visual editor

A rich Web editor for anyone

James Forrester & Roan Kattouw

linux.conf.au 2014, Perth

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The Wikimedia movement

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Overview

Image: https://commons.wikimedia.org/wiki/File:The_Blue_Marble.jpg – public domain original from NASA; adjusted by User:Deglr6328

Why a visual editor?

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- Drop in new contributors is a major issue for Wikimedia

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- MediaWiki is based on the (very) rich “wikitext” syntax
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- Not an appropriate environment for the 21st Century

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Why a visual editor?

- Drop in new contributors is a major issue for Wikimedia
- MediaWiki is based on the (very) rich “wikitext” syntax
- Wikitext stops people becoming contributors or staying
- Not an appropriate environment for the 21st Century
- Prevents us from providing other helpful editing tools

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Flexibility and modularity

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- You can expand it for editing new content

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Flexibility and modularity

- We've designed VisualEditor to be very modular
- You can integrate it for platforms beyond MediaWiki
- You can replace or extend existing tools
- You can expand it for editing new content
- We support all ~300 languages that MediaWiki does

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So what are we building?

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- A client-side JavaScript contentEditable HTML editor

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  - Unique needs – rich data model, generated content
  - Needs server-side wikitext⟷HTML parser: *Parsoid*

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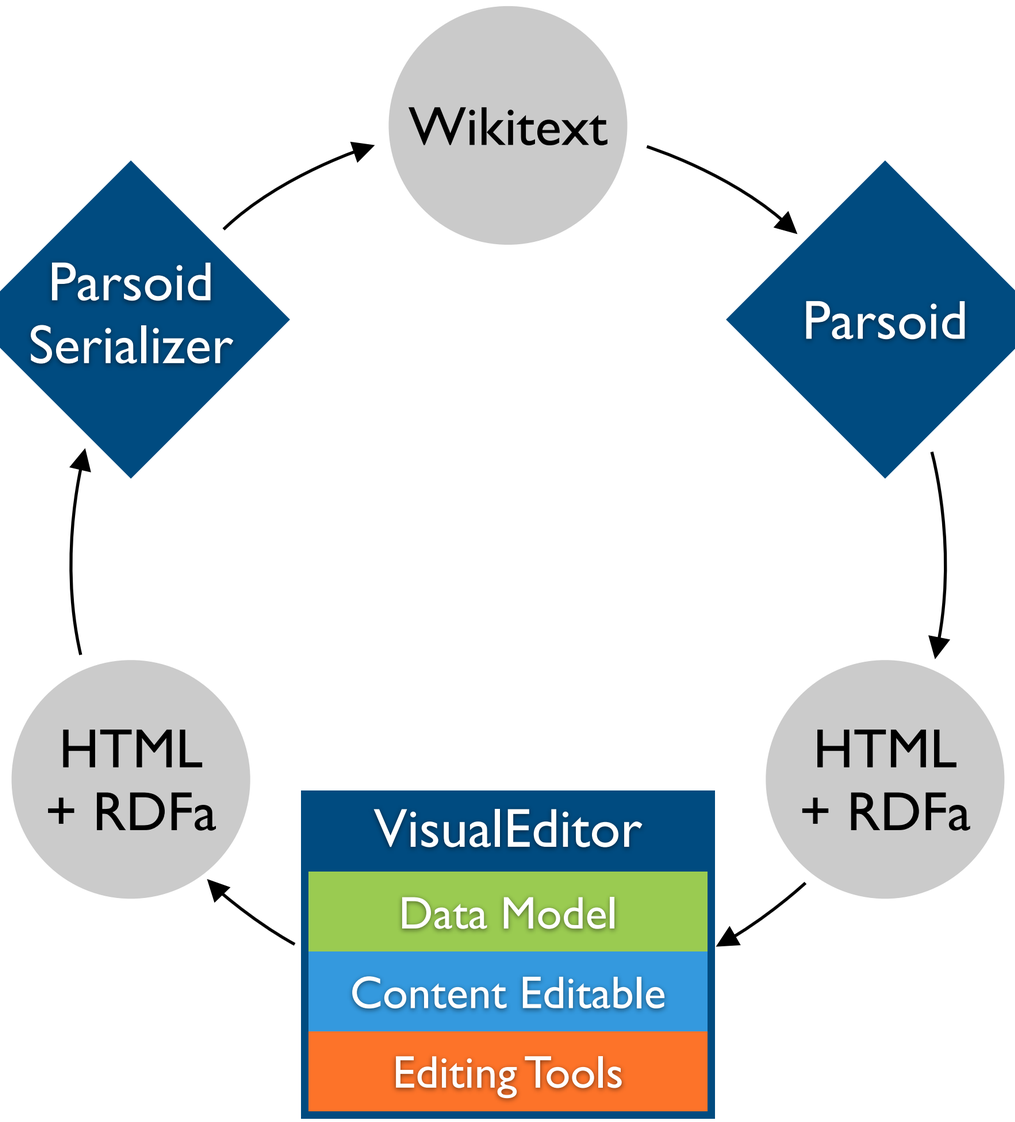
So what are we building?



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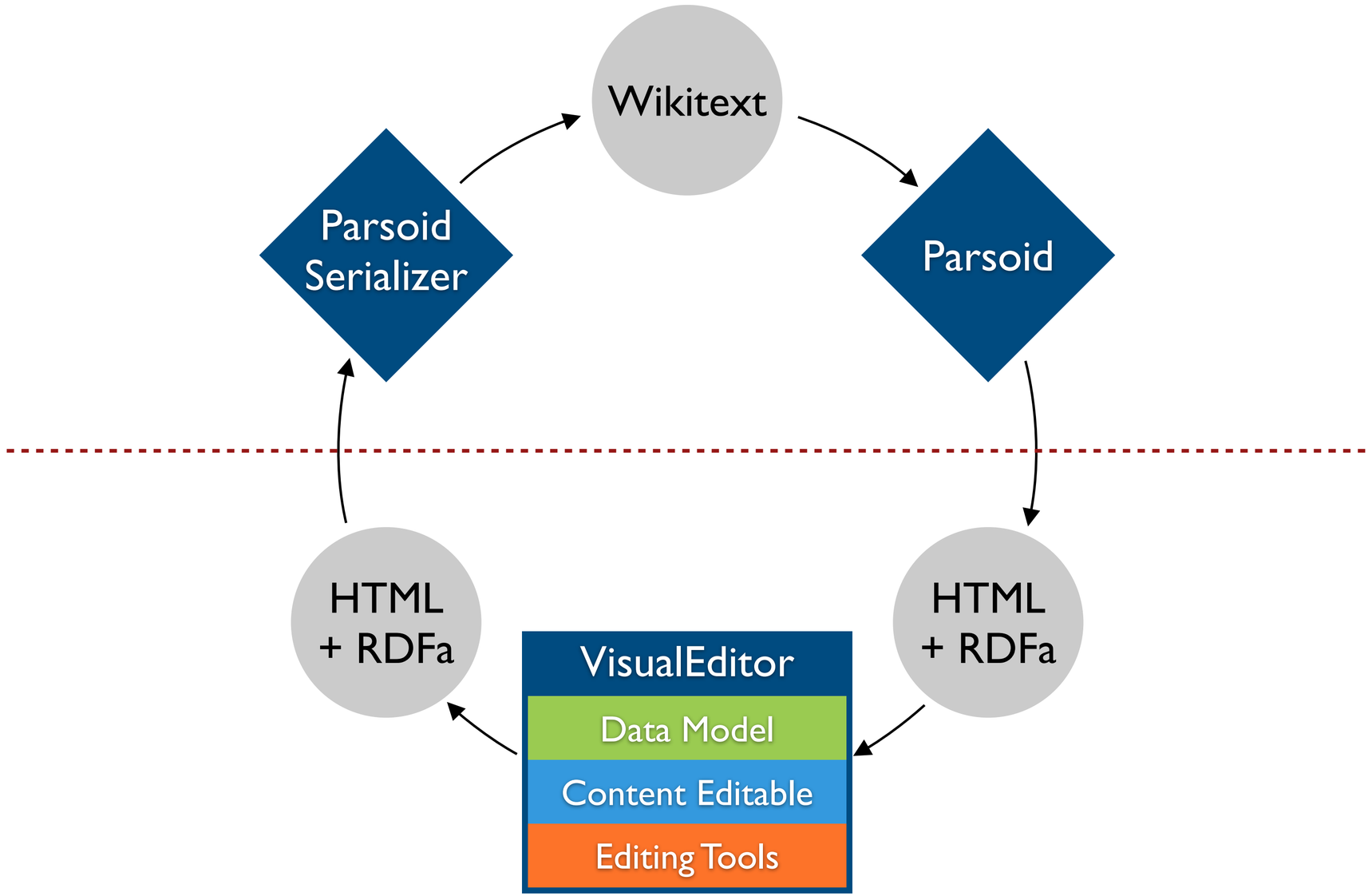

