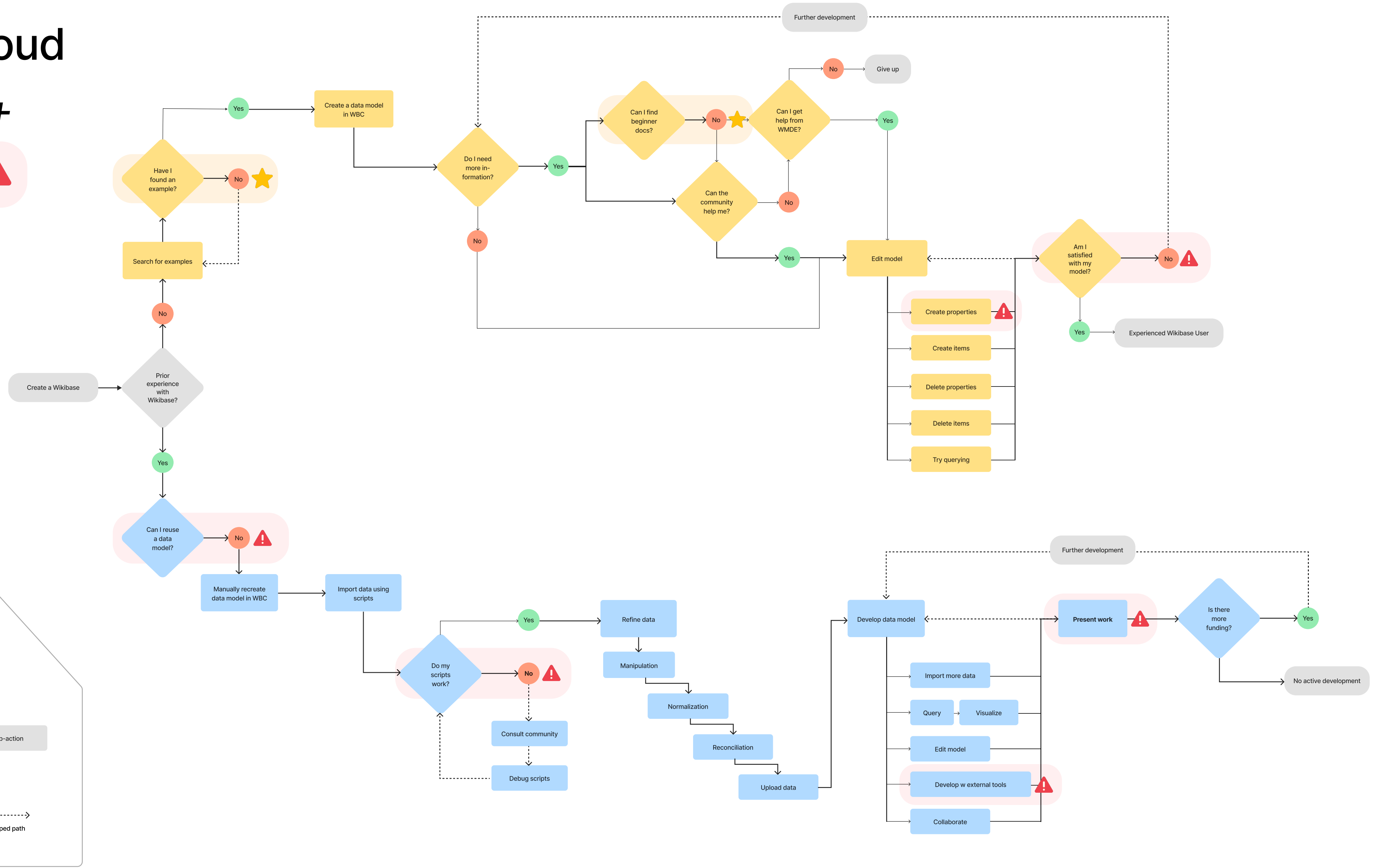
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Presenting query results

