Untangling MediaWiki

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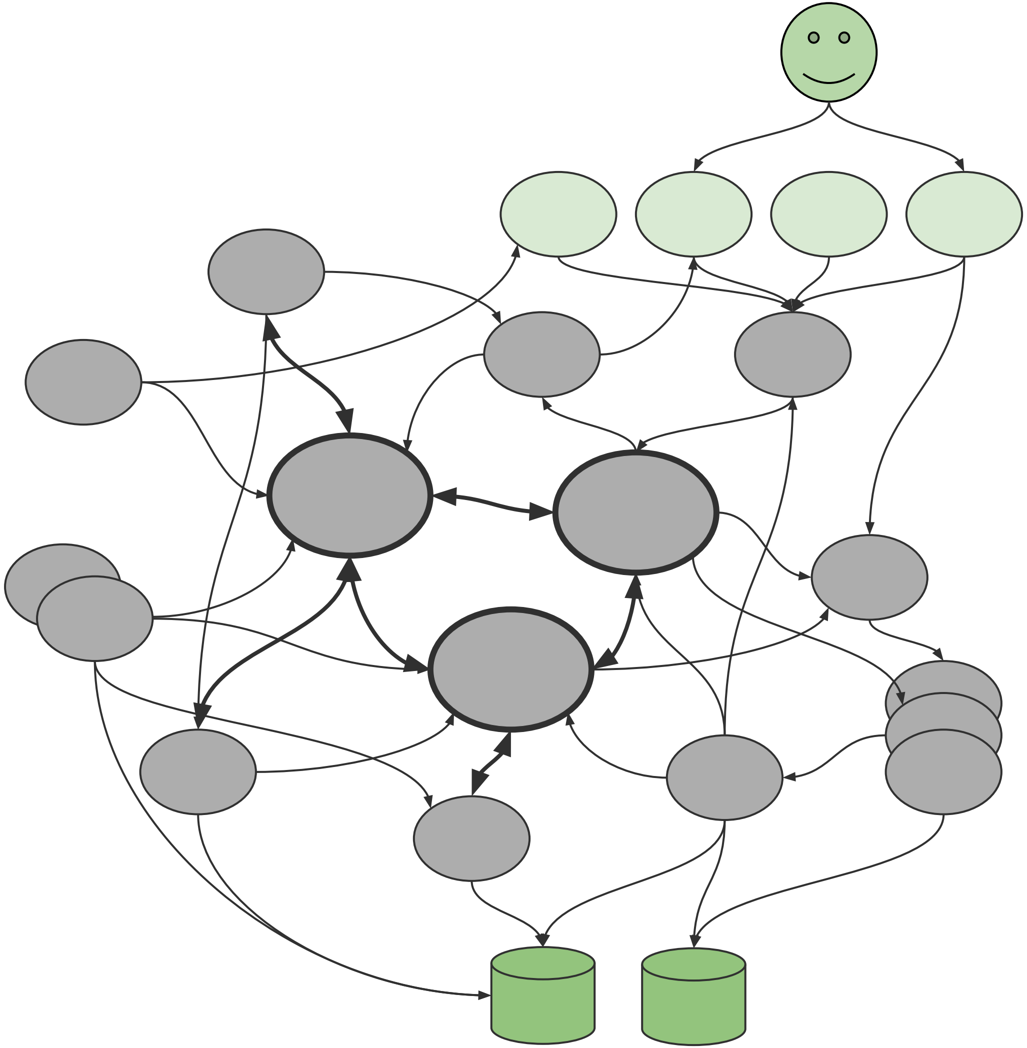
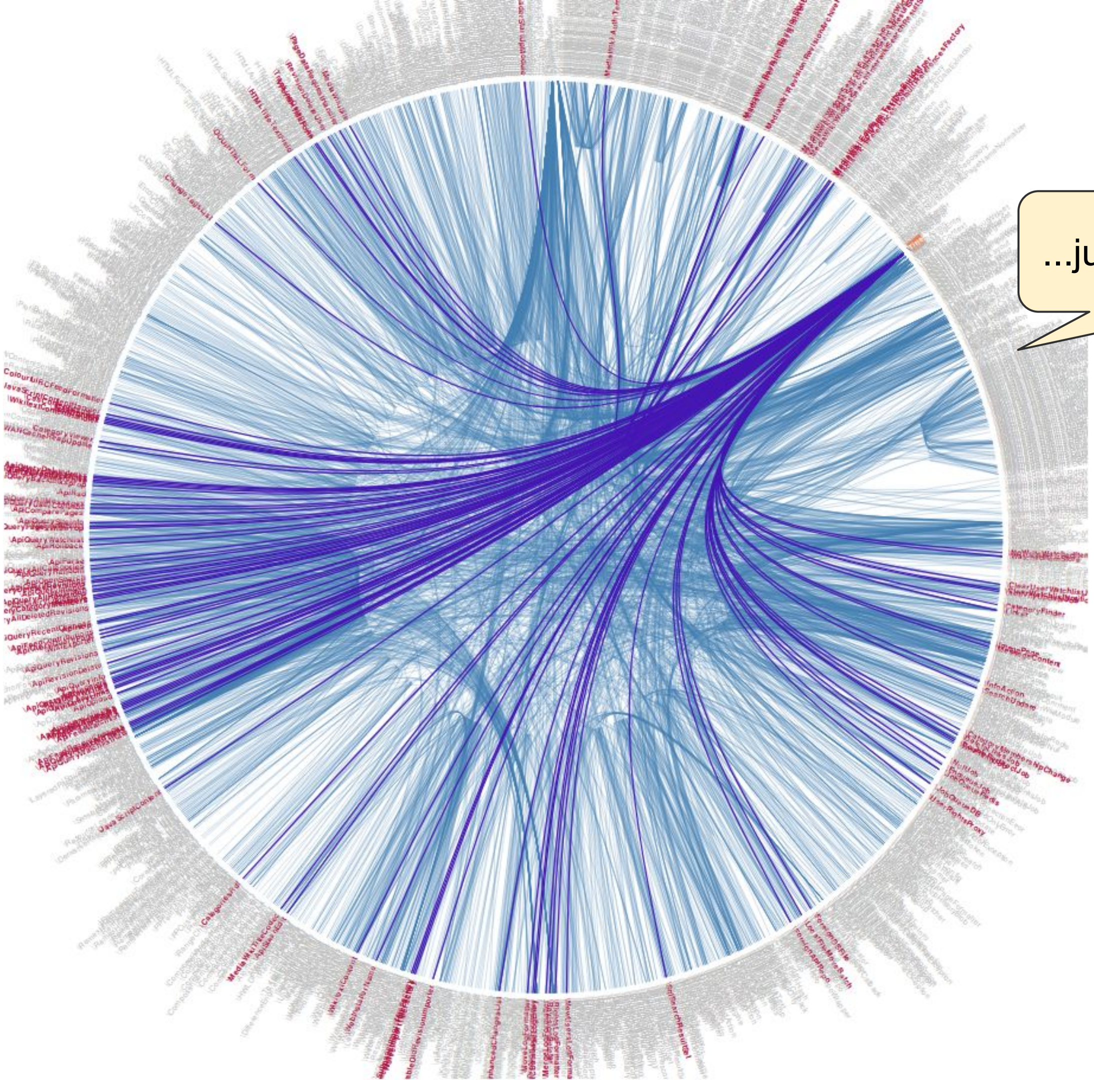
Core Platform Team

WIKIMEDIA
FOUNDATION

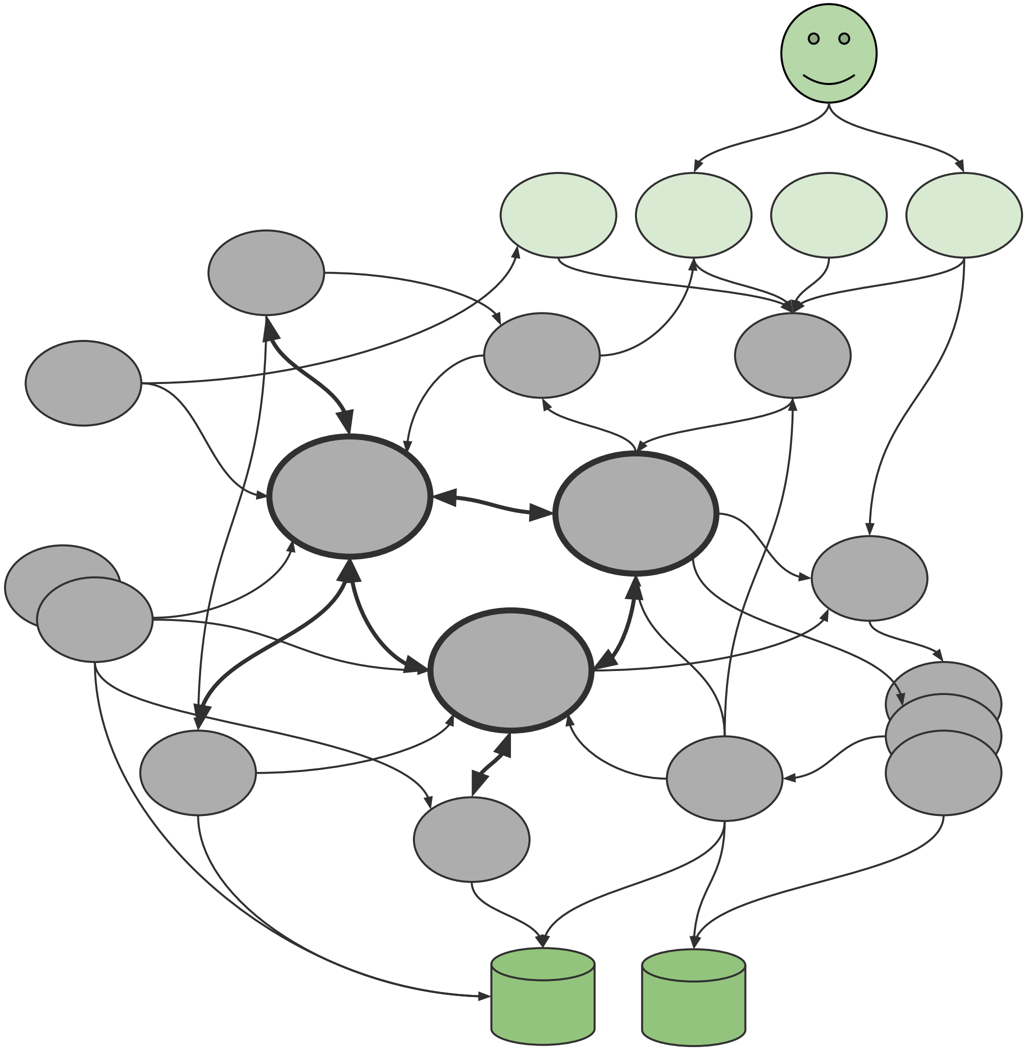


MediaWiki has grown into a “big ball of mud”.

A big tangle like this...