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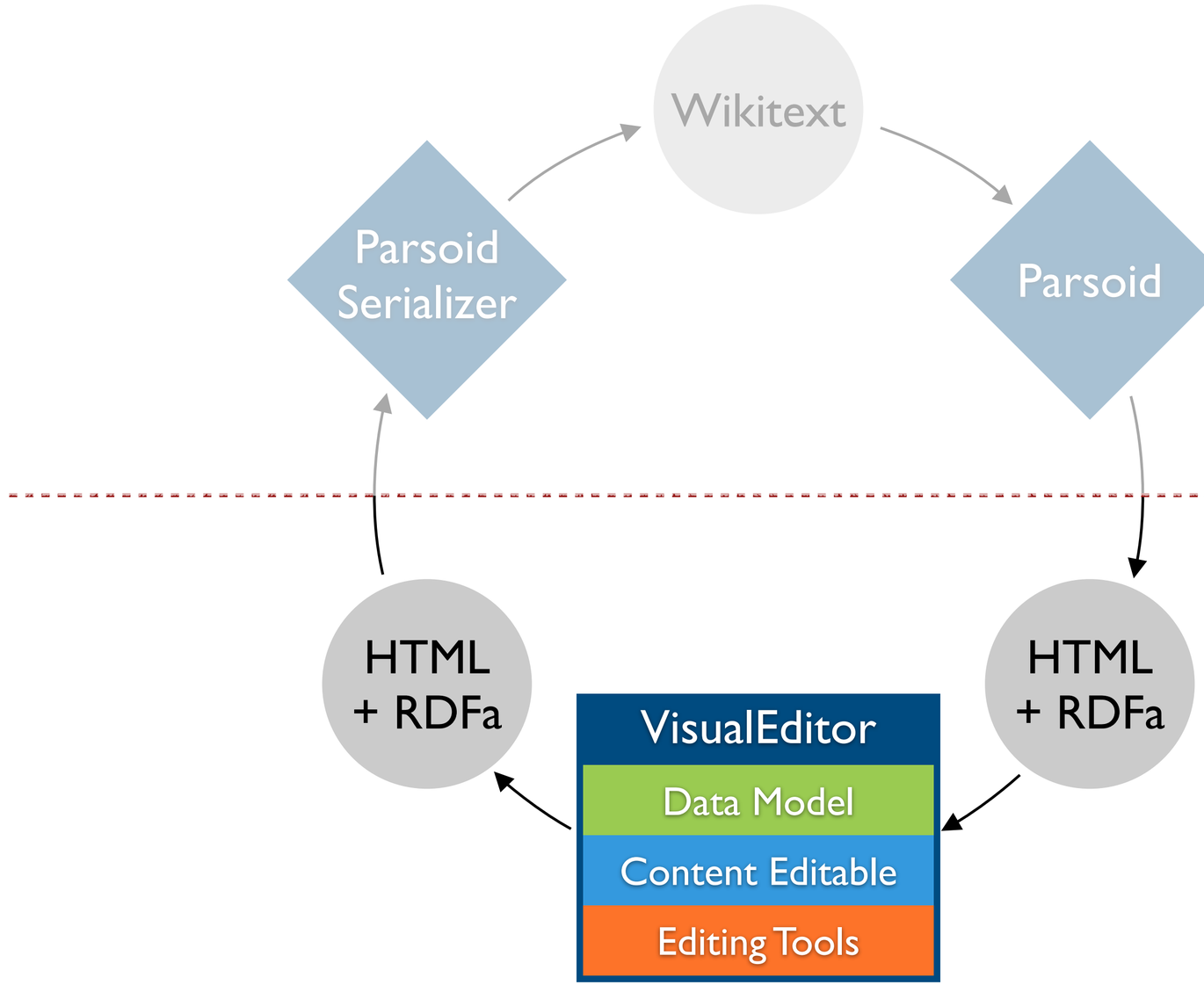

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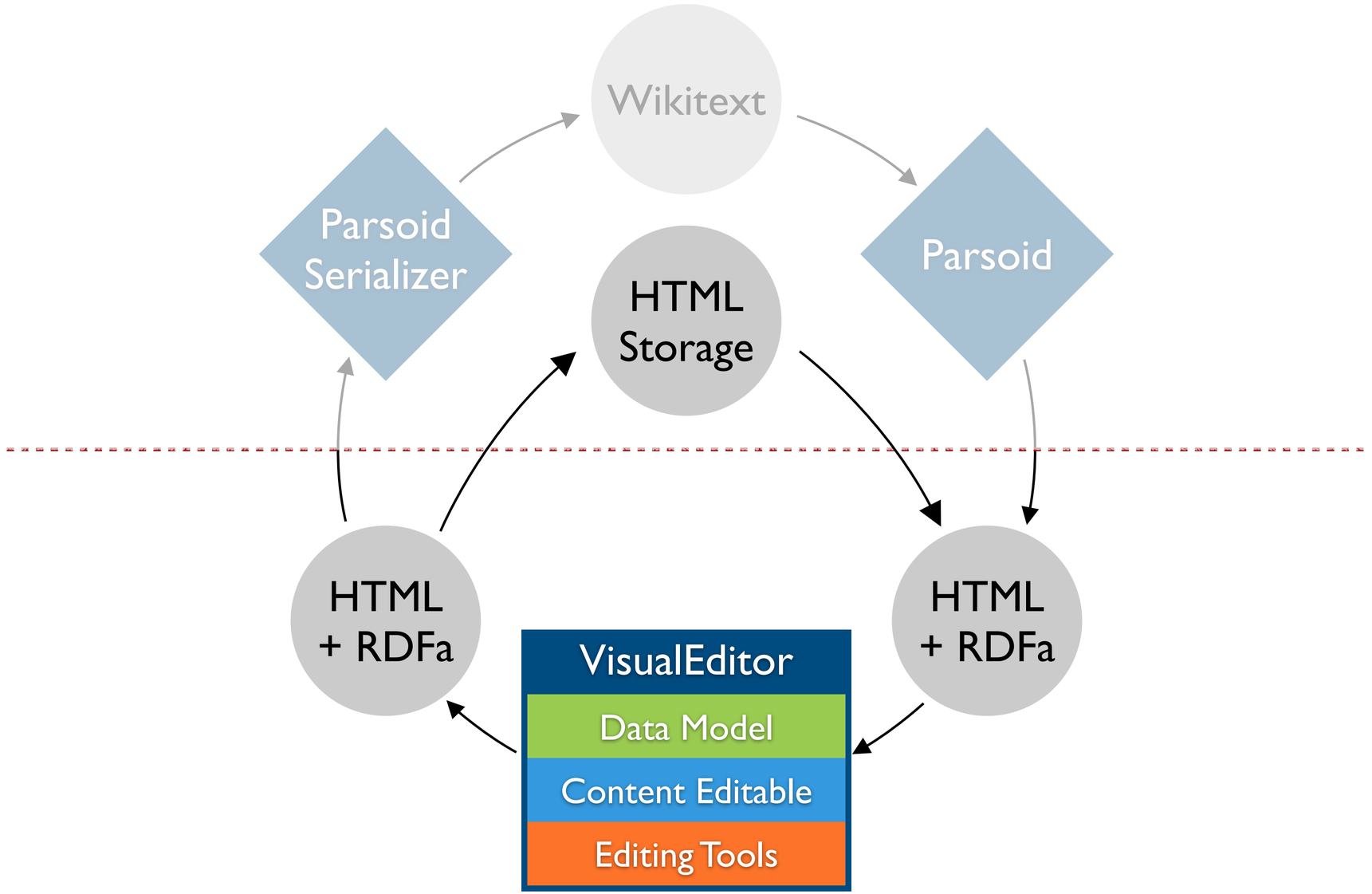

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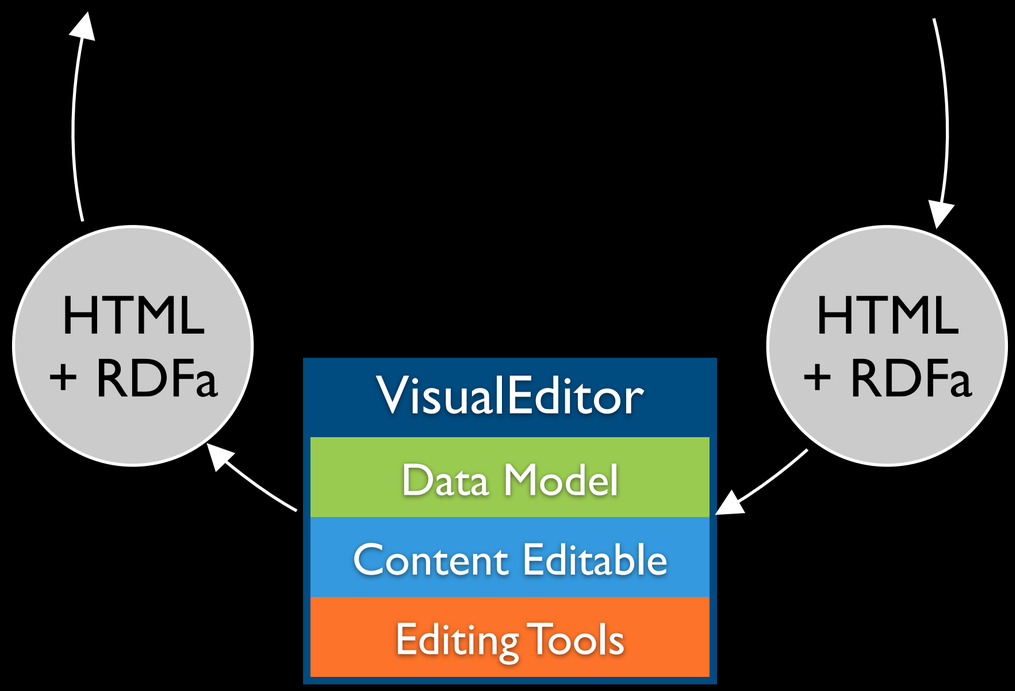

