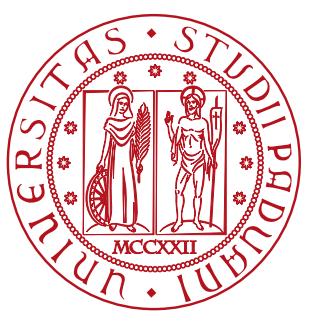
Efficient Low Diameter Clustering

With strong diameter in the CONGEST model

Christian Micheletti

07/02/2025



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About this presentation

This presentation is supposed to briefly showcase what you can do with this package.

For a full documentation, read the online book.

Let's explore what we have here.

On the top of this slide, you can see the slide title.

We used the `title` argument of the `#slide` function for that:

```
#slide(title: "First slide")[
    ...
]
```

(This works because we utilise the `clean` theme; more on that later.)

Titles are not mandatory, this slide doesn't have one.

But did you notice that the current section name is displayed above that top line?

We defined it using `#new-section-slide("Introduction")`.

This helps our audience with not getting lost after a microsleep.

You can also spot a short title above that.

The bottom of the slide

Now, look down!

There we have some general info for the audience about what talk they are actually attending right now.

You can also see the slide number there.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aeque doleamus animo, cum corpore dolemus, fieri tamen permagna accessio potest, si aliquod aeternum et infinitum impendere malum nobis opinemur. Quod idem licet transferre in voluptatem, ut postea variari voluptas distinguique possit, augeri amplificarique non possit. At etiam Athenis, ut e.

A dynamic slide with pauses

Sometimes we don’t want to display everything at once.

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That’s what the #pause function is there for!

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That's what the #pause function is there for!

It makes everything after it appear at the next subslide.

(Also note that the slide number does not change while we are here.)

Fine-grained control

When `#pause` does not suffice, you can use more advanced commands to show or hide content.

These are some of your options: - `#uncover`

- `#only`
- `#alternatives`
- `#one-by-one`
- `#line-by-line`

Let’s explore them in more detail!

#uncover: Reserving space

With `#uncover`, content still occupies space, even when it is not displayed.

For example, are only visible on the second"subslide".

In `()` behind `#uncover`, you specify *when* to show the content, and in `[]` you then say *what* to show:

```
#uncover(3)[Only visible on the third "subslide"]
```

#uncover: Reserving space

With `#uncover`, content still occupies space, even when it is not displayed.

For example, these words are only visible on the second"subslide".

In `()` behind `#uncover`, you specify *when* to show the content, and in `[]` you then say *what* to show:

```
#uncover(3)[Only visible on the third "subslide"]
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In `()` behind `#uncover`, you specify *when* to show the content, and in `[]` you then say *what* to show:

```
#uncover(3)[Only visible on the third "subslide"]
```

Only visible on the third"subslide"

Complex display rules

So far, we only used single subslide indices to define when to show something.

We can also use arrays of numbers …

```
#uncover((1, 3, 4))[Visible on subslides 1, 3, and 4]
```

Visible on subslides 1, 3, and 4

…or a dictionary with `beginning` and/or `until` keys:

```
#uncover((beginning: 2, until: 4))[Visible on subslides 2, 3, and 4]
```

Complex display rules

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#uncover((beginning: 2, until: 4))[Visible on subslides 2, 3, and 4]
```

Complex display rules

Visible on subslides 2, 3, and 4

Convenient rules as strings

As as short hand option, you can also specify rules as strings in a special syntax.

Comma separated, you can use rules of the form

`1-3`	from subslide 1 to 3 (inclusive)
`-4`	all the time until subslide 4 (inclusive)
`2-`	from subslide 2 onwards
`3`	only on subslide 3

`#only`: Reserving no space

Everything that works with `#uncover` also works with `#only`.

However, content is completely gone when it is not displayed.

For example, the rest of this sentence moves.

Again, you can use complex string rules, if you want.

```
#only("2-4, 6")[Visible on subslides 2, 3, 4, and 6]
```

`#only`: Reserving no space

Everything that works with `#uncover` also works with `#only`.

However, content is completely gone when it is not displayed.

For example, see how the rest of this sentence moves.

Again, you can use complex string rules, if you want.

```
#only("2-4, 6")[Visible on subslides 2, 3, 4, and 6]
```

Visible on subslides 2, 3, 4, and 6

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Again, you can use complex string rules, if you want.

```
#only("2-4, 6")[Visible on subslides 2, 3, 4, and 6]
```

Visible on subslides 2, 3, 4, and 6

#alternatives: Substituting content

You might be tempted to try

```
#only(1)[Ann] #only(2)[Bob] #only(3)[Christopher] likes #only(1)
[chocolate] #only(2)[strawberry] #only(3)[vanilla] ice cream.
```

Ann

likes chocolate

ice cream.

But it is hard to see what piece of text actually changes because everything moves around. Better:

#alternatives: Substituting content

```
#alternatives[Ann][Bob][Christopher] likes #alternatives[chocolate]
[strawberry][vanilla] ice cream.
```

Ann likes chocolate ice cream.