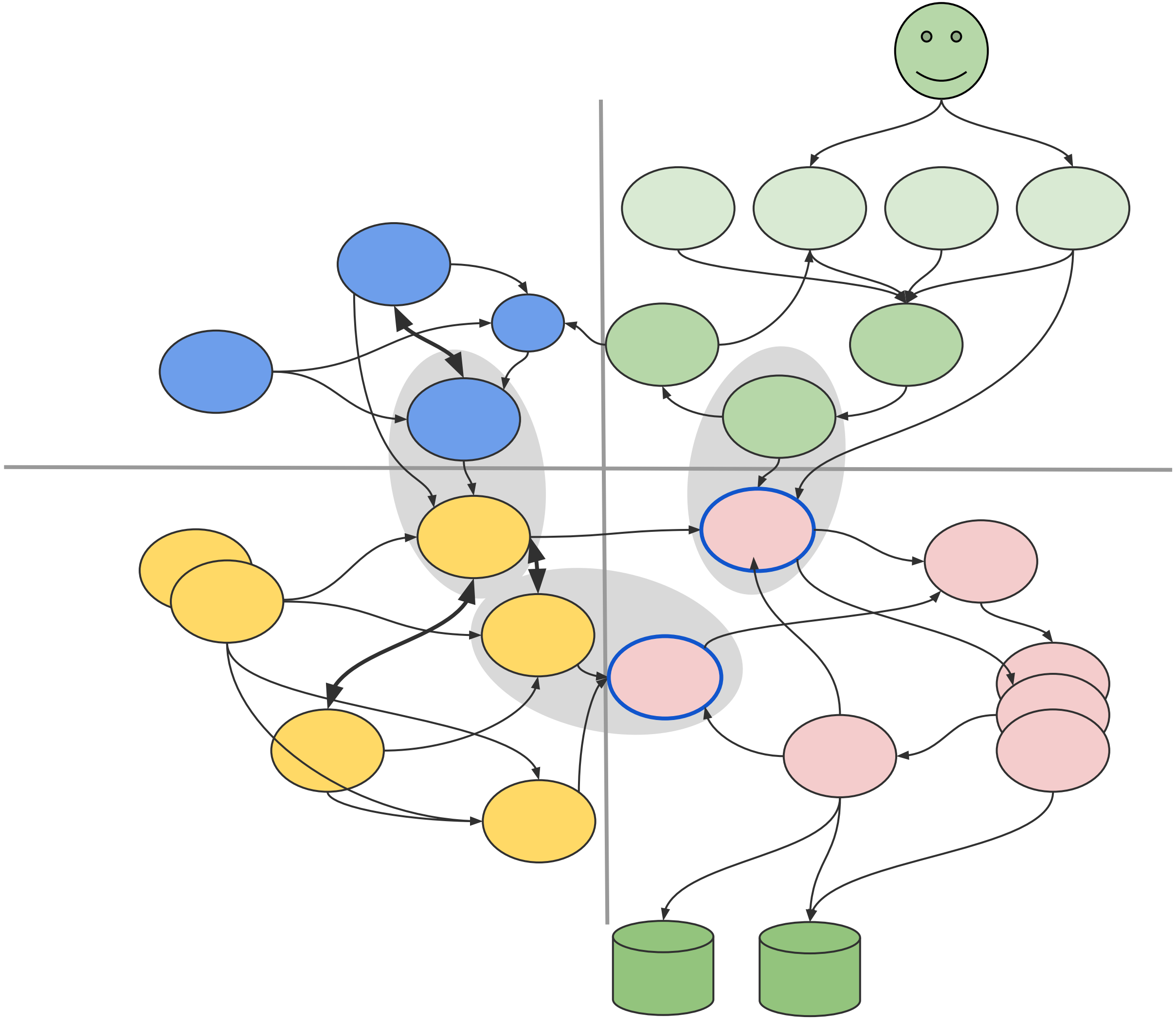


...just a lot worse.



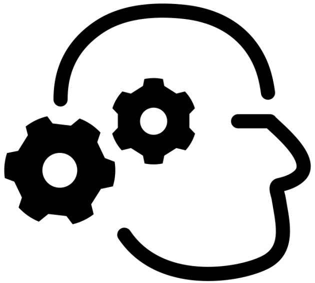
MediaWiki has grown into a “big ball of mud”, a big tangle.

Hard to understand, hard to change, hard to fix.



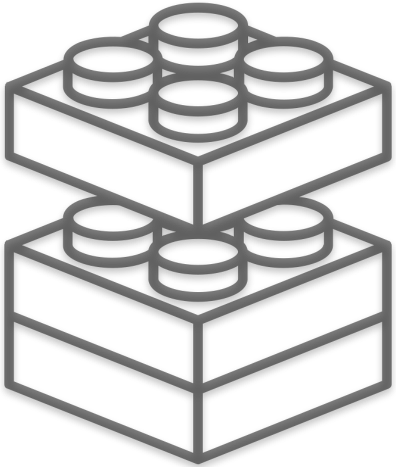
We want to decouple components, untangle the code.

Components are Good!



Created by Parallel Digital Studio
from the Noun Project

Created by Icon Fair
from the Noun Project



Created by mikicon
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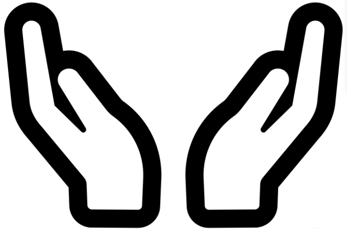

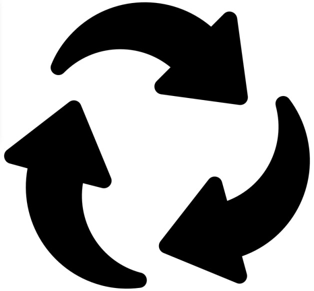

Created by Rose Alice Design
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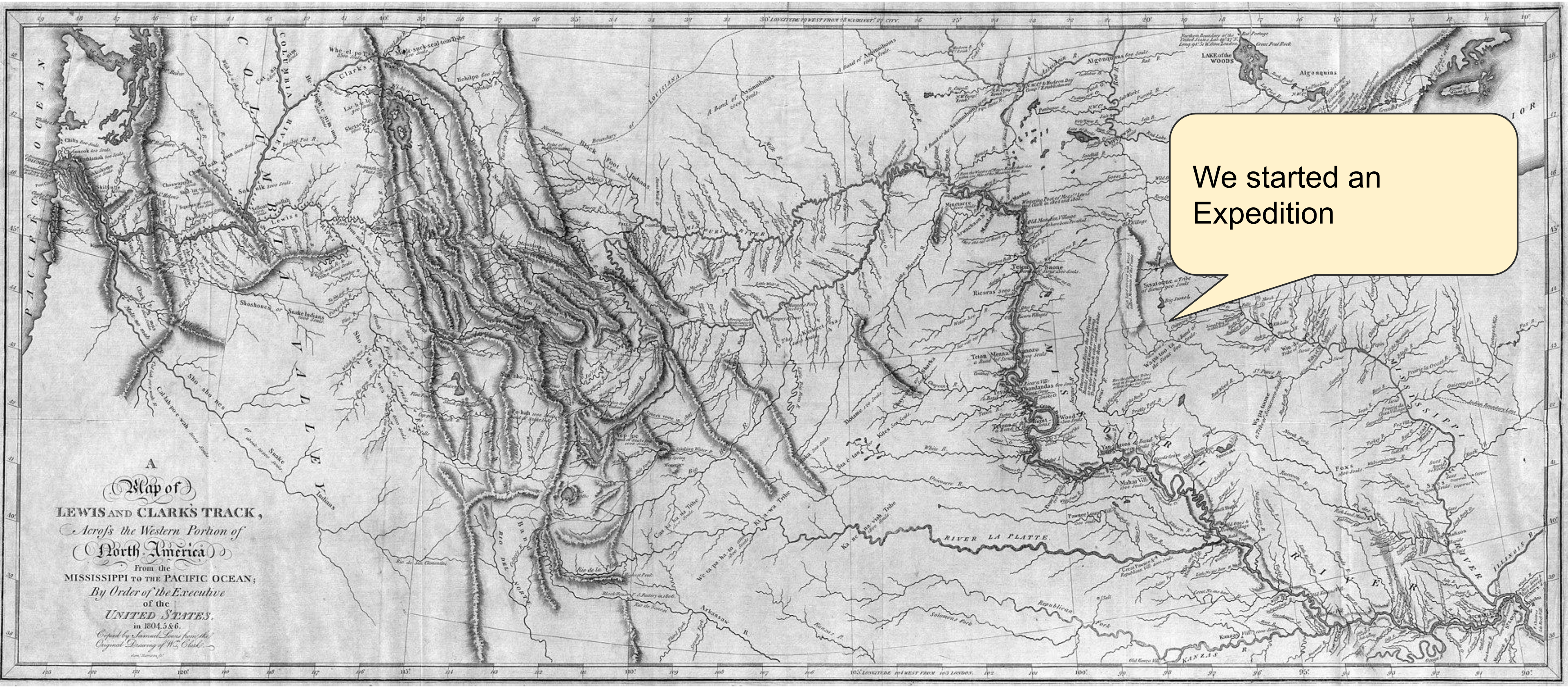
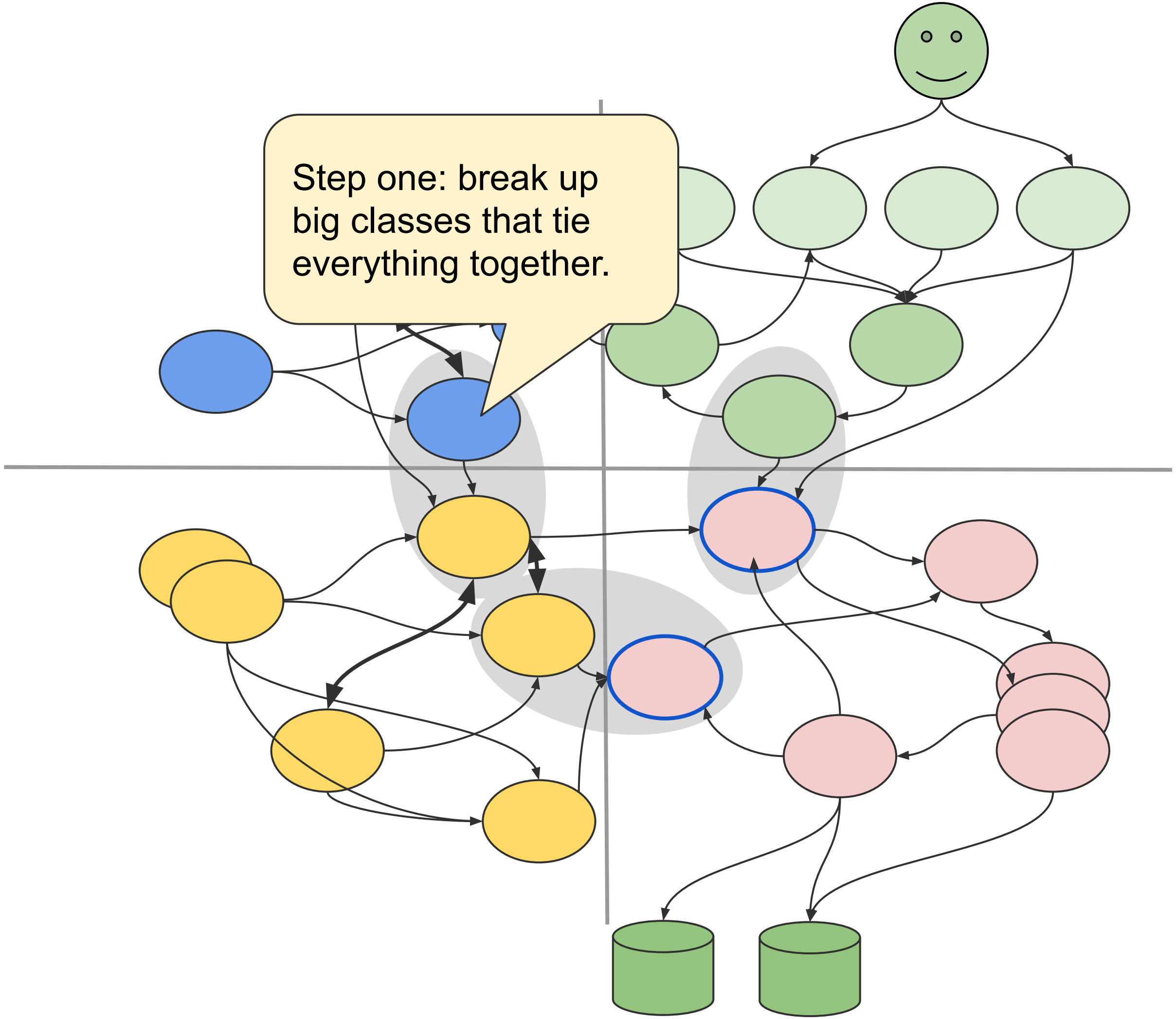