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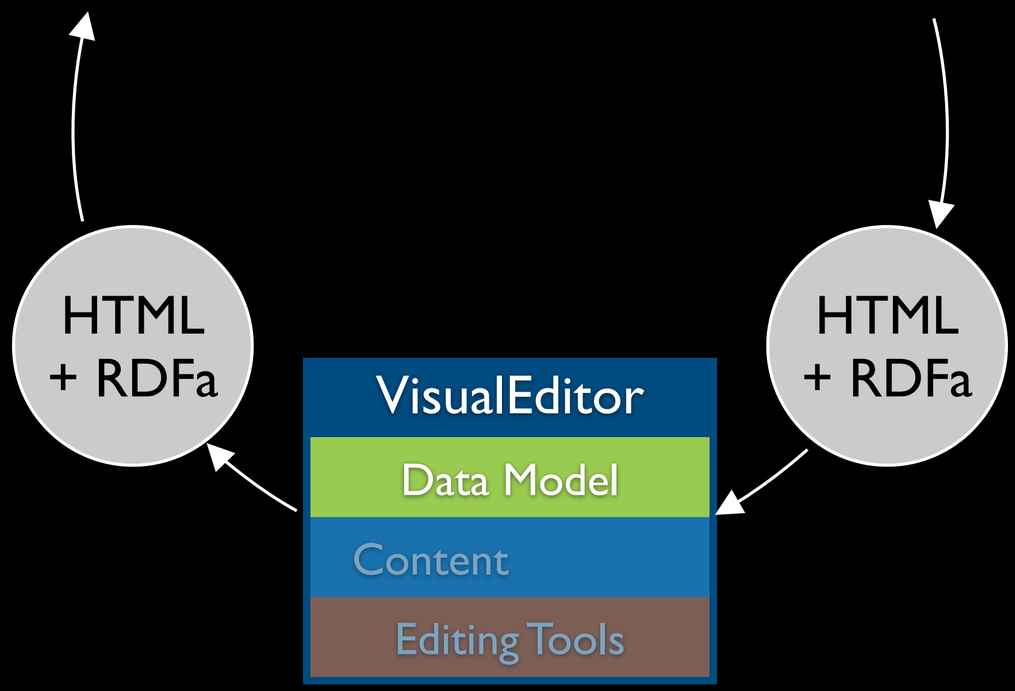

Data Model

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Outline

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- Synchronise with ContentEditable (both ways)

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- Reliable conversion from HTML to a thing we can edit
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- Synchronise with ContentEditable (both ways)
- Needs to support real-time collaborative editing

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Example

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- Gives us a linear view of the HTML tree:

```
<p>Hi</p>
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Matching code snippets

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ve.dm.MWReferenceNode.static
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```
ve.dm.MWReferenceNode.static
  .matchTagNames = null;


ve.dm.MWReferenceNode.static
  .matchRdfaTypes = ['mw:Extension/ref'];
```

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Language challenges

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- … but this doesn’t work, so we reverted to code units

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- See also input methods (later!)

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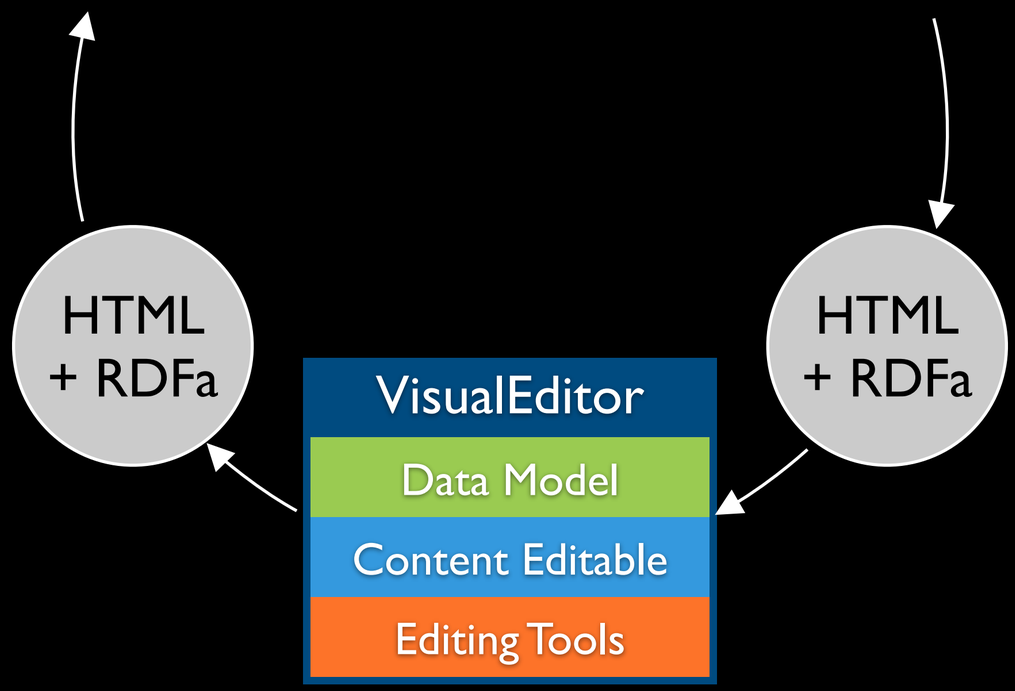

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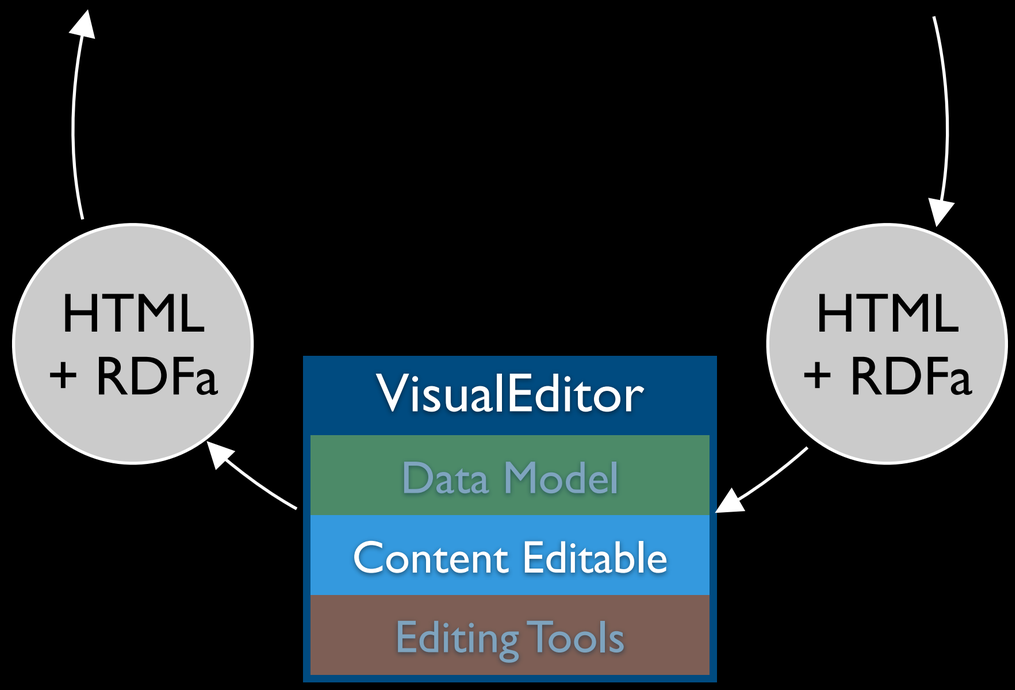

Content Editable

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Browser contentEditable

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- Messes up HTML

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- … but this breaks i18n, so we are (partially) reverting

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- We built an IME/browser testing framework to cope

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Demo of IMEs

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SurfaceObserver

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- Poll DOM for changes and notify model

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  - Re-rendering is slow
  - Re-rendering closes IME composition

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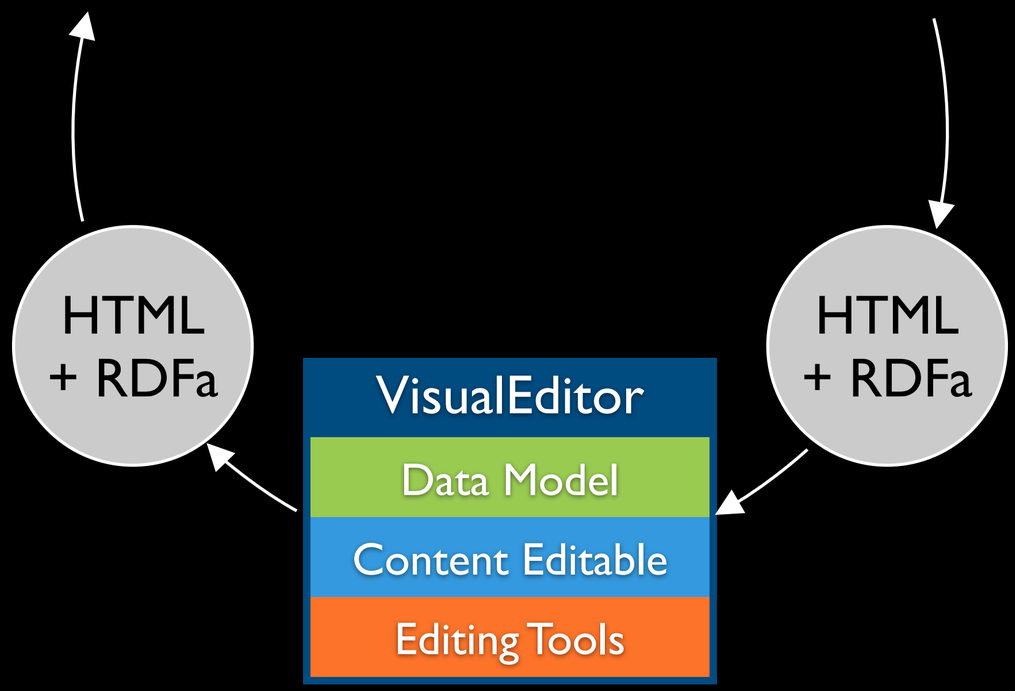

