

How could open source in vocational education work?

Simone Weiß

February 2, 2025



Agenda



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Who am I

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Who are the
Apprentices

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Where can open-
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05

Concrete
Examples

We are Elektrobit

Your software solution provider



**35 YEARS
AUTOMOTIVE
EXPERIENCE**



**10 YEARS OPEN-
SOURCE
EXPERIENCE**



**EMBEDDED LINUX
SYSTEM WITH
YOCTO**



**EB CORBOS LINUX
BUILT ON UBUNTU**

Who am I

The role of Open Source and Education in my work



Simone Weiß

Embedded Systems Developer, Product owner
Elektrobit – Driving the future of software

- "Always" a OSS user
- Degree in computer science
 - Did not do vocational Education
 - Came into with OSS there
- Worked mostly on embedded Linux distributions
- Product owner of EB corbos Linux – built on Ubuntu (open-source product)
- Now I also take care of our Apprentices
- Private: Cats and nature

Who am I

The role of Open Source and Education in my work



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The Question: Can I just teach them the same way I was taught?

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Who are the Apprentices

Some statistical data



Apprentice

- **How many learn computer science via vocational Education**

Who are the Apprentices

Some statistical data



Apprentice

- **How many learn computer science via vocational Education**
 - More and more (German numbers), is the 14th most done vocational education

Year	Apprentices
2021	42821
2022	44429

- Of those there is a 1:10 ratio between female and male Apprentices

Sources for numbers:

https://www.statistischebibliothek.de/mir/receive/DEHeft_mods_00161232

<https://www.dihk.de/resource/blob/93170/4d00e938df0558f3e05c0d4dd780f164/bildung-statistik-ausbildung-2022-data.pdf>

Who are the Apprentices

Some statistical data



Apprentice

- What is the educational background?

Who are the Apprentices

Some statistical data



Apprentice

- **What is the educational background?**

- New Starters in 2023

Background	Apprentices
Not graduated	120
"Junior high"	564
GCSE	5124
A-levels	6405

} ~15-19 years old

Sources for numbers:

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Who are the Apprentices

Previous Open-source knowledge – data from our apprentices



Apprentice

- **Let's estimate:**
 - Do you know what open source is?

Who are the Apprentices

Previous Open-source knowledge – data from our apprentices



Apprentice

- **Let's estimate:**
 - Do you know what open source is?
 - Can you name an open-source license

50 % know what open source is initially



Who are the Apprentices

Previous Open-source knowledge – data from our apprentices



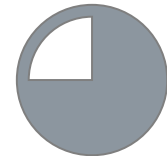
Apprentice

- **Let's estimate:**
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75 % Can not name any concrete open-source license



Who are the Apprentices

Previous Open-source knowledge – data from our apprentices



Apprentice

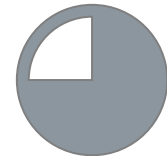
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- Do you know e.g., what GPLv2 is?

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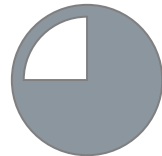
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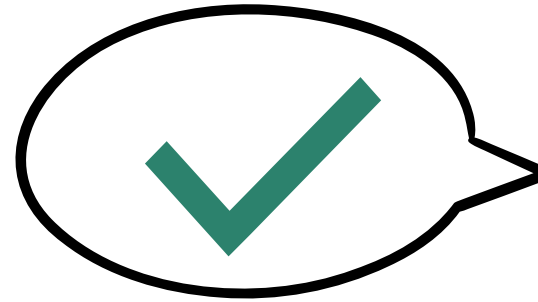
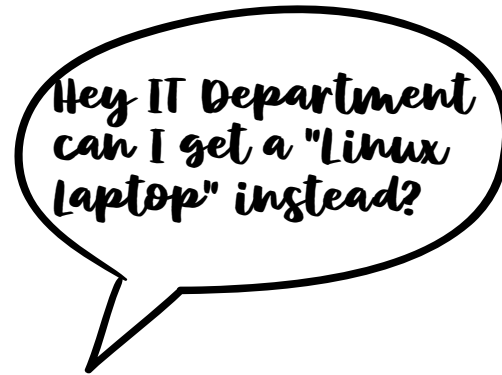
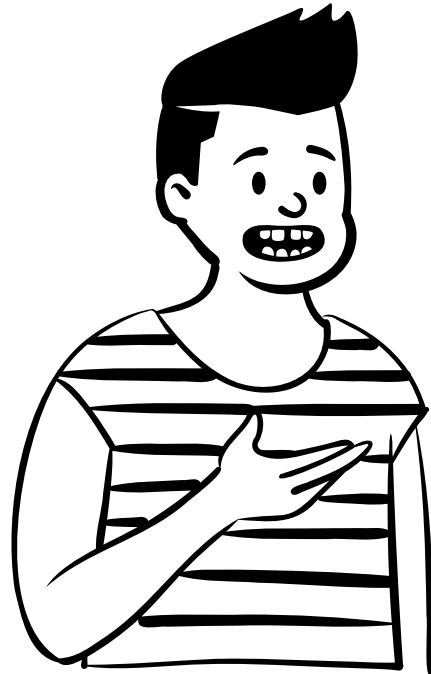