We started an Expedition

[[mw:Platform_Engineering_Team/Expedition]]



Step one: break up big classes that tie everything together.

A Title has...

- **...a page ID**
  ...unless the page doesn't exist
- **...a namespace**
  ...unless it's an interwiki link
- **...a page name**
  ...unless it's a section jump
- **...an associated talk page**
  ...unless it's a special page

Michael Pereckas, CC-BY

A Title can...

- **...be viewed**
  ...unless it's an interwiki link
- **...watched**
  ...unless it's a section jump
- **...renamed**
  ...unless it's a special page
- **...**

Michael Pereckas, CC-BY

Using unclear vocabulary
results in ambiguity and confusion.

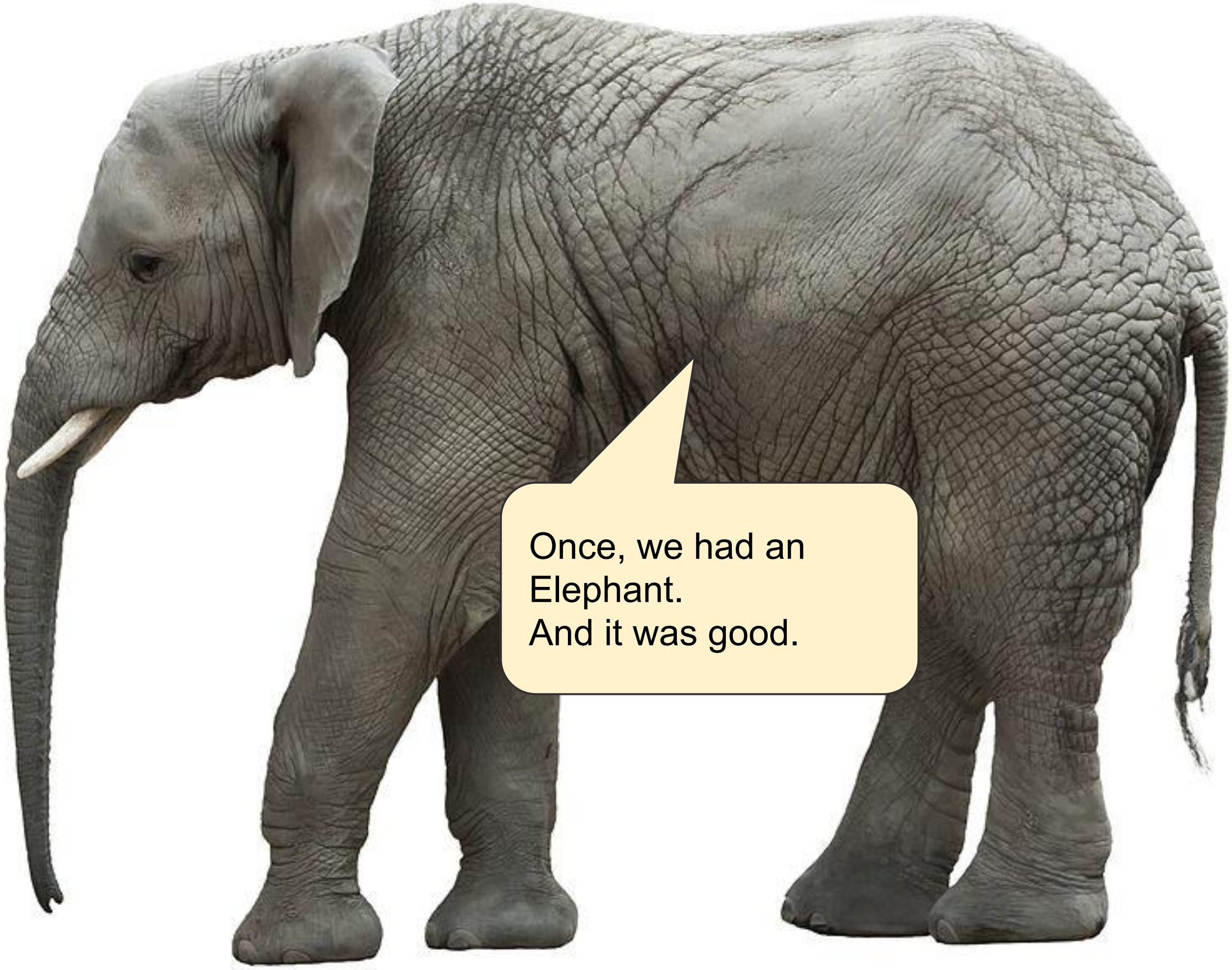
Ambiguity and confusion
leads to frustration and bugs.

Using unclear vocabulary
results in ambig ty and confusion.

Ambigui sion
leads to fru bugs.

How did this
happen?!

David Castor, CC0



Once, we had an Elephant.
And it was good.

But we didn't always need the trunk!

Abalg, CC-BY-SA

And at some point, we needed wings...

...but with the winges, the legs became optional.

It turns out all parts are optional, really.

We still called it an "Elephant", but we no longer knew what to expect of such a beast.

Abalg, CC-BY-SA

Replace the monster classes that
bind the code into a big knot
with a lightweight vocabulary
for communicating between components.

Monsters to Fight

- Revision (done)
- User
- Title
- Language

Rough Roadmap

1.36:

- new core interfaces
- lots of method deprecations

1.37:

- more method deprecations
- New hooks get introduced, old hooks deprecated

1.38:

- User and Title deprecated?
- Old hook system deprecated?

Title

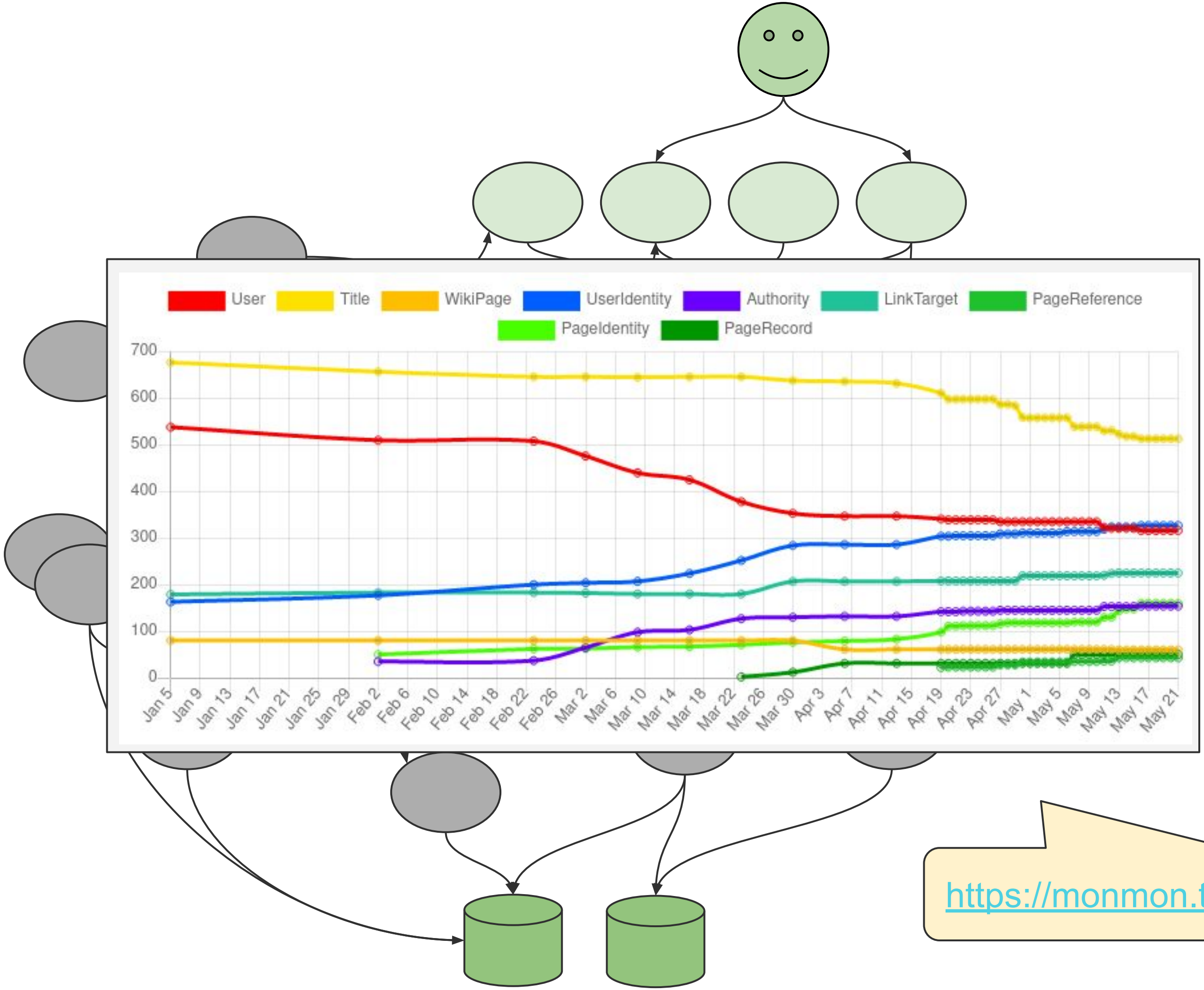
- LinkTarget (revisited)
- PageReference (new)
- PageIdentity (new)
- PageRecord (new)

Mario Micklisch, CC-BY

User

- UserIdentity (revisited)
- Authority (new)
- UserAccount (future)

Mario Micklisch, CC-BY



https://monmon.toolforge.org/monmon/

Move slowly and avoid breaking things.