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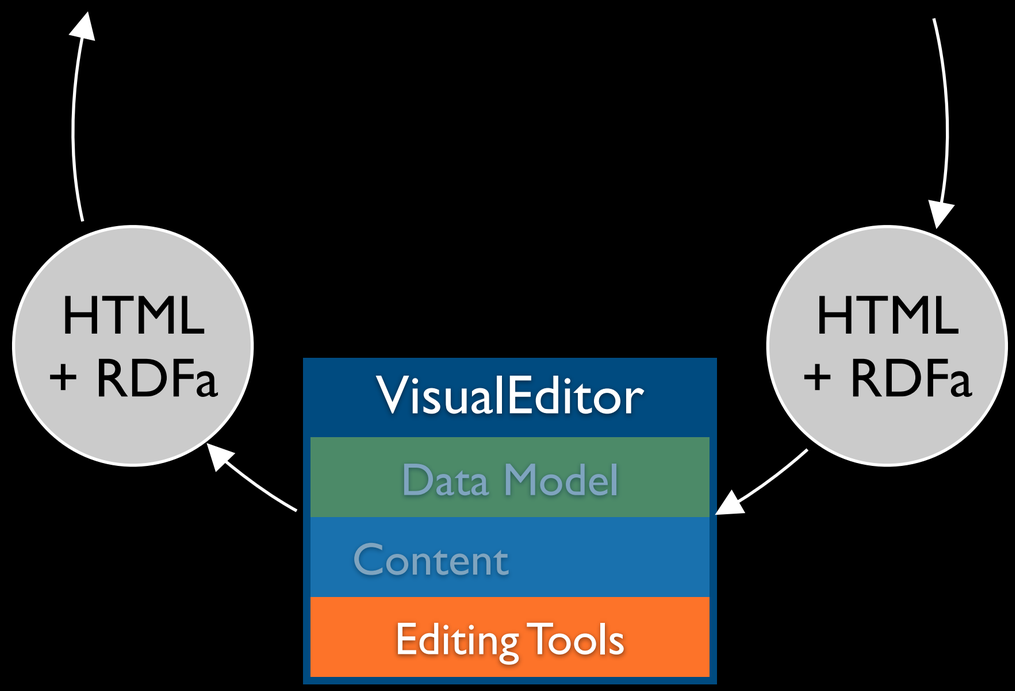

Editing Tools

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Text formatting

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Generated content

- References, templates, meta-data, media items, …
- This generic capability makes VisualEditor unique

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Tool UX types: Toggle

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Simple toolbar buttons

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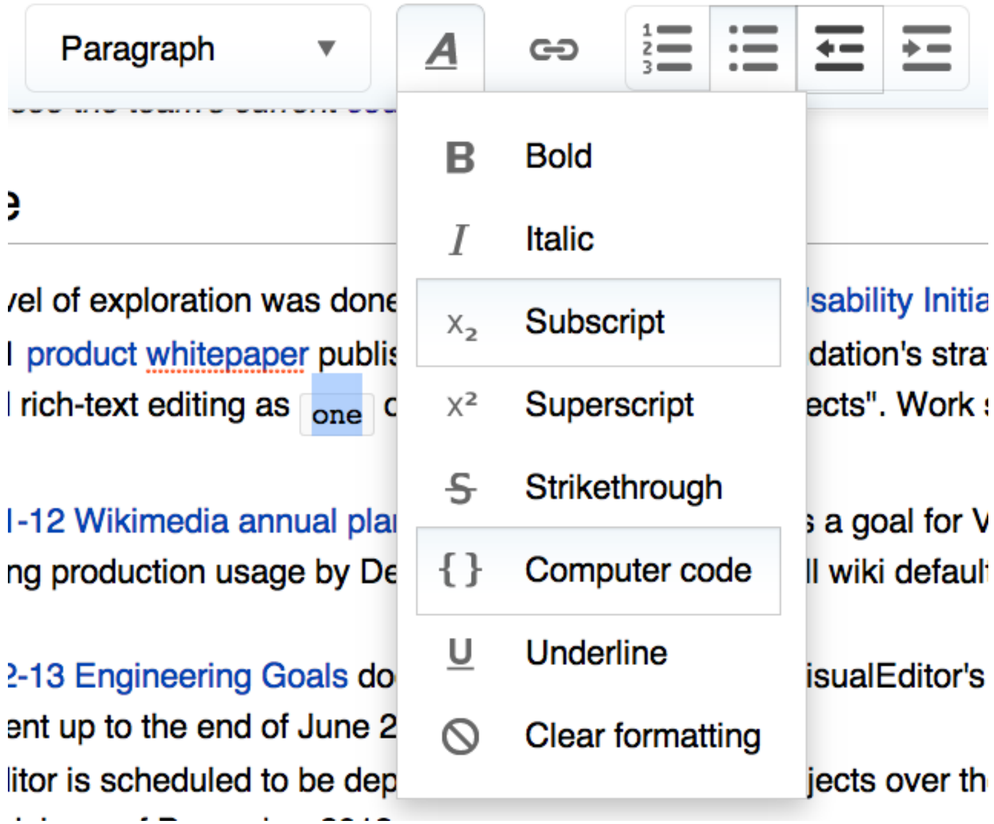

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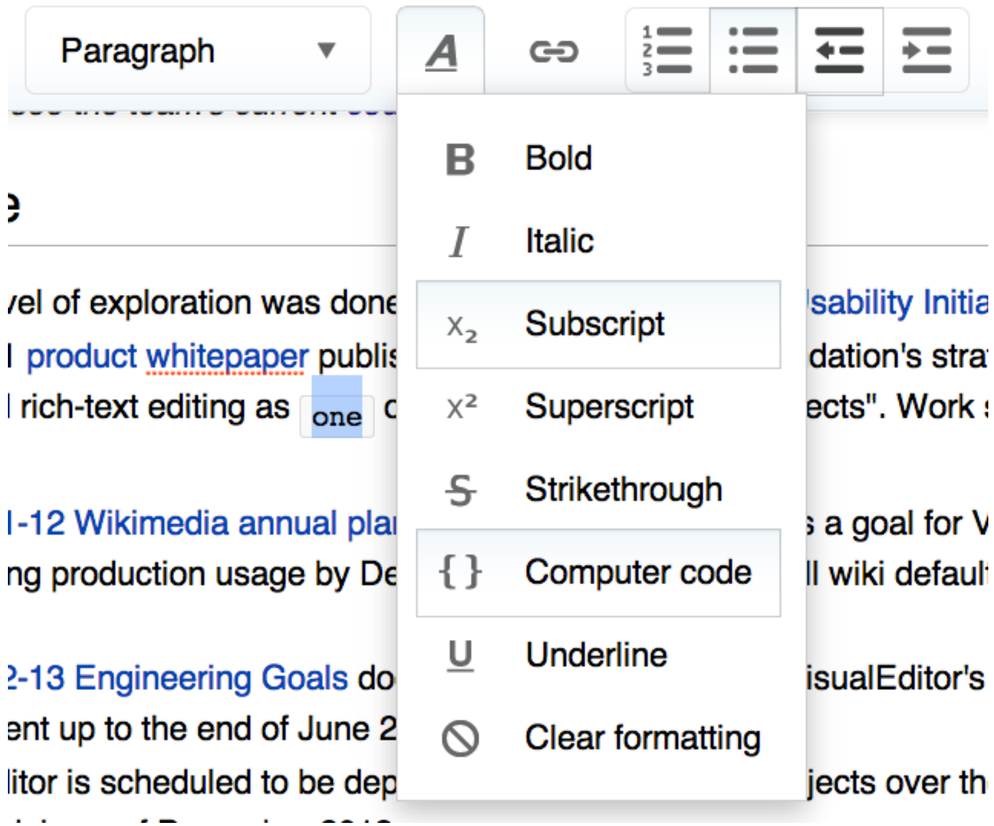

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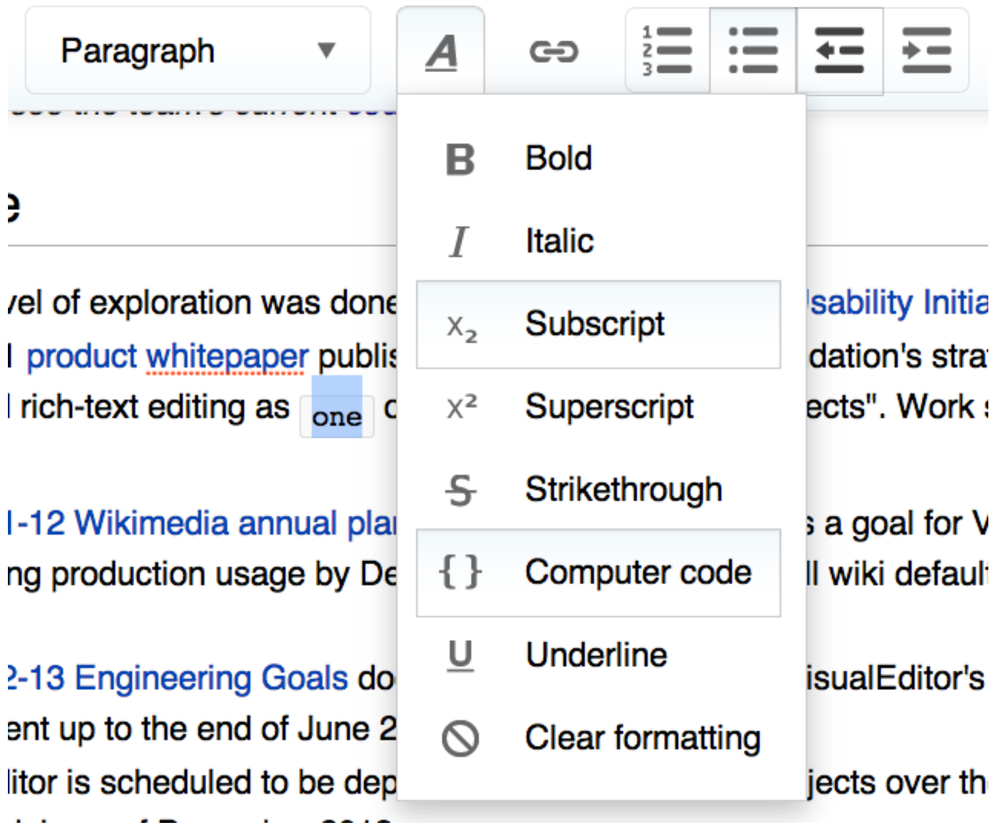
- Clear formatting