95 % Can not give any details about any open-source license



Why it matters

For us



Why it matters

For us

Access to open-source education resources

- Saves time
- Makes more independent.
- Possible teach something I do not know much about

They will be future IT specialists

- Should be our requirement to teach them about OSS
- Often decide on basic setups like operating systems

Will be contributing just as other IT guys

- Same reason as why it matters when educating students

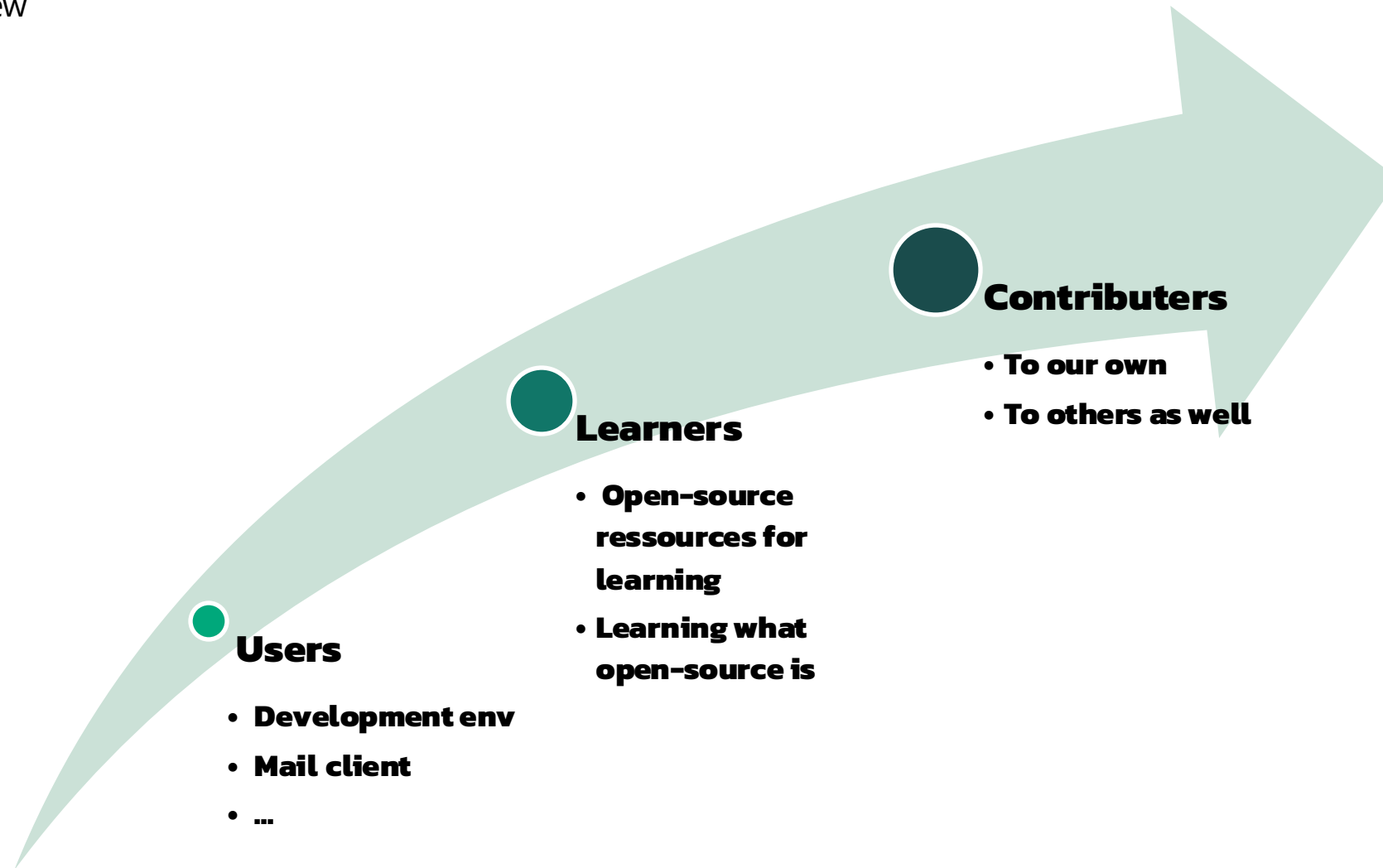
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For them