(not Mark Zuckerberg)

Solomon203, public domain

Stable Interface Policy

- Calling things is fine
- Only a few classes are safe to instantiate
- Only a few classes are safe to extend
- Only a few methods are safe to override

- Relies on codesearch.
- Use MWStake’s nonwmf-extensions repo!

Stable Interface Policy

[[mw:Stable_interface_policy]]

- Calling things is fine
- Only a few classes are safe to instantiate
- Only a few classes are safe to extend
- Only a few methods are safe to override

https://codesearch.wmcloud.org/search/

- Relies on codesearch.
- Use MWStake’s nonwmf-extensions repo!

https://github.com/MWStake/nonwmf-extensions

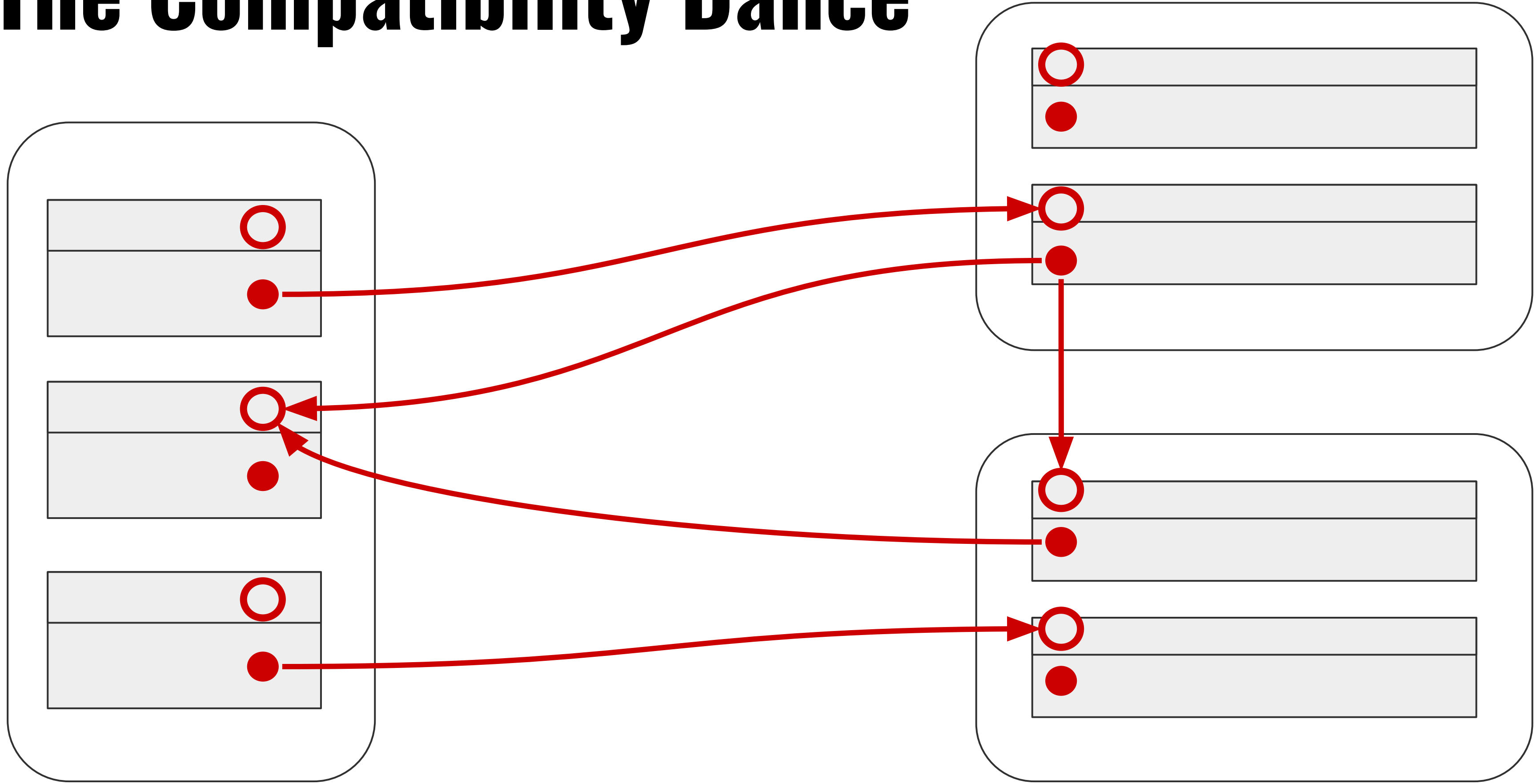
The Compatibility Dance

- The old class implements new interface
- Change methods to accept new interface
- Replace methods that return the old class
- Remove the old class

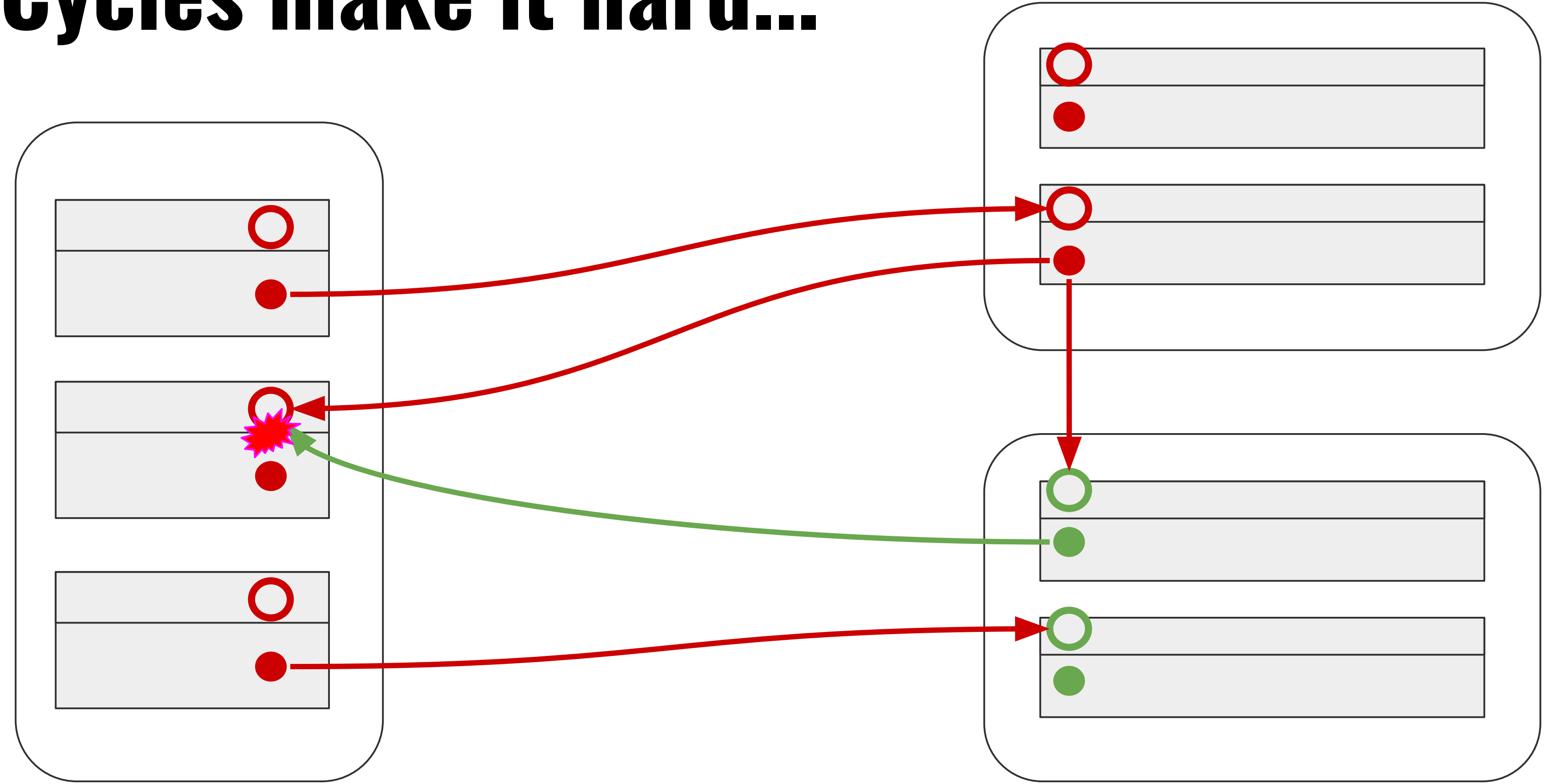
Oxborrow, CC-BY-SA

[[mw:Platform_Engineering_Team/Expedition#Migration_Strategy_for_Replacing_Classes]]

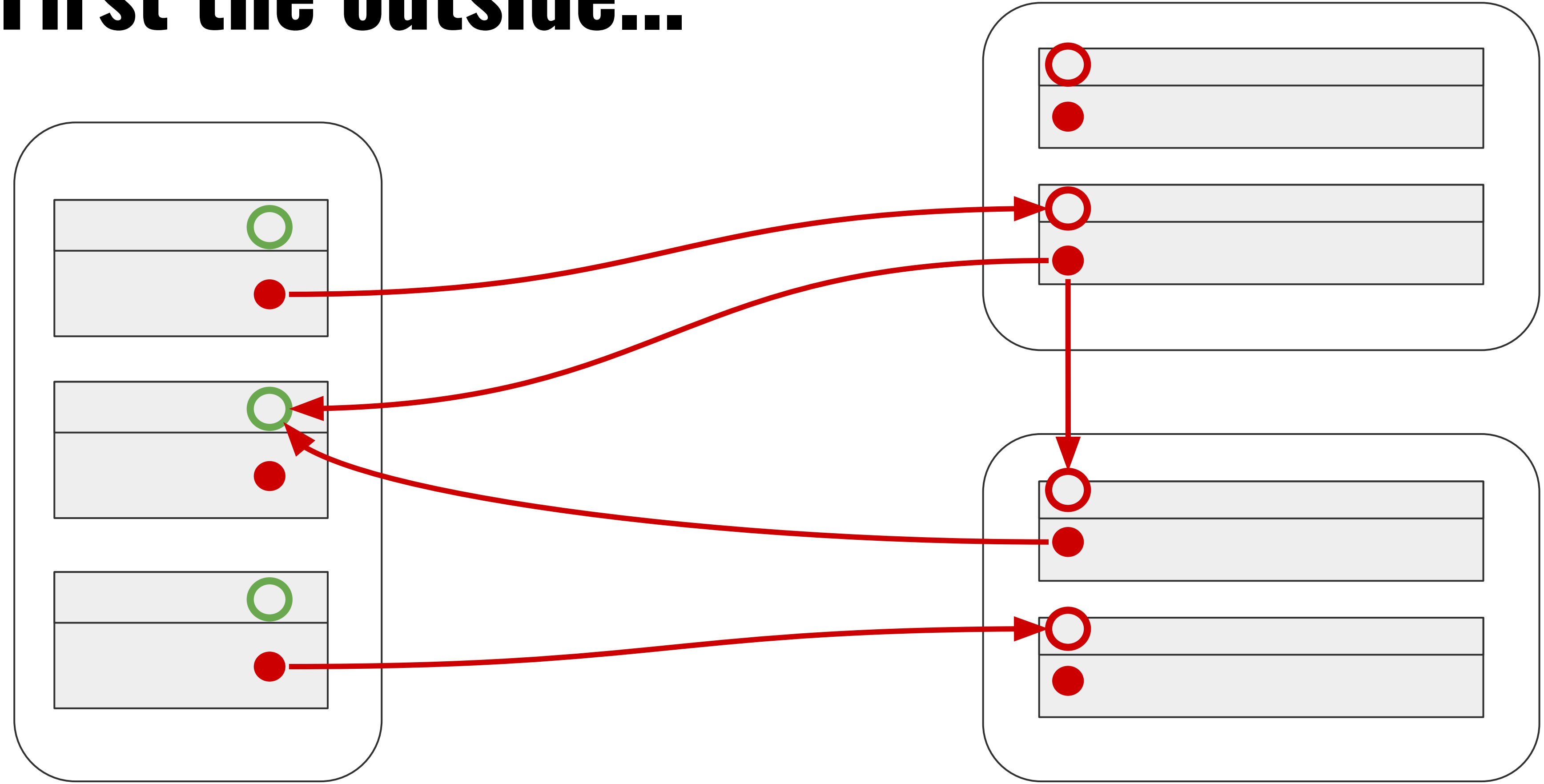
The Compatibility Dance



Cycles make it hard...