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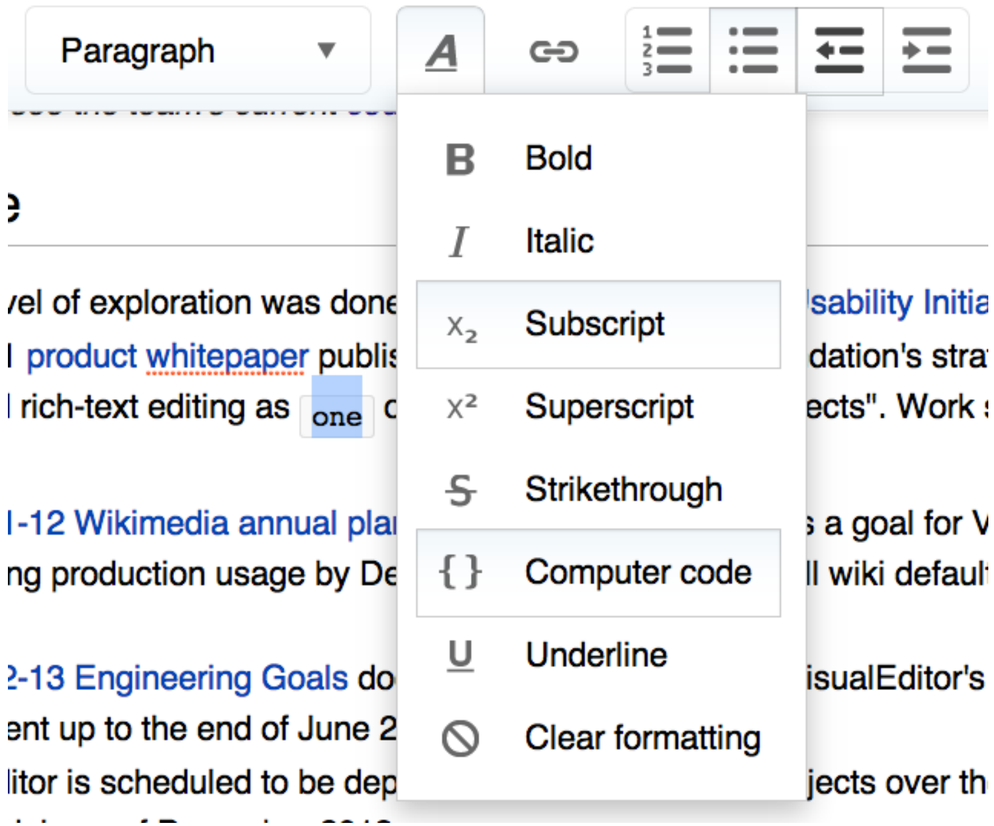

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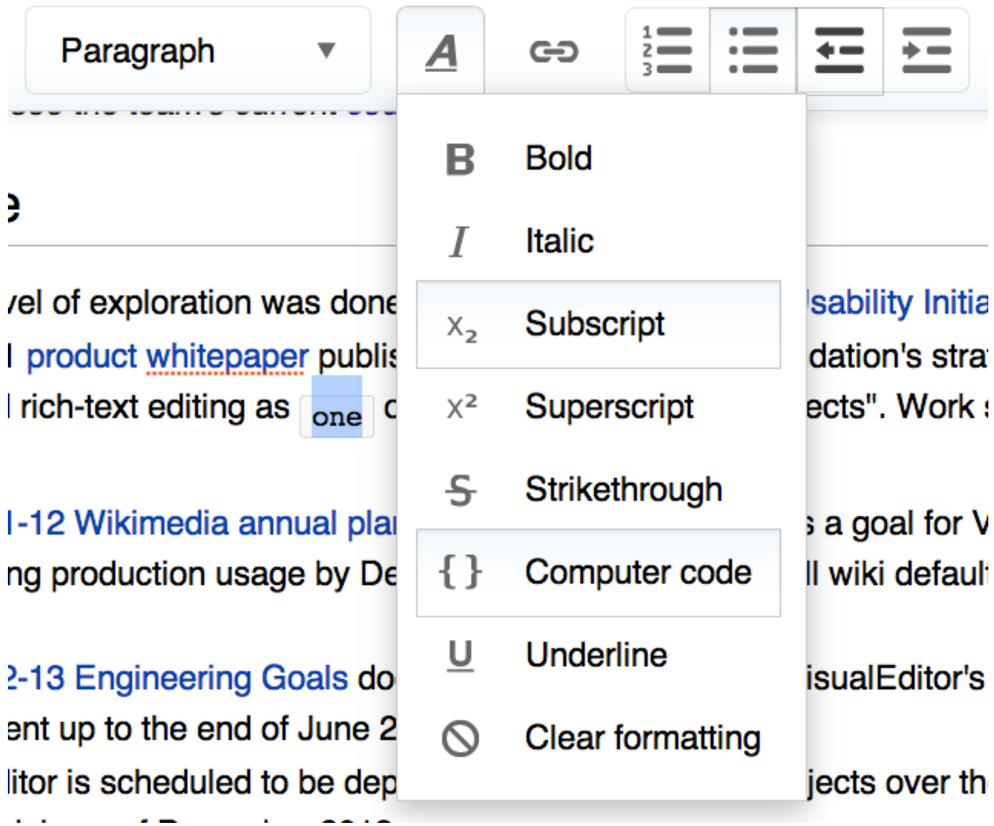

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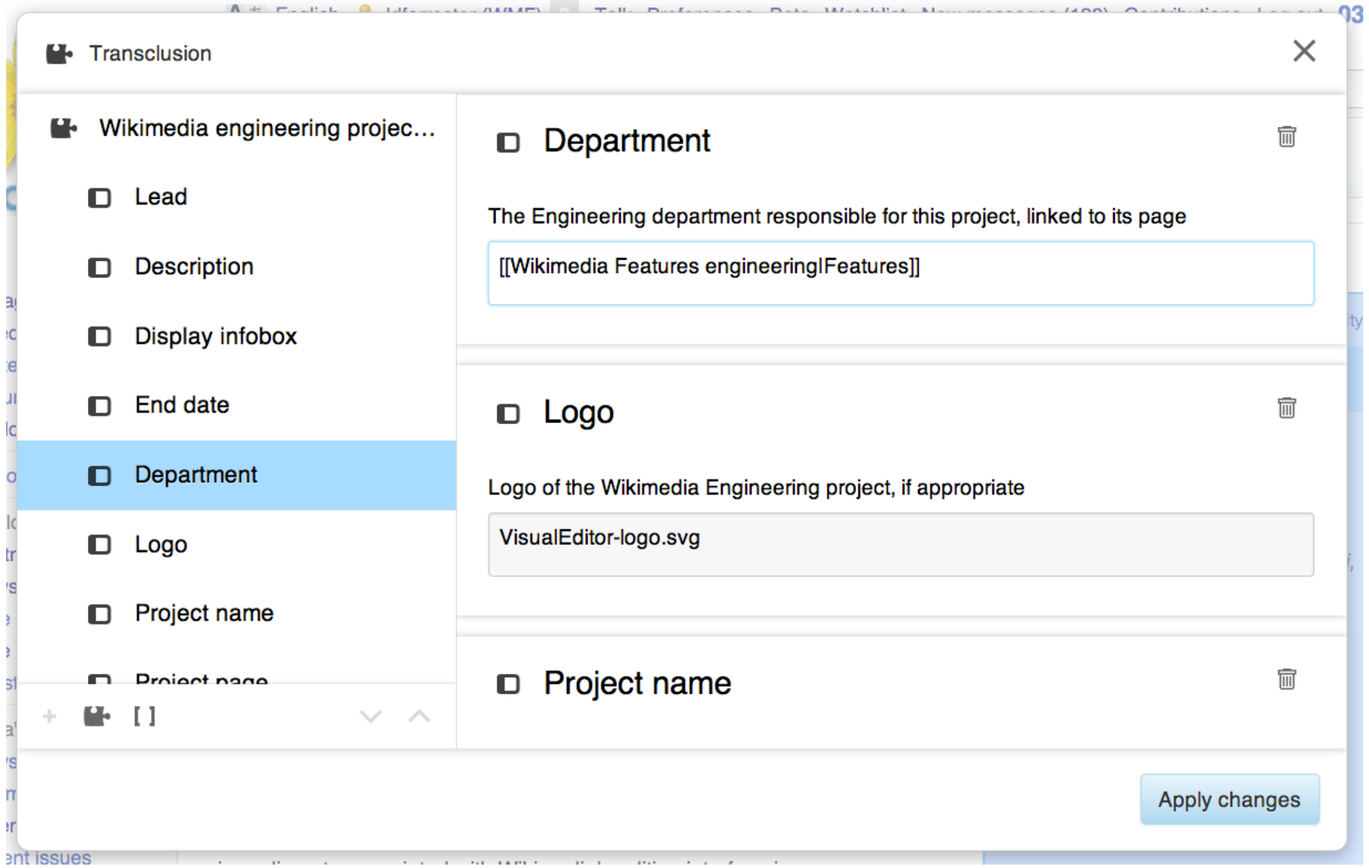