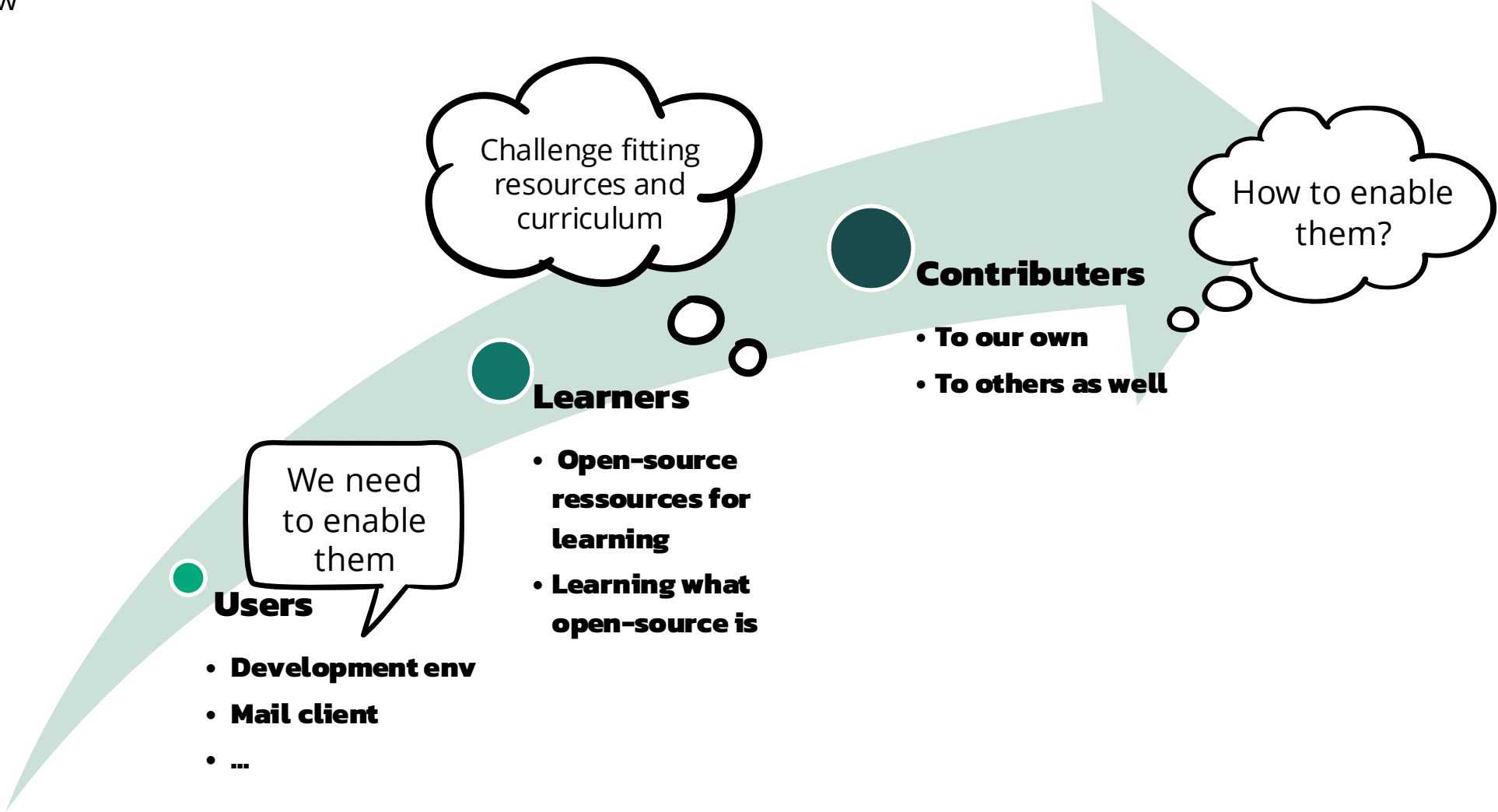
Where can open-source be used

An overview



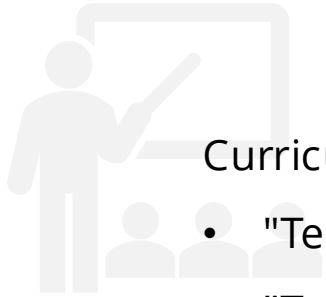
Where can open-source be used

An overview



Where can open-source be used

Fitting resources and curriculum

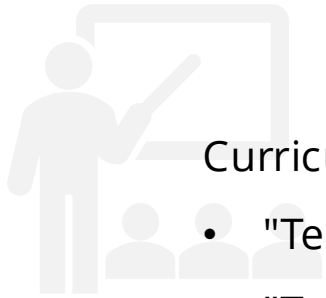


Curriculum:

- "Teach what open source is"
- "Teach about licenses"
- Otherwise: nothing
- But of course, we can use open/source material for teaching e.g., programming

Where can open-source be used

Fitting resources and curriculum

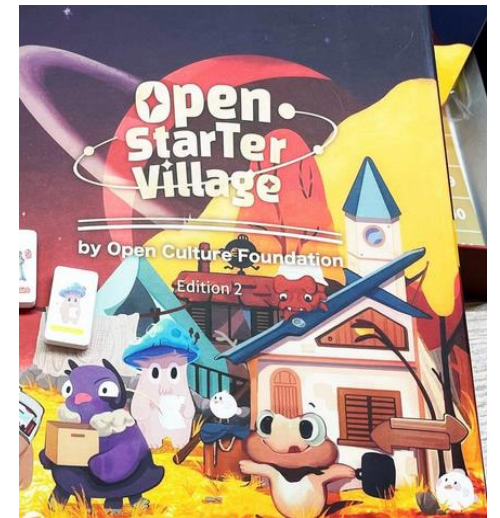