First the outside...



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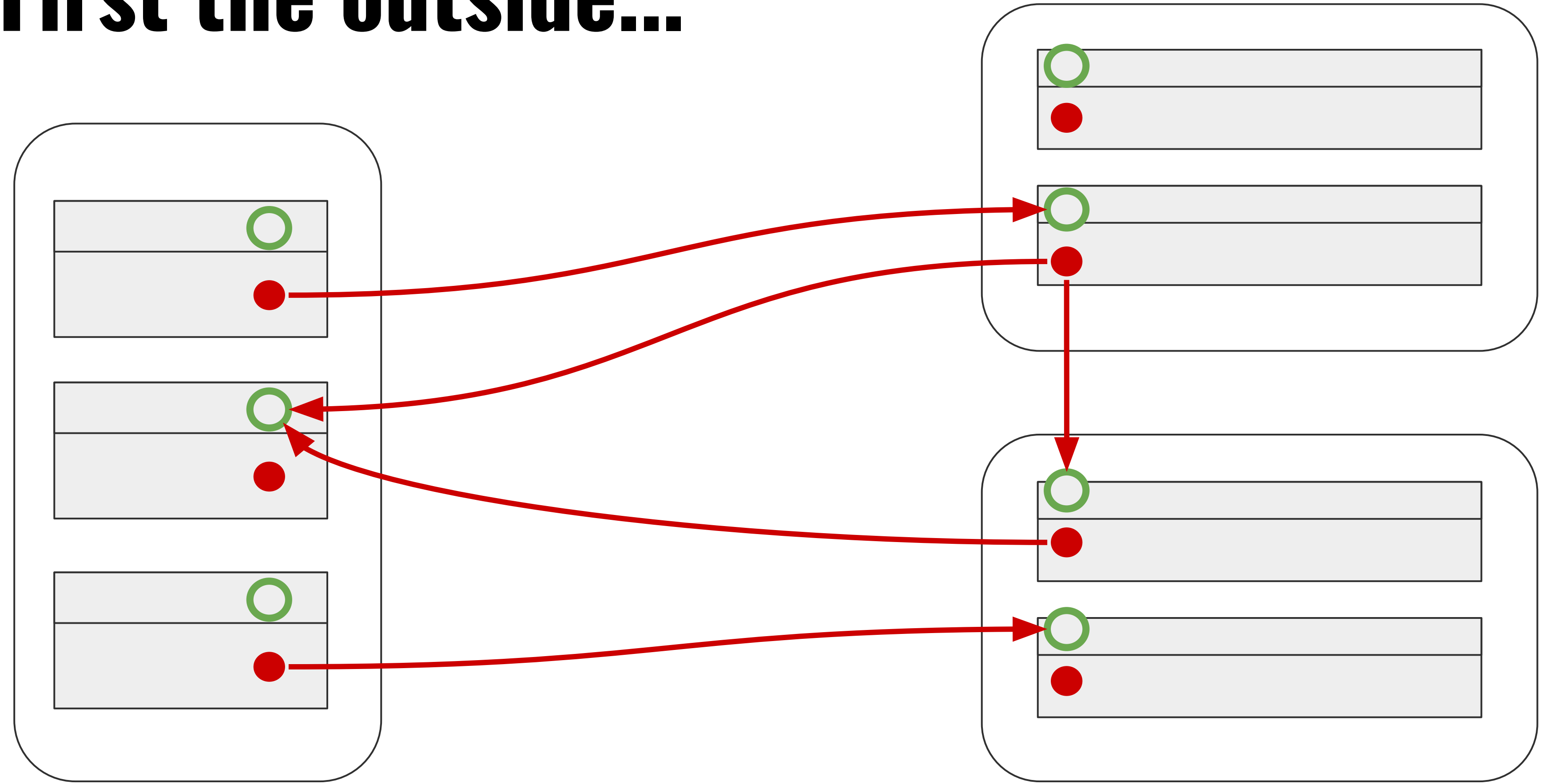
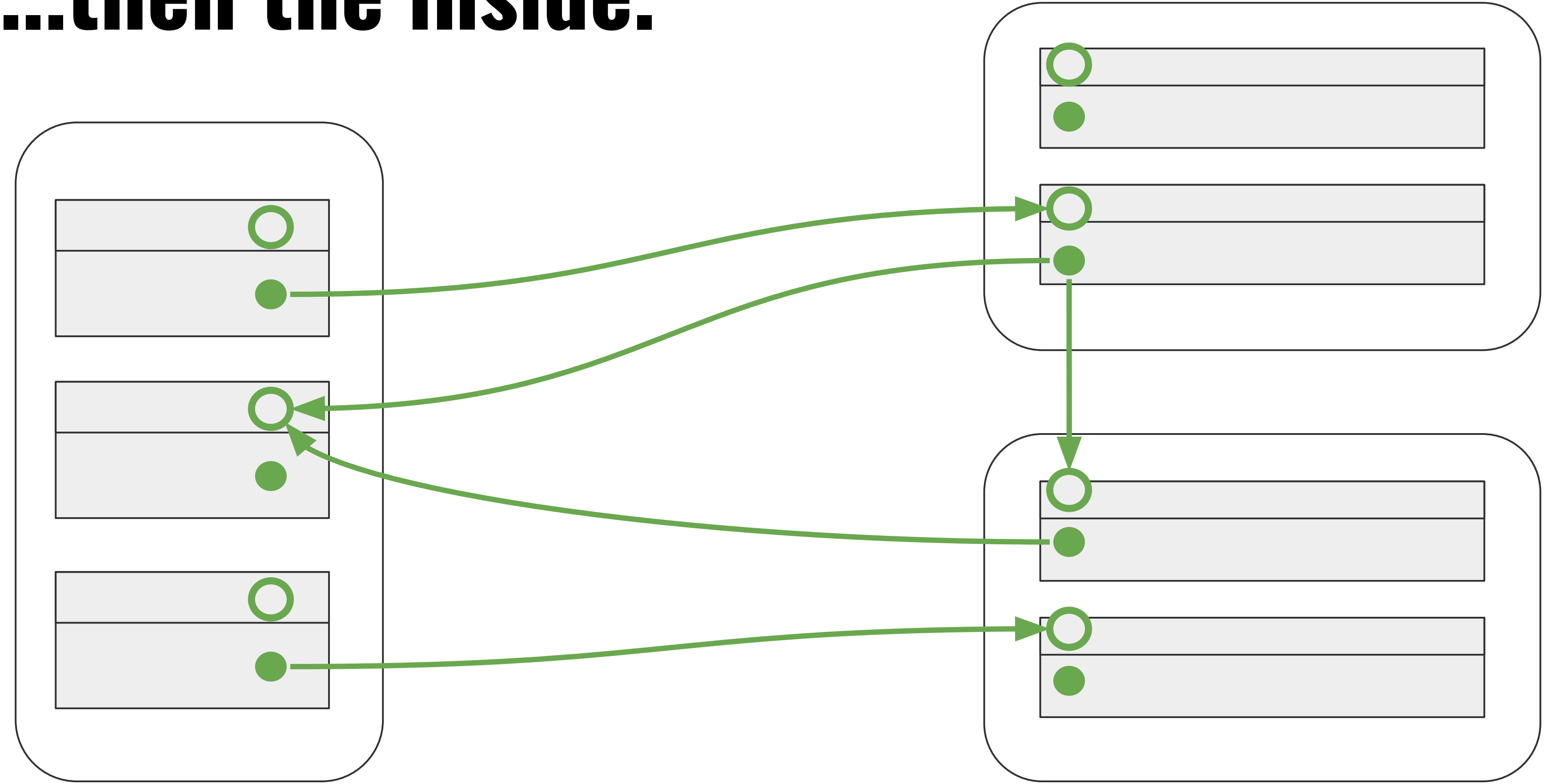


...then the inside.