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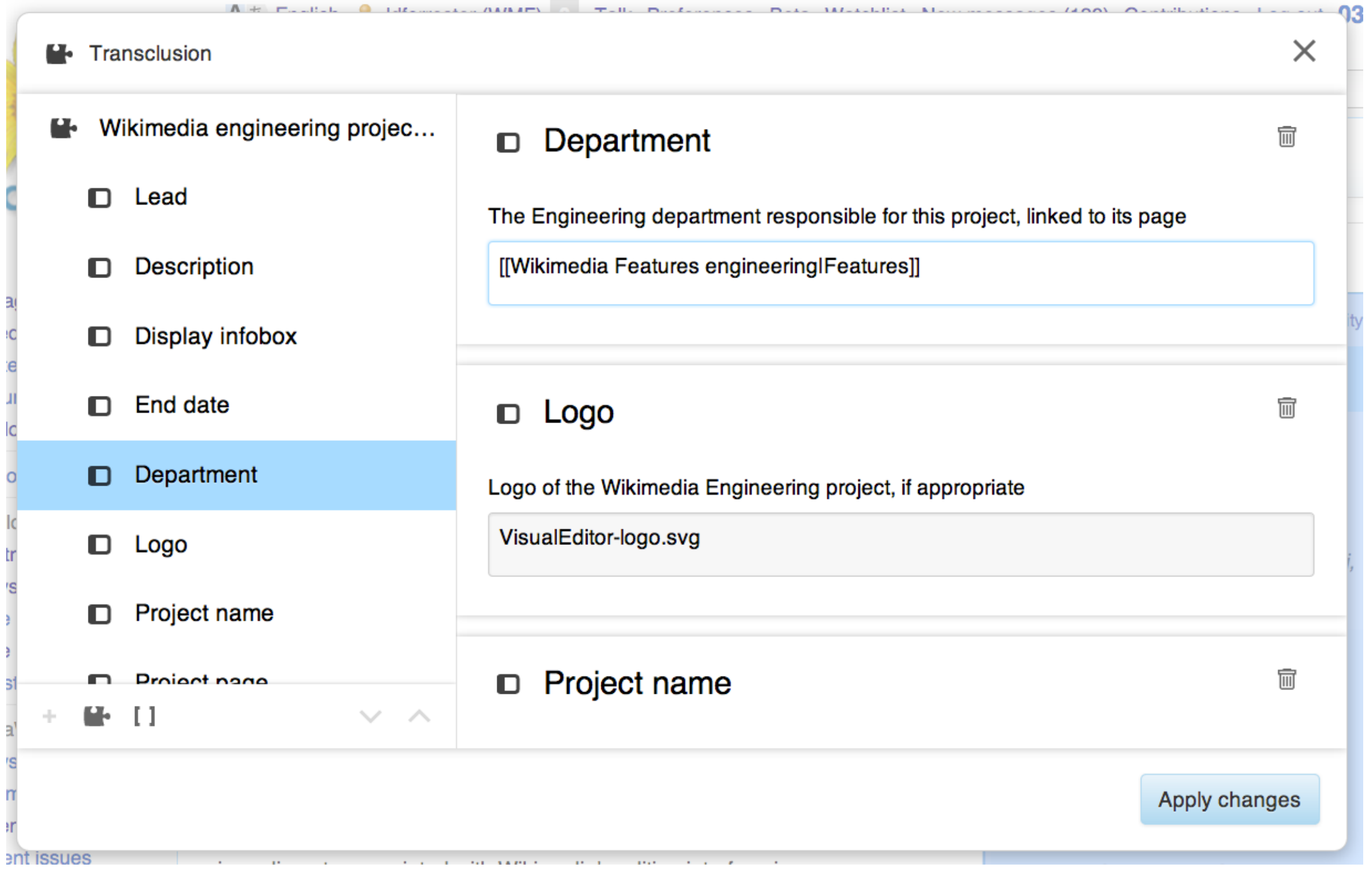

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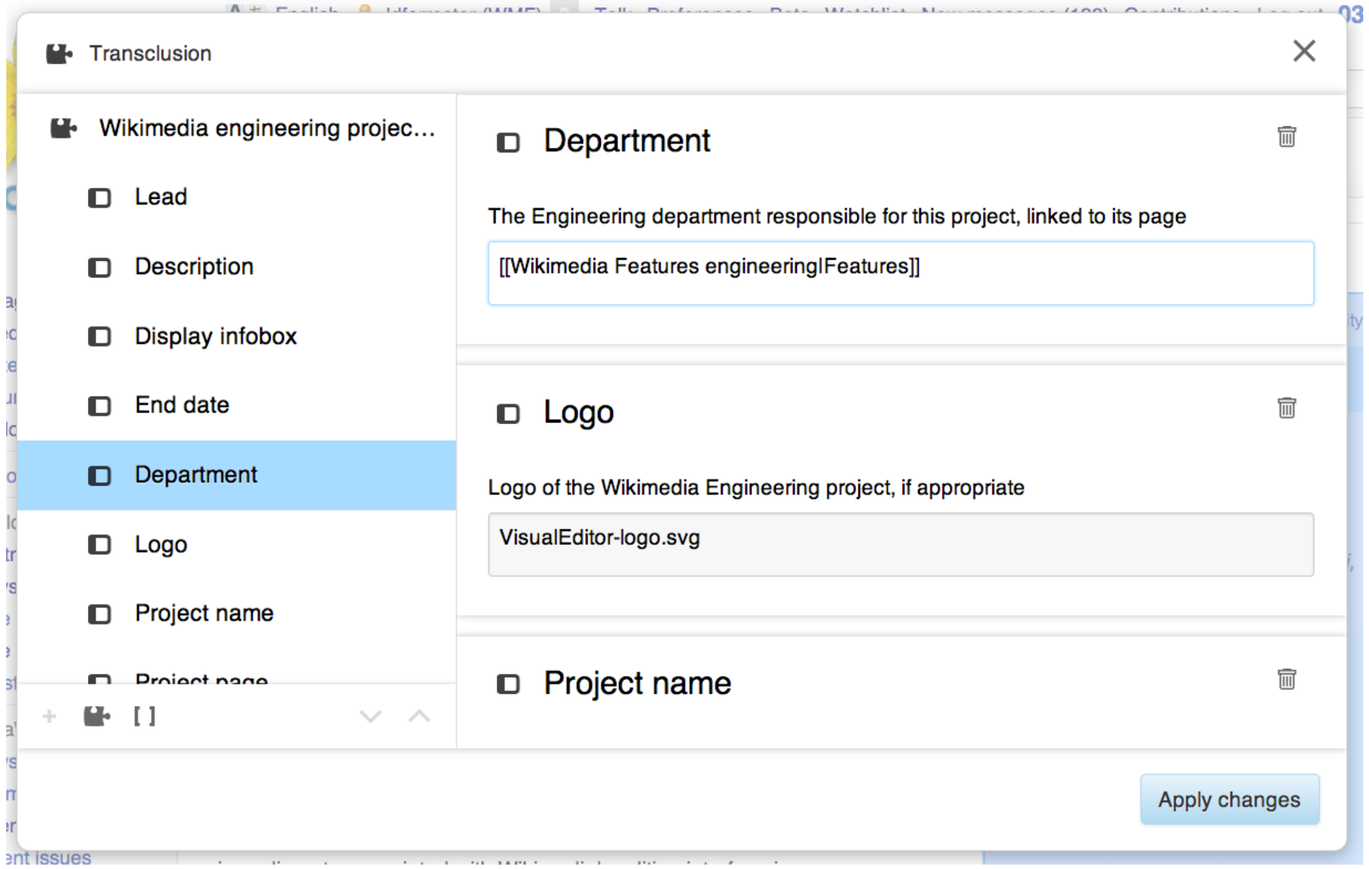

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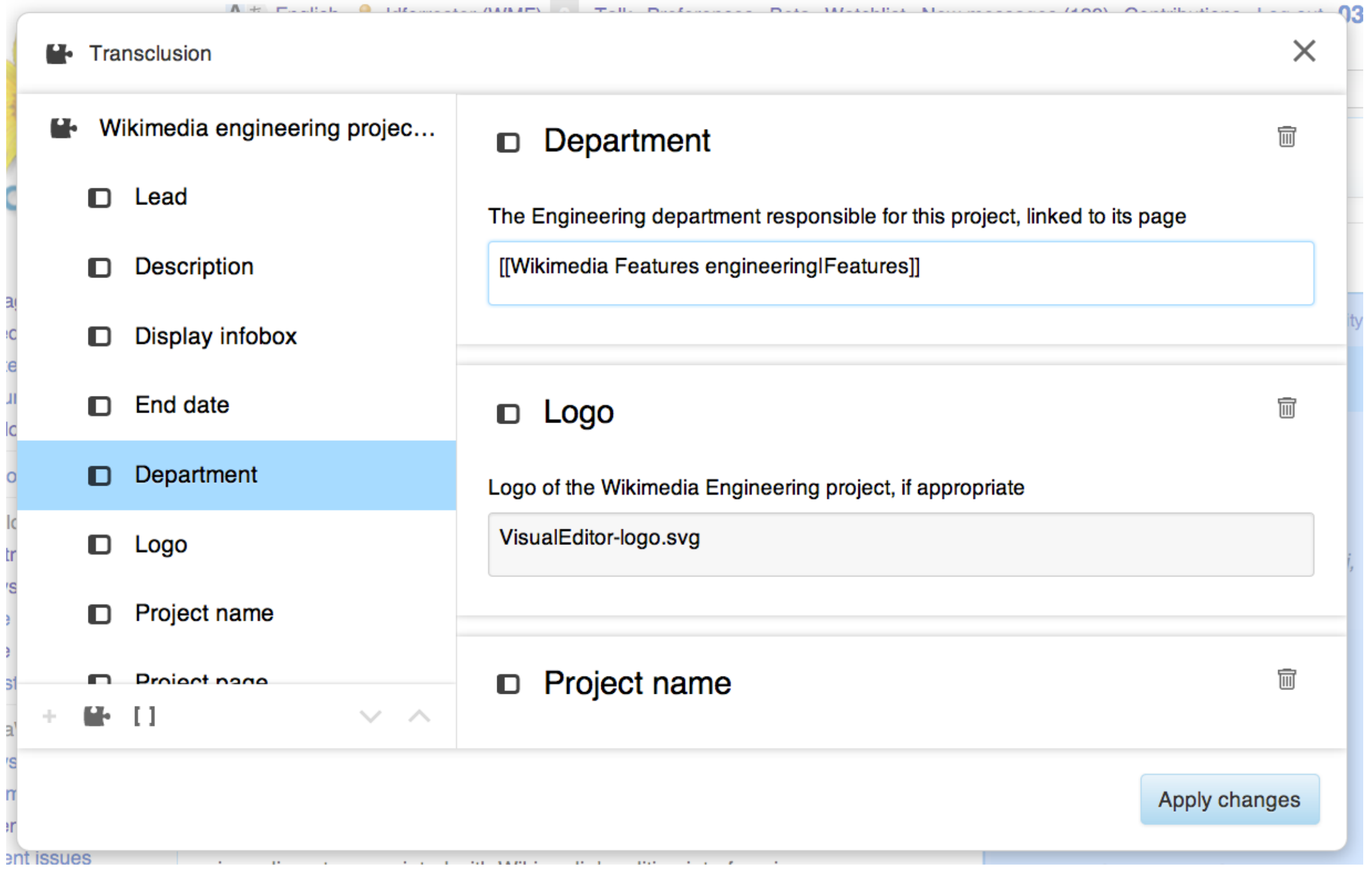