# Wikibase Cloud

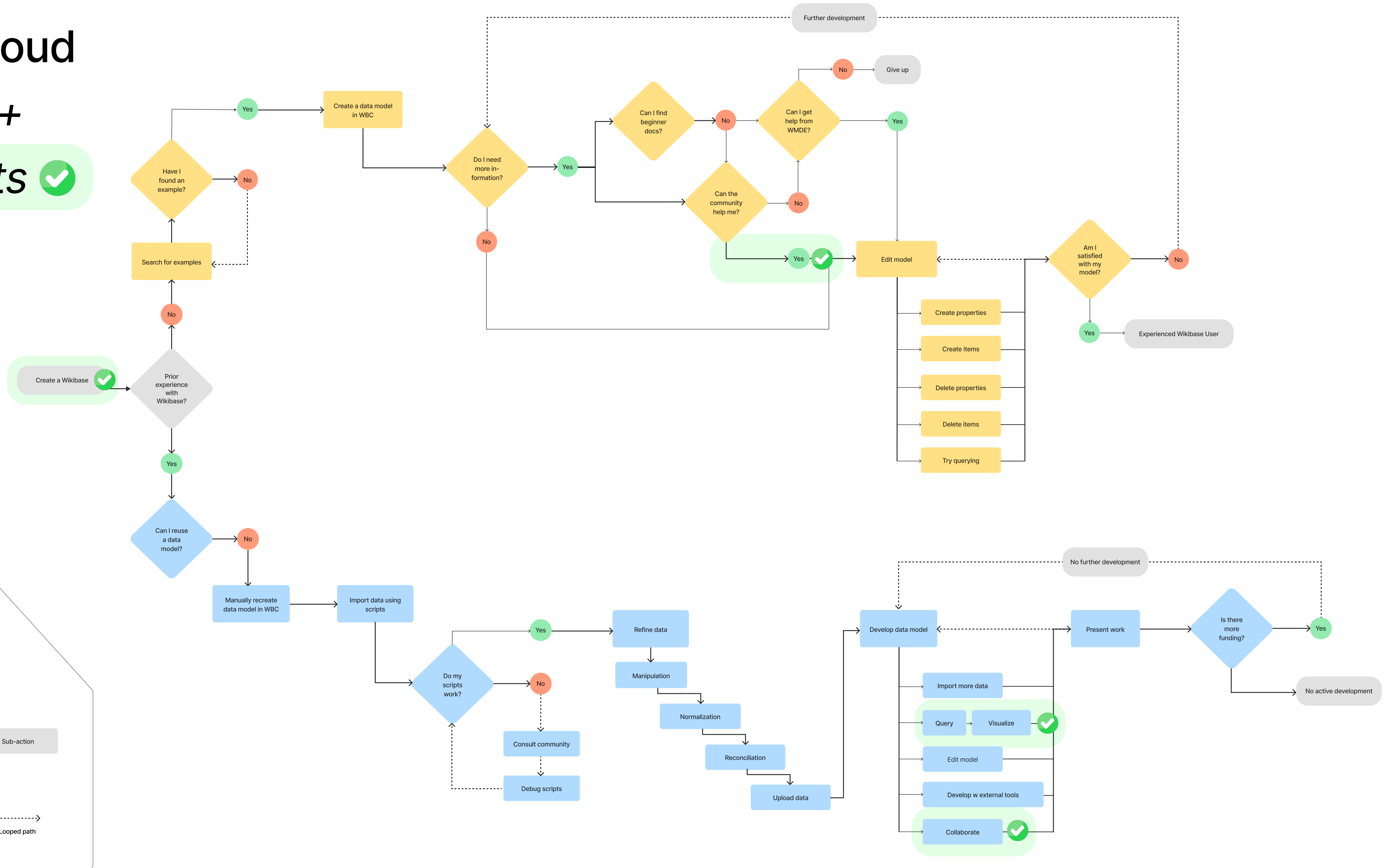
## User Flows + Pain Points



# Wikibase Cloud

## User Flows +

## Happy Points



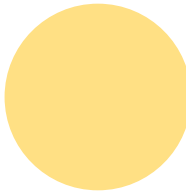
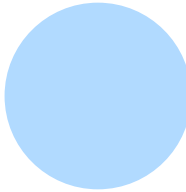

# Wikibase Cloud

## *Happy Points*

- ✔ “Wikibase Cloud is **simple and so easy**. I can’t imagine a lower entrance level!”
- ✔ “**If you have a problem, it’s probably been discussed** somewhere and you can search for it.”
- ✔ “I love that I can track my history - **the ‘wikiprinciples’** from Wikipedia.”
- ✔ “**This is the tool that I wanted for several years**. To see the results and the graphs - I did not think this was possible with the other tools I used.”
- ✔ “You’ve been doing a **great job.**”
- ✔ ... and so many more!

# Wikibase Cloud

## *Additional Insights:*

-  **Novice users** are largely new to the Linked Open Data community and are **really excited about the potential** of Wikibase Cloud. They are **eager to learn and to share what they've learned** with their community, so as to bring Linked Open Data tooling to their colleagues and their field at large.
-  **Expert users** have been leading work in Linked Open Data for years now and stand as **important sources of knowledge and support** in the Linked Open Data community. **Novices commonly cite their work** and support as essential factors in their own success with Wikibase Cloud.
-  **Both user groups do so much to grow and support our community, forming an important foundation for Linked Open Data and its future.**  
It's critical that we continue to support and learn from them as best we can.

**Thank you.**