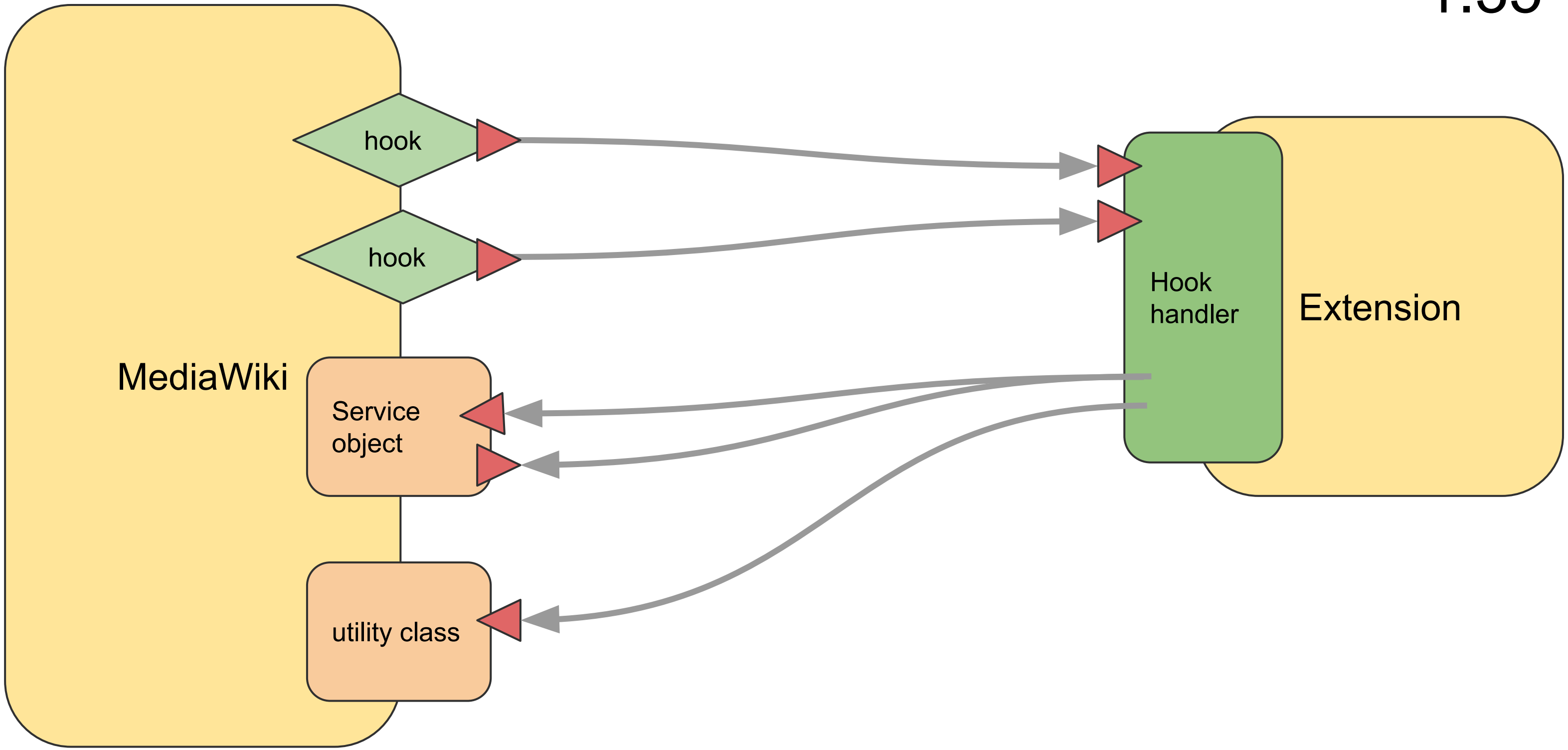


Stable Interface Policy

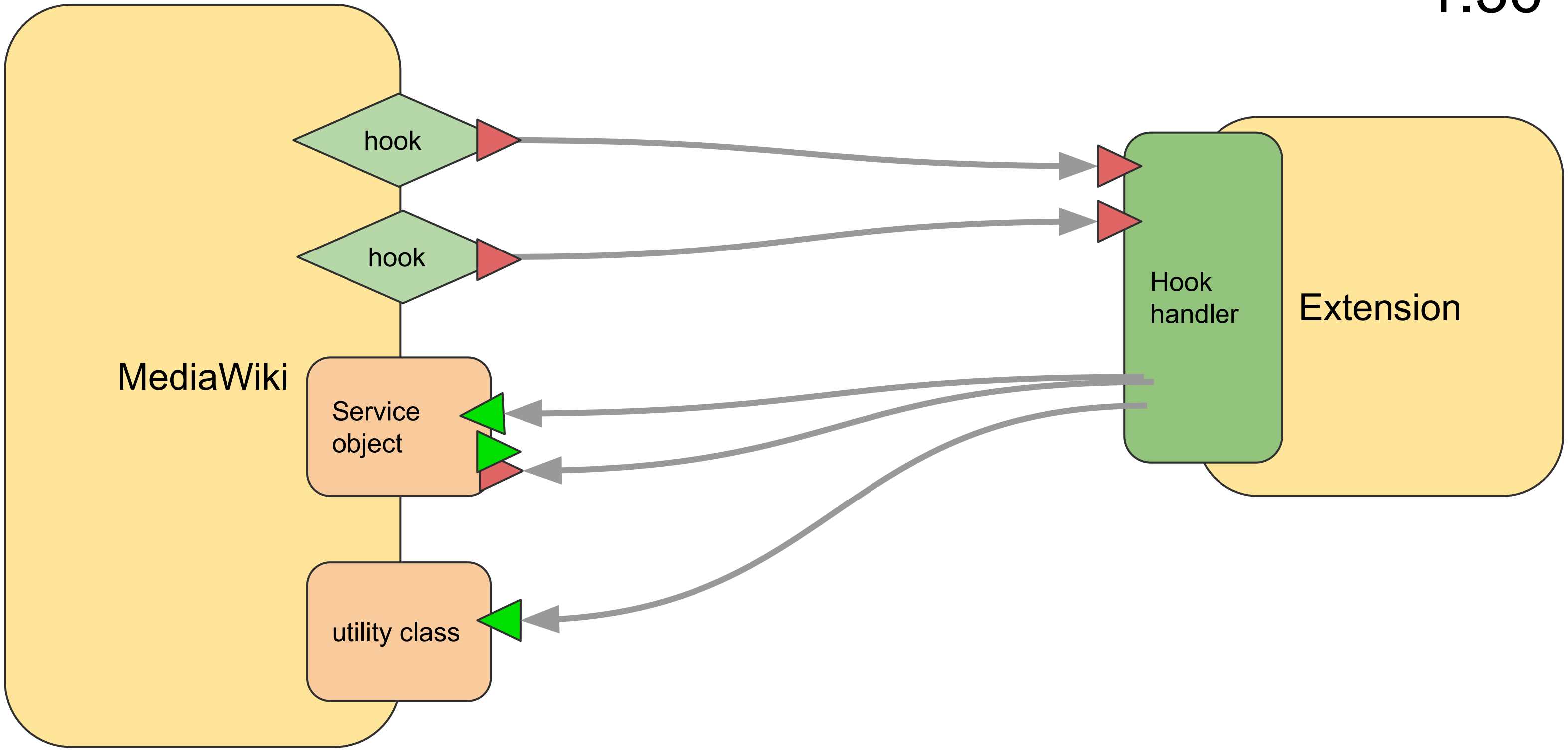
Replace the monster classes that
bind the code into a big knot
with a lightweight vocabulary
for communicating between components.

...without breaking things.