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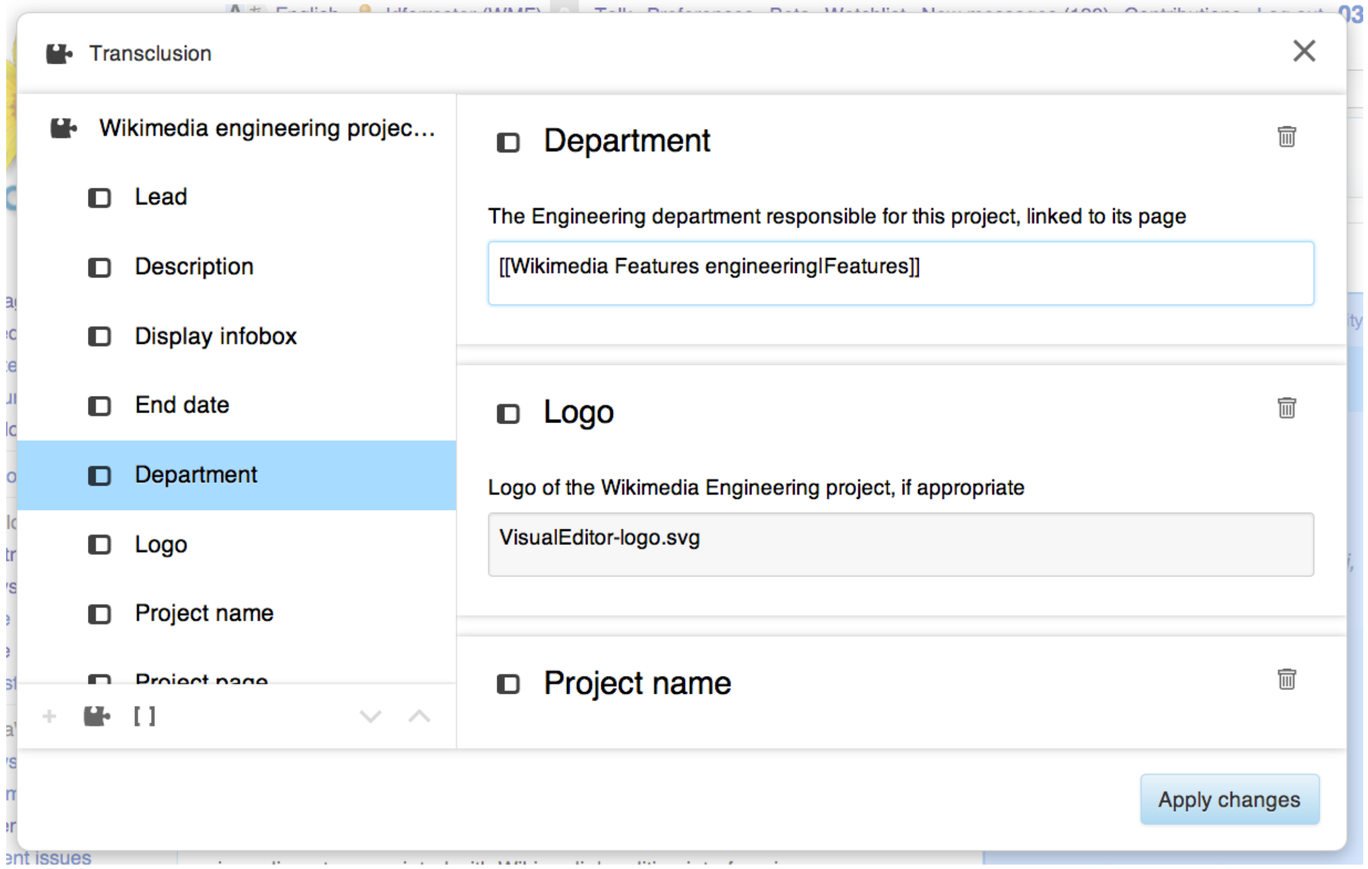
- Page meta-data



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Lightweight semi-dialog

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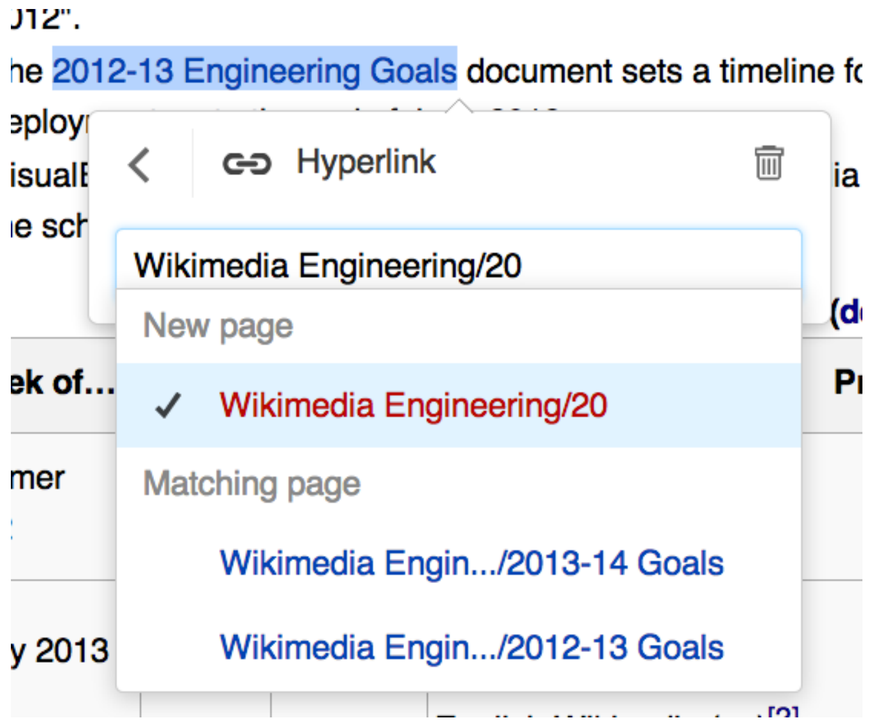

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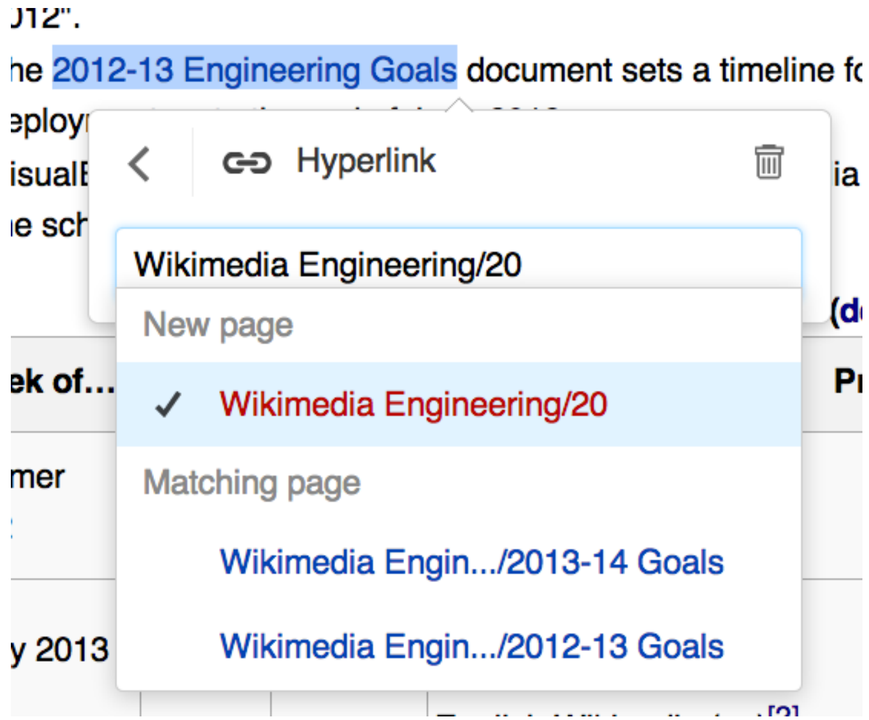
Lightweight semi-dialog

- Link (**shown**)



