

Vom Neumann and C

A look beneath

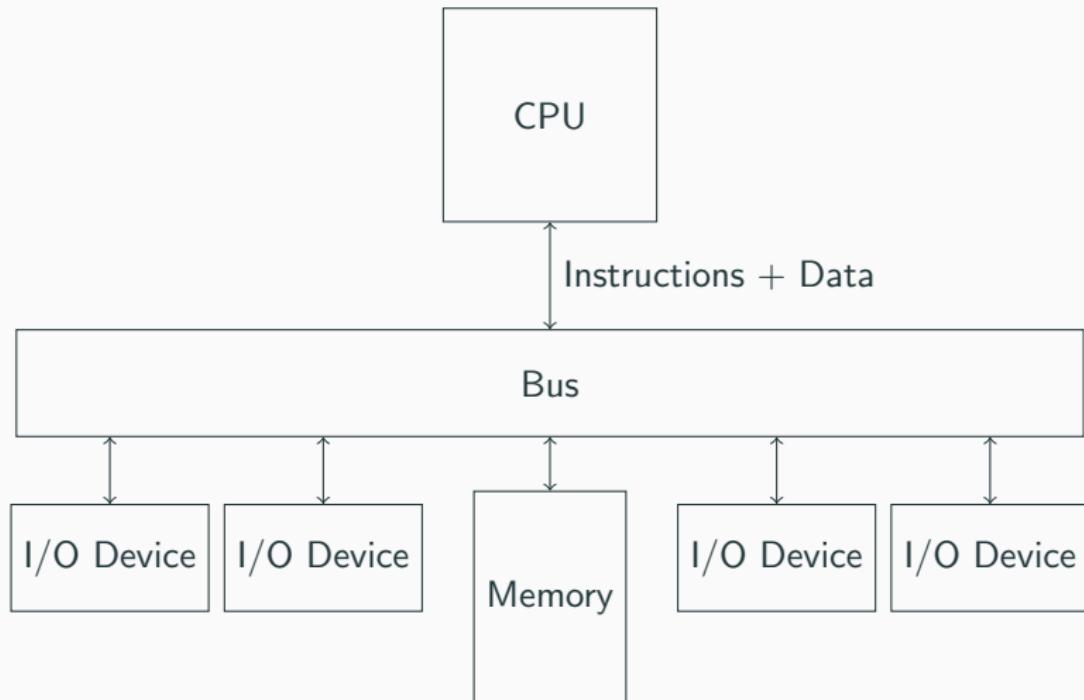
Stefan Dennig

December 1, 2025

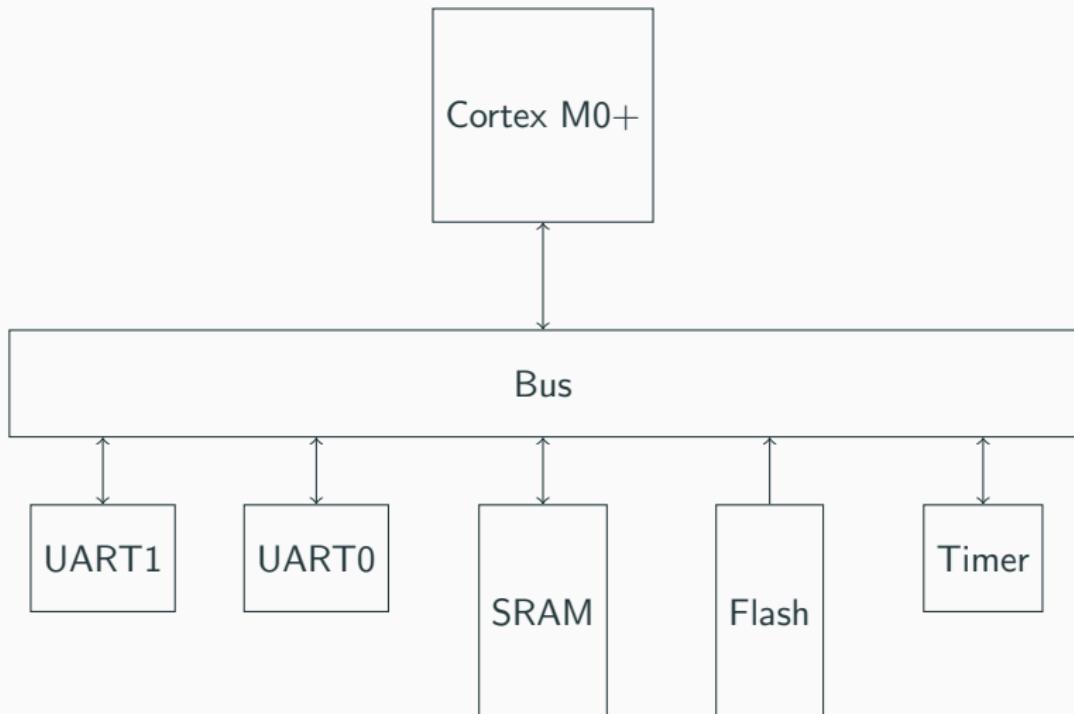
NewTec GmbH

Intro

Von Neumann Architektur



Example implementation



Master Interface

- Read Request
- Write Request
- Address Based
- Word Size

Slave Interface

- Read Response
- Write Response
- Mapped on Address Range
- Word Size

Bus as Multiplexer

- Maps Requests for Slave Address Range to Slave
- Multiple Channels possible (Multi Master)

Intro

Von Neumann Architecture

Titleformats

Metropolis titleformats

metropolis supports 4 different titleformats:

- Regular
- SMALLCAPS
- ALLSMALLCAPS
- ALLCAPS

They can either be set at once for every title type or individually.

Small caps

This frame uses the `smallcaps` titleformat.

Potential Problems

Be aware, that not every font supports small caps. If for example you typeset your presentation with pdfTeX and the Computer Modern Sans Serif font, every text in `smallcaps` will be typeset with the Computer Modern Serif font instead.

all small caps

This frame uses the `allsmallcaps` titleformat.

Potential problems

As this titleformat also uses `smallcaps` you face the same problems as with the `smallcaps` titleformat. Additionally this format can cause some other problems. Please refer to the documentation if you consider using it.