1.35


MediaWiki
hook
hook
Service object
utility class
Hook handler
Extension

1.36



MediaWiki

hook

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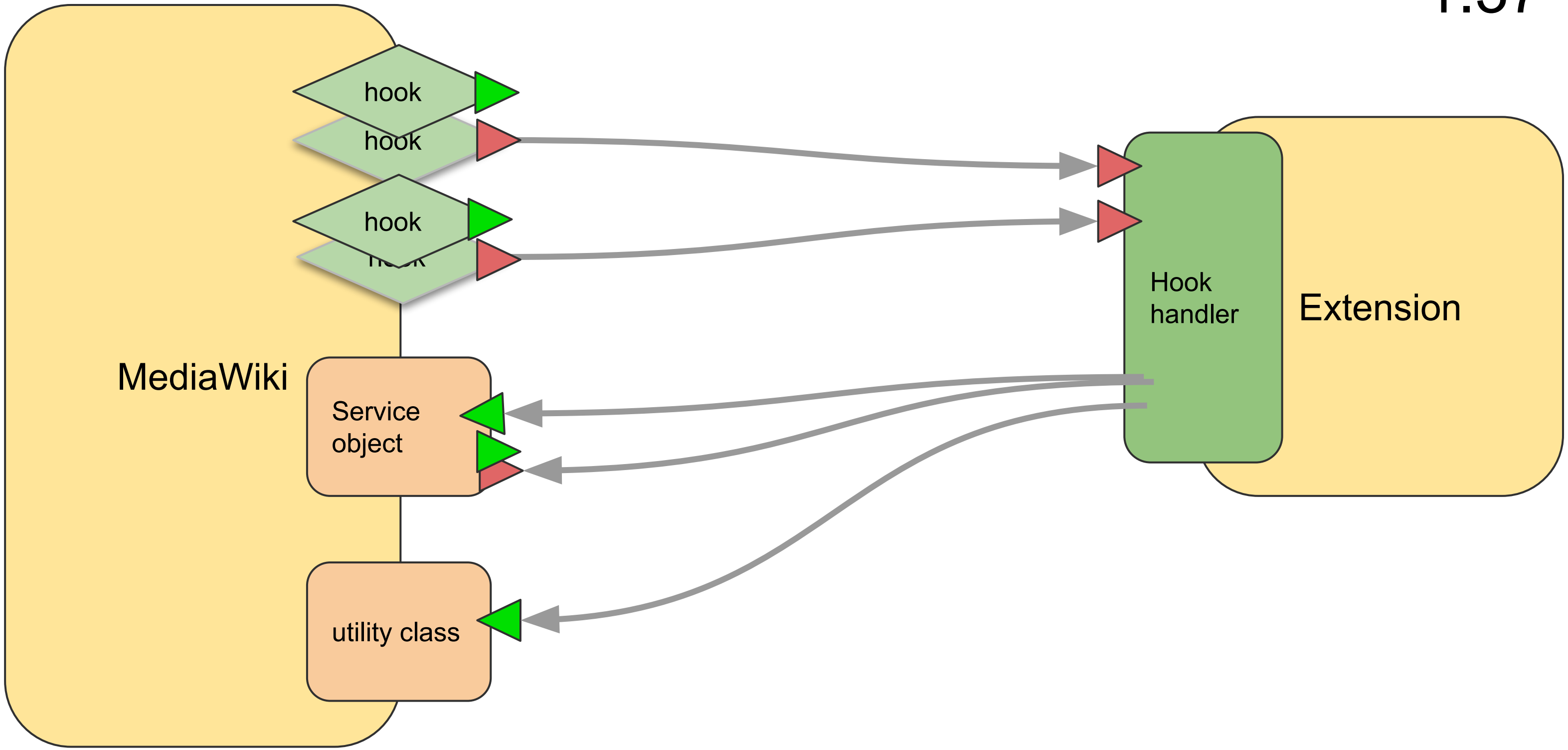
1.37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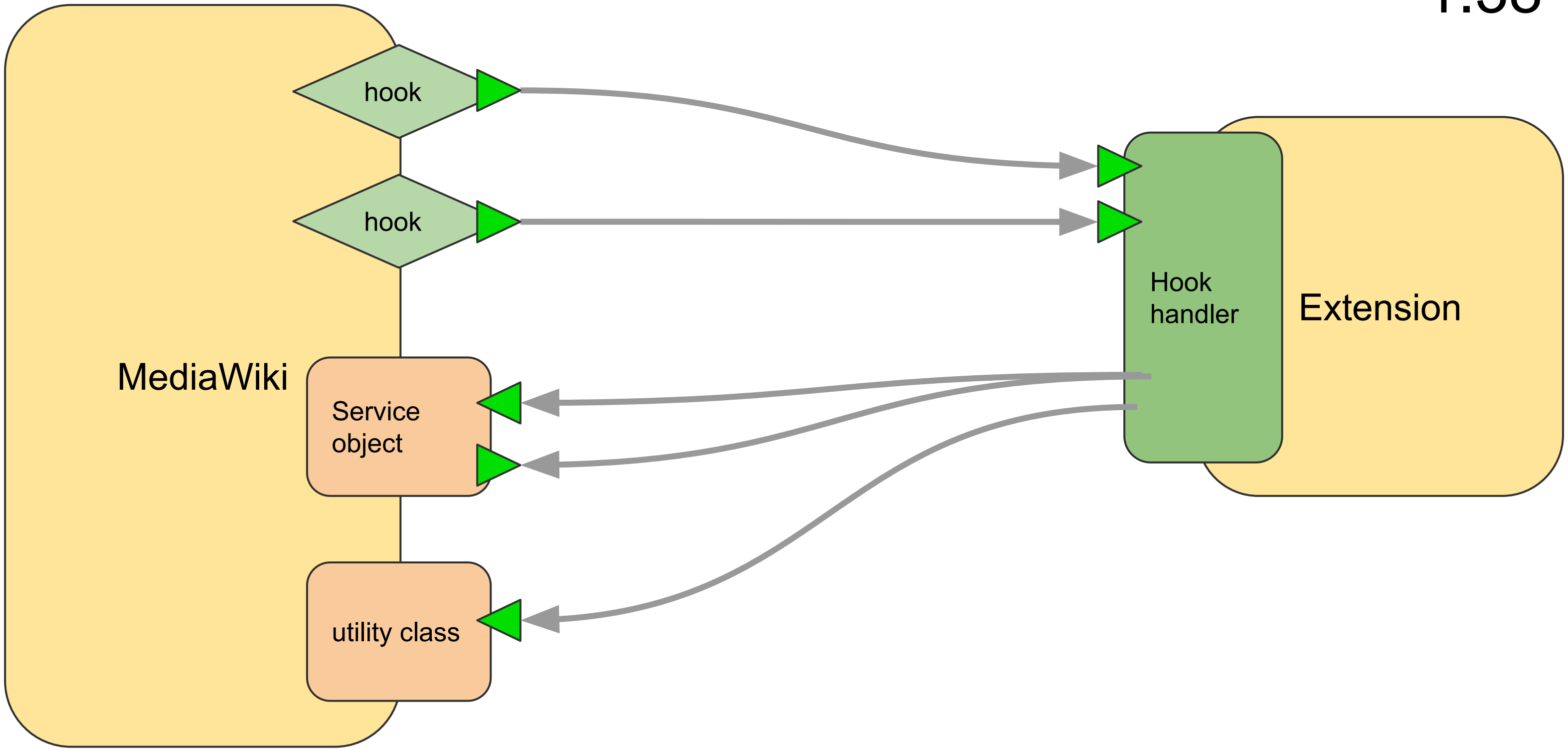
1.38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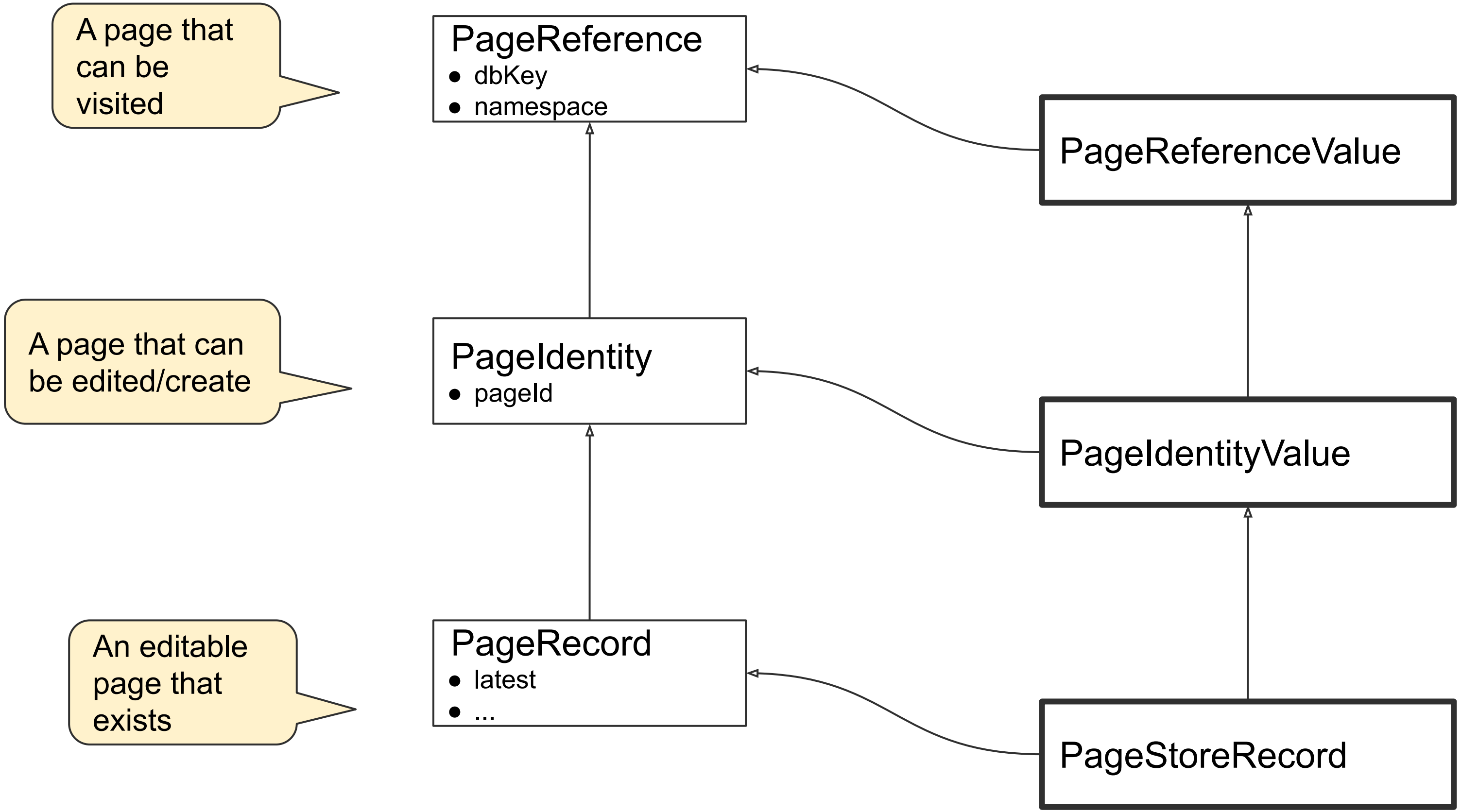
Oxborrow, CC-BY-SA