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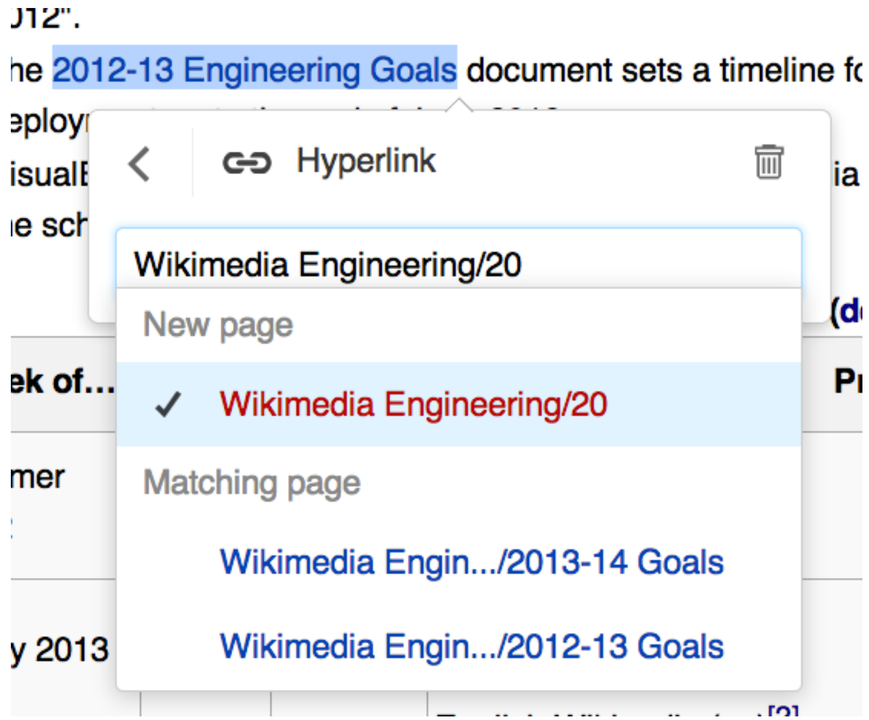
Tool UX types: Inspector

Lightweight semi-dialog

- Link (**shown**)
- Language



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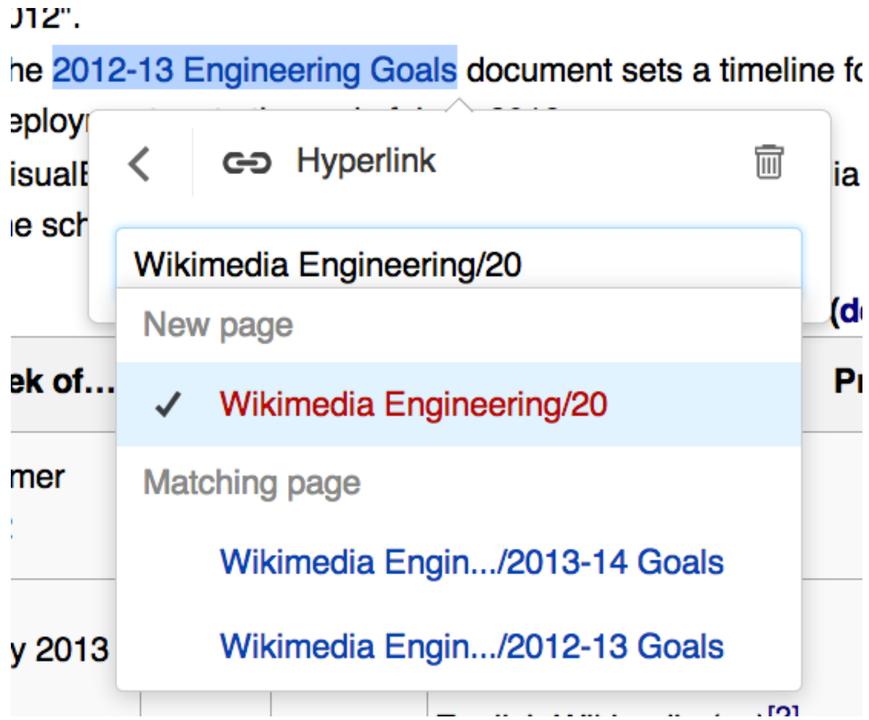
Tool UX types: Inspector

Lightweight semi-dialog

- Link (**shown**)
- Language
- Formulæ



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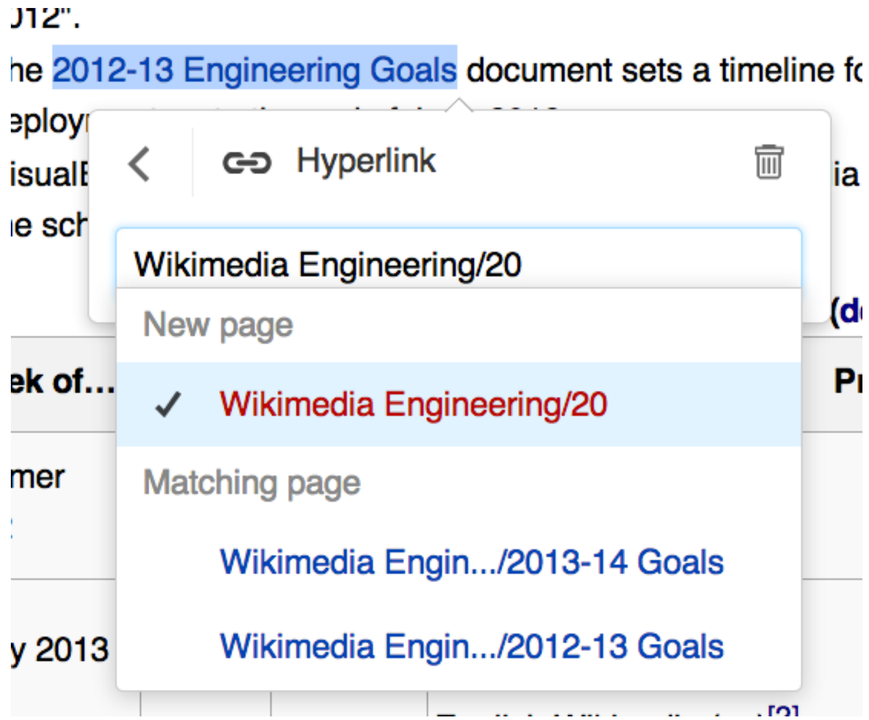
Tool UX types: Inspector

Lightweight semi-dialog

- Link (**shown**)
- Language
- Formulæ
- Colour-picker



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visual editor

Demo

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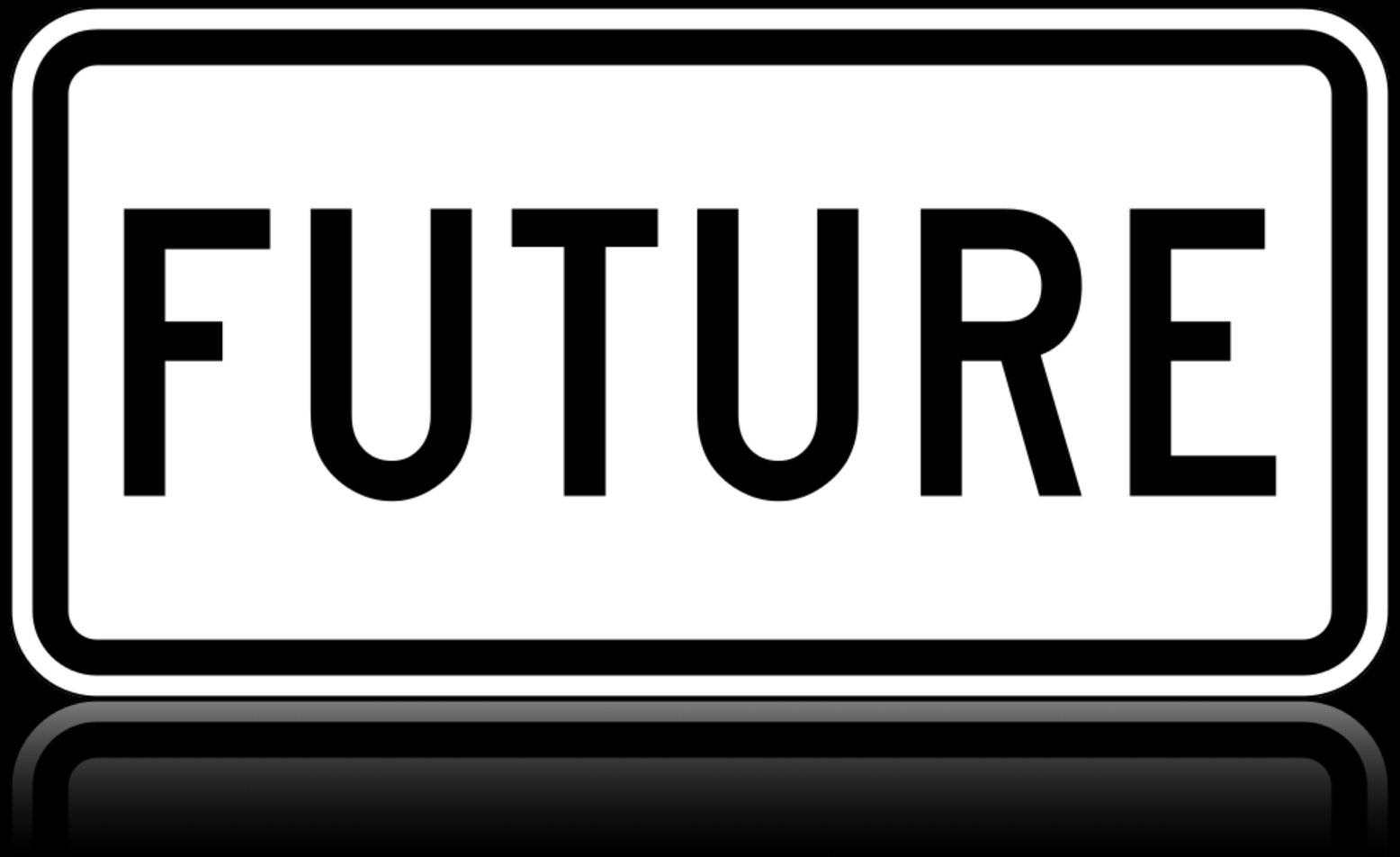

Image: https://commons.wikimedia.org/wiki/File:Future_plate.svg – Public domain, created and uploaded by [[User:LtljItlj]]

Patches welcome! :-)

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- Adding new functionality for stand-alone or MediaWiki

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  - Content types or new ways of editing them

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  - We’re really keen to help you if you’re interested

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Questions?

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A rich Web editor for anyone

Thank you!

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