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"Teach what open source is"
and "Teach about licenses"




- Use same resources as for "normal university students"
- But why not start with a game



Suggestion: <https://openstartervillage.ocf.tw/en/resource/>

Where can open-source be used

The rest – what do we know ...

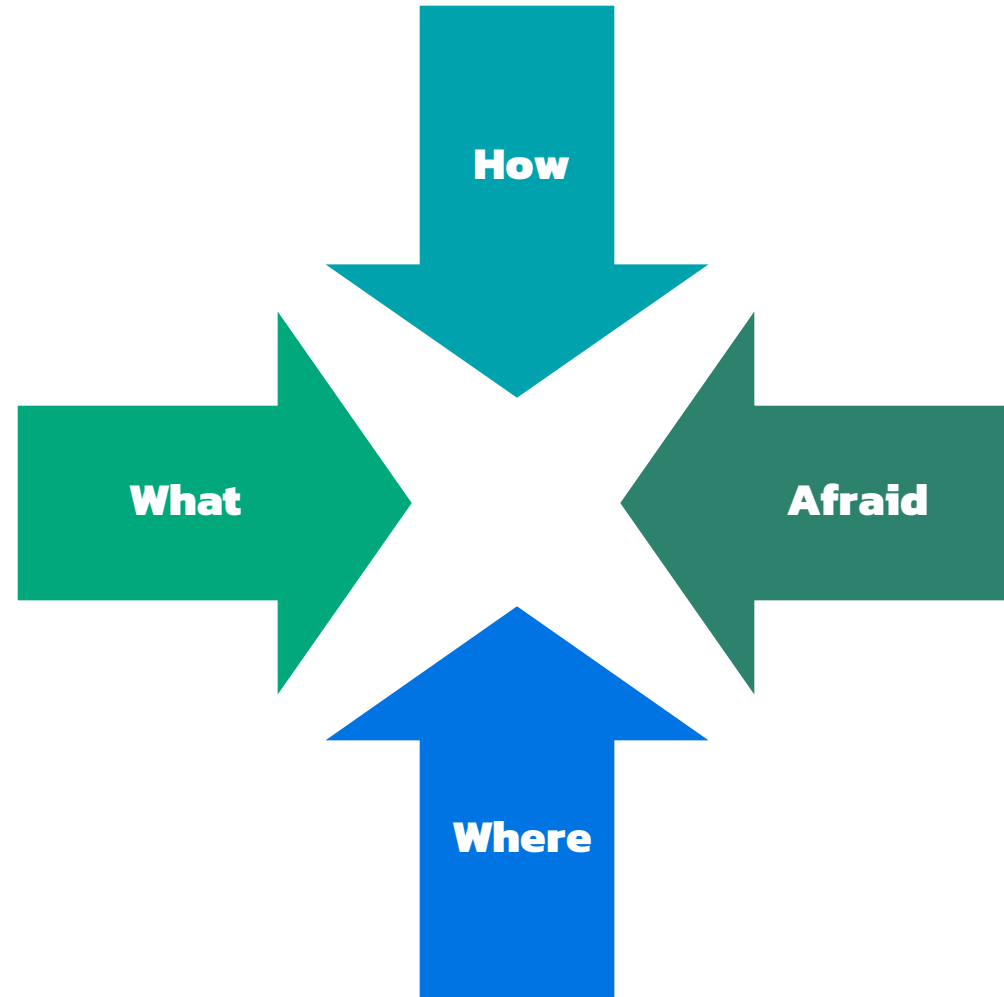
Use ?	Category	Example
No	Visual programming languages for kids	
Yes, first few weeks	Visual programming language For teens	
No (or very talented Apprentices)	Material for university students/adults	