A page that can be visited

PageReference
- dbKey
- namespace

PageReferenceValue

A page that can be edited/create

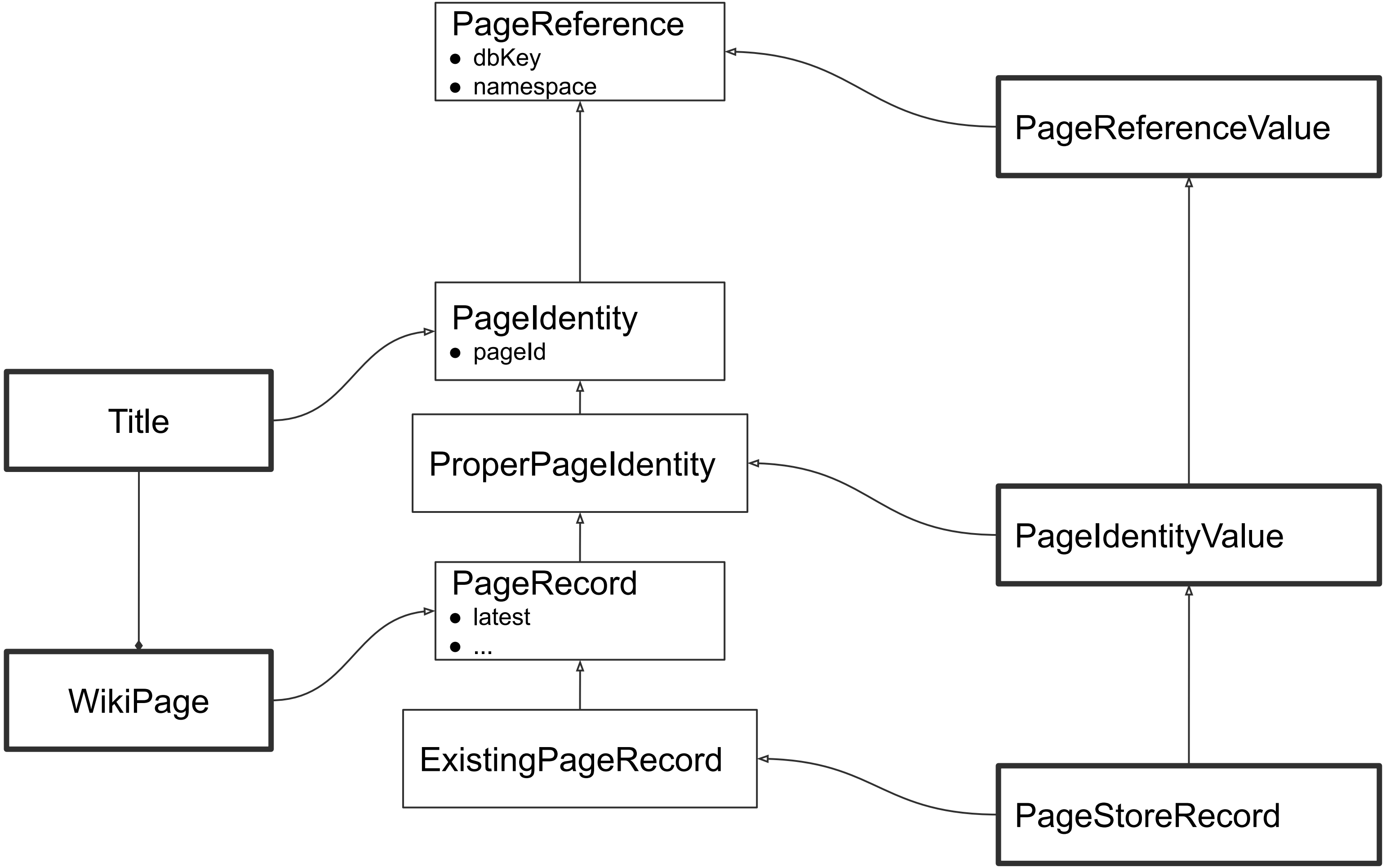
PageIdentity
- pageId

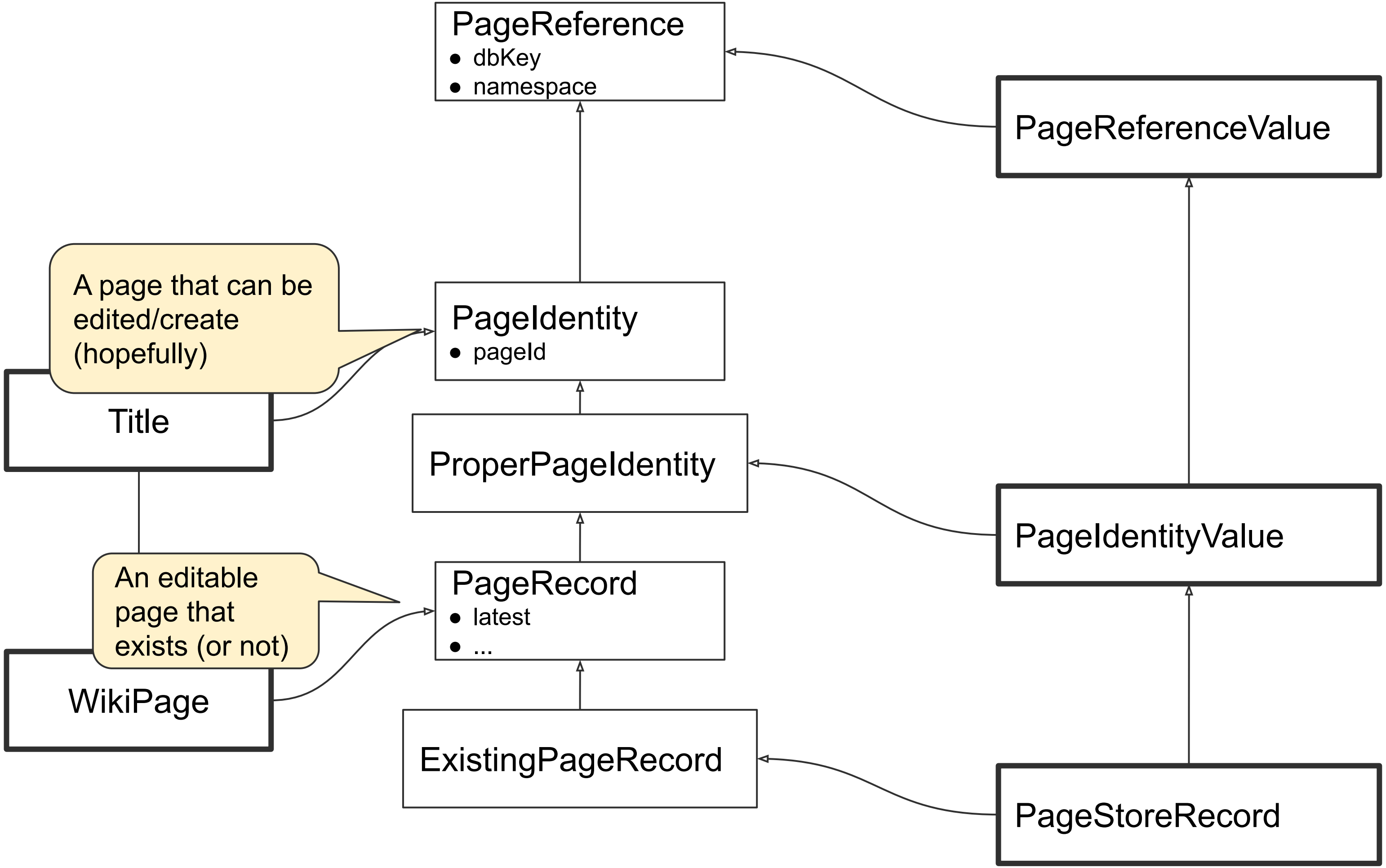
PageIdentityValue

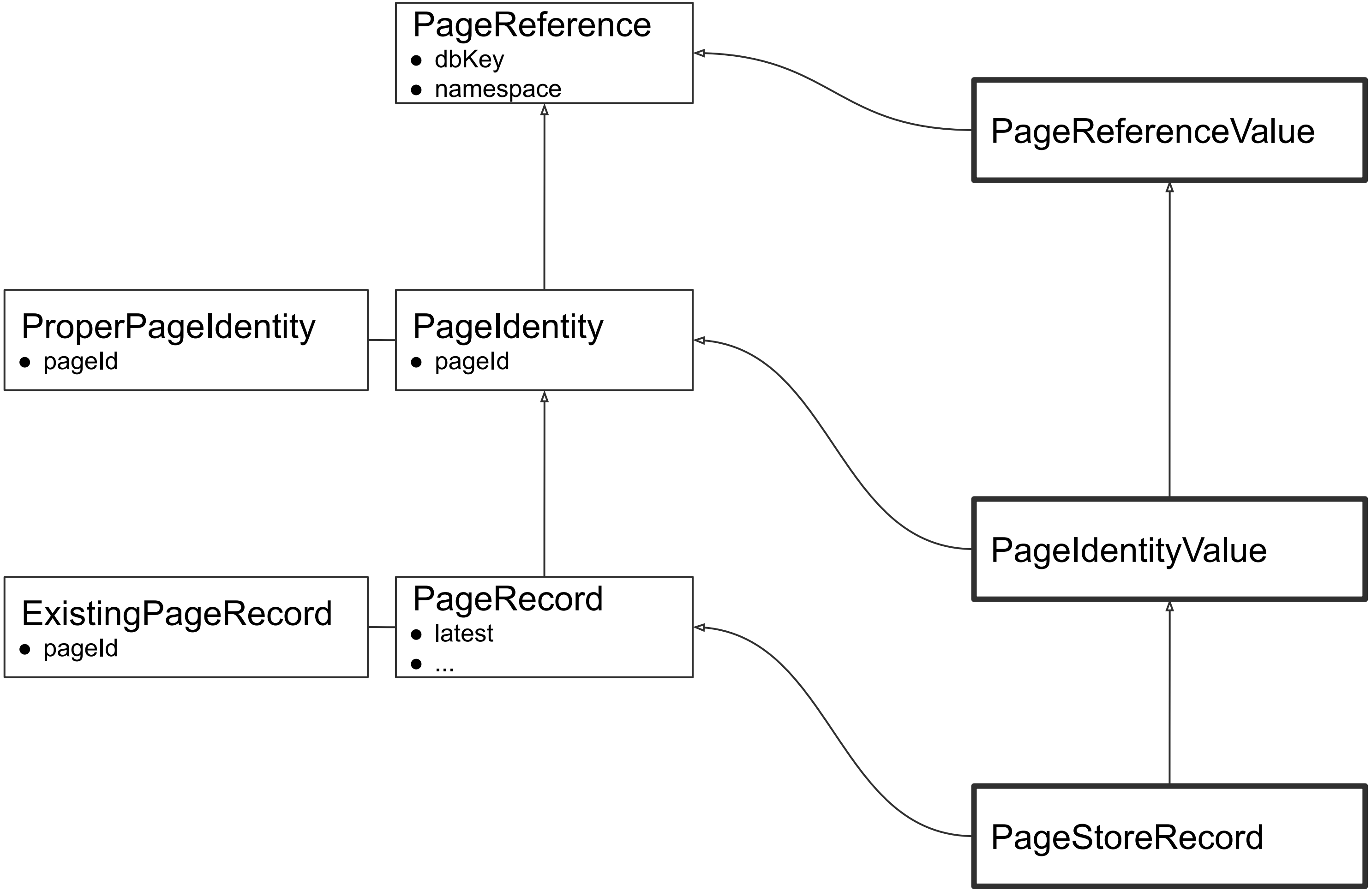
An editable page that exists

PageRecord
- latest
- ...

PageStoreRecord


PageReference
dbKey
namespace
PageReferenceValue
PageIdentity
pageId
Title
ProperPageIdentity
PageIdentityValue
PageRecord
latest
...
WikiPage
ExistingPageRecord
PageStoreRecord


PageReference
- dbKey
- namespace
PageReferenceValue
A page that can be edited/create (hopefully)
PageIdentity
- pageId
Title
ProperPageIdentity
PageIdentityValue
An editable page that exists (or not)
PageRecord
- latest
- ...
WikiPage
ExistingPageRecord
PageStoreRecord


PageReference
● dbKey
● namespace
PageReferenceValue
ProperPageIdentity
● pageId
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● pageId
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● ...
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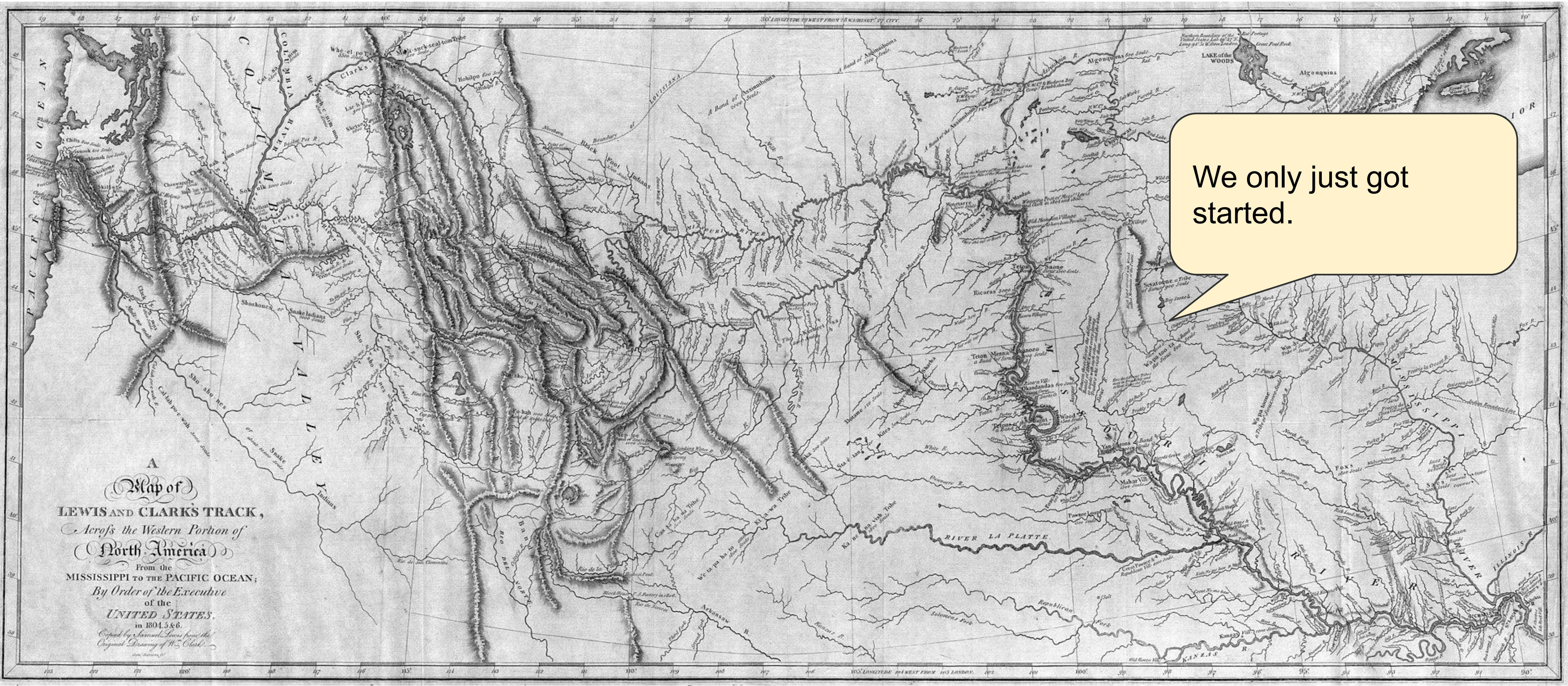
A
Map of
LEWIS AND CLARK'S TRACK,
Acroſs the Western Portion of
North America
From the
MISSISSIPPI TO THE PACIFIC OCEAN;
By Order of the Executive
of the
UNITED STATES.
in 1804.5&6.
Copied by Samuel Lewis from the
Original Drawing of Wm. Clark.
PACIFIC OCEAN
COLUMBIA RIVER
RIVER LA PLATTE
MISSOURI RIVER
MISSISSIPPI RIVER
LAKE of the WOODS
Arkansaw R.
KANSAS
Rio del Norte
30' LONGITUDE WEST FROM WASHINGT. CITY
LONGITUDE WEST FROM LONDON

We only just got started.

Phabricator board: https://phabricator.wikimedia.org/project/view/5144/

So bear with us!

Steve Hillebrand, publuic domain

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Questions?

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End

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