#alternatives: Substituting content

You might be tempted to try

```
#only(1)[Ann] #only(2)[Bob] #only(3)[Christopher] likes #only(1)
[chocolate] #only(2)[strawberry] #only(3)[vanilla] ice cream.
```

Bob

likes strawberry

ice cream.

But it is hard to see what piece of text actually changes because everything moves around. Better:

#alternatives: Substituting content

```
#alternatives[Ann][Bob][Christopher] likes #alternatives[chocolate]
[strawberry][vanilla] ice cream.
```

Bob likes strawberry ice cream.

#alternatives: Substituting content

You might be tempted to try

```
#only(1)[Ann] #only(2)[Bob] #only(3)[Christopher] likes #only(1)
[chocolate] #only(2)[strawberry] #only(3)[vanilla] ice cream.
```

Christopher

likes vanilla

ice cream.

But it is hard to see what piece of text actually changes because everything moves around. Better:

#alternatives: Substituting content


```
#alternatives[Ann][Bob][Christopher] likes #alternatives[chocolate]
[strawberry][vanilla] ice cream.
```

Christopher likes vanilla ice cream.

#one-by-one: An alternative for #pause

`#alternatives` is to `#only` what `#one-by-one` is to `#uncover`.

`#one-by-one` behaves similar to using `#pause` but you can additionally state when uncovering should start.

```
#one-by-one(start: 2)[one ][by ][one]
```

`start` can also be omitted, then it starts with the first subside:

```
#one-by-one[one ][by ][one]
```

#one-by-one: An alternative for #pause

one

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```

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oneby

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#one-by-one: An alternative for #pause

onebyone

`#line-by-line`: syntactic sugar for `#one-by-one`

Sometimes it is convenient to write the different contents to uncover one at a time in subsequent lines.

This comes in especially handy for bullet lists, enumerations, and term lists.

```
#line-by-line(start: 2)[
    - first
    - second
    - third
]
```

`start` is again optional and defaults to `1`.

`#line-by-line`: syntactic sugar for `#one-by-one`

Sometimes it is convenient to write the different contents to uncover one at a time in subsequent lines.

This comes in especially handy for bullet lists, enumerations, and term lists.

```
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    - first
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- first

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This comes in especially handy for bullet lists, enumerations, and term lists.

```
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    - first
    - second
    - third
]
```

- first
- second

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`#line-by-line`: syntactic sugar for `#one-by-one`

Sometimes it is convenient to write the different contents to uncover one at a time in subsequent lines.

This comes in especially handy for bullet lists, enumerations, and term lists.

```
#line-by-line(start: 2)[
    - first
    - second
    - third
]
```

- first
- second
- third

`start` is again optional and defaults to `1`.

#list-one-by-one and co. when #line-by-line doesn't

While `#line-by-line` is very convenient syntax-wise, it fails to produce more sophisticated bullet lists, enumerations or term lists. For example, non-tight lists are out of reach.

For that reason, there are `#list-one-by-one`, `#enum-one-by-one` , and `#terms-one-by-one`, respectively.

```
#enum-one-by-one(start: 2, tight:
false, numbering: "i)")[first]
[second][third]
```

i)

ii)

iii)

when `#line-by-line` doesn't

Note that, for technical reasons, the bullet points, numbers, or terms are never covered.

`start` is again optional and defaults to `1`.

when `#line-by-line` doesn't

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#enum-one-by-one(start: 2, tight:
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i) first

ii) second

iii) third

when `#line-by-line` doesn't

Note that, for technical reasons, the bullet points, numbers, or terms are never covered.

`start` is again optional and defaults to `1`.

How a slide looks...

… is defined by the *theme* of the presentation.

This demo uses the `unipd` theme.

Because of it, the title slide and the decoration on each slide (with section name, short title, slide number etc.) look the way they do.

Themes can also provide variants, for example …

… this one!

It’s very minimalist and helps the audience focus on an important point.

Your own theme?

If you want to create your own design for slides, you can define custom themes!

The book explains how to do so.

The `utils` module

Polylux ships a `utils` module with solutions for common tasks in slide building.

Fit to height

You can scale content such that it has a certain height using `#fit-to-height(height, content)`:

Height is 2.5cm

Fill remaining space

This function also allows you to fill the remaining space by using fractions as heights, i.e. `fit-to-height(1fr)[...]`:

Wow!

Side by side content

Often you want to put different content next to each other. We have the function `#side-by-side` for that:

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor.

Outline

Why not include an outline?

1. Introduction
2. Dynamic content
3. Themes
4. Utilities
5. Typst features
6. Conclusion

Typst gives us so many cool things[1] . Use them!

[1] For example footnotes!

That's it!

Hopefully you now have some kind of idea what you can do with this template.

Consider giving it a GitHub star or open an issue if you run into bugs or have feature requests.