Also, more than just programming to become an IT Specialist needed

Where can open-source be used

How to enable contributions

Main questions normally are



Where can open-source be used

How to enable contributions



E.g., <https://github.com/firstcontributions/first-contributions>

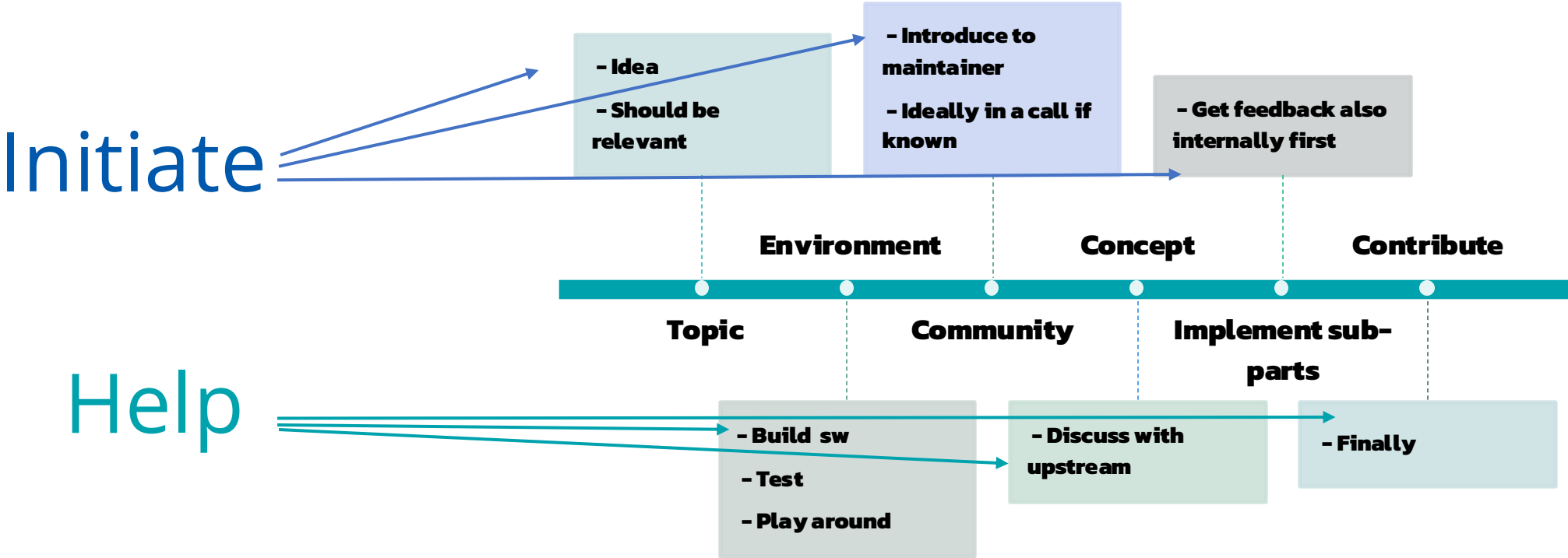
A concrete example

Concrete examples for teaching - git



A concrete example

A concrete example contribution plan



Questions?



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