As a rule of thumb: Just use it for plaintext-only titles.

ALL CAPS

This frame uses the `allcaps` titleformat.

Potential Problems

This titleformat is not as problematic as the `allsmallcaps` format, but basically suffers from the same deficiencies. So please have a look at the documentation if you want to use it.

Elements

Typography

The theme provides sensible defaults to
\emph{emphasize} text, \alert{accent} parts
or show \textbf{bold} results.

becomes

The theme provides sensible defaults to *emphasize* text, **accent** parts or
show **bold** results.

Font feature test

- Regular
- *Italic*
- SMALLCAPS
- Bold
- Bold Italic
- Bold SmallCaps
- Monospace
- *Monospace Italic*
- Monospace Bold
- *Monospace Bold Italic*

Lists

Items	Enumerations	Descriptions
• Milk	1. First,	PowerPoint Meeh.
• Eggs	2. Second and	Beamer Yeeeha.
• Potatos	3. Last.	

Animation

- This is important

Animation

- This is important
- Now this

Animation

- This is important
- Now this
- And now this

Animation

- This is really important
- Now this
- And now this

Figures

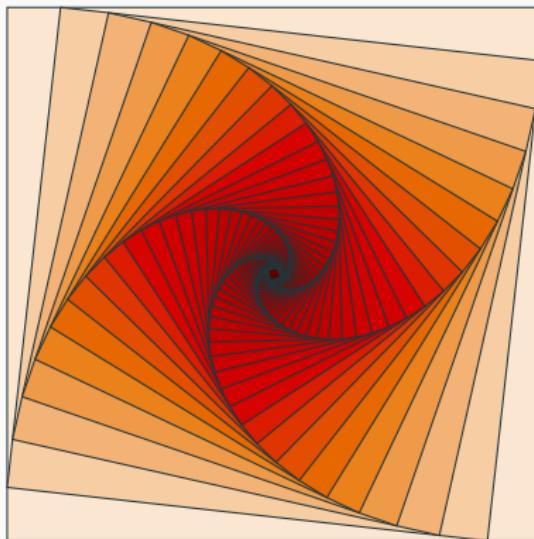


Figure 1: Rotated square from texexample.net.

Tables

Table 1: Largest cities in the world (source: Wikipedia)

City	Population
Mexico City	20,116,842
Shanghai	19,210,000
Peking	15,796,450
Istanbul	14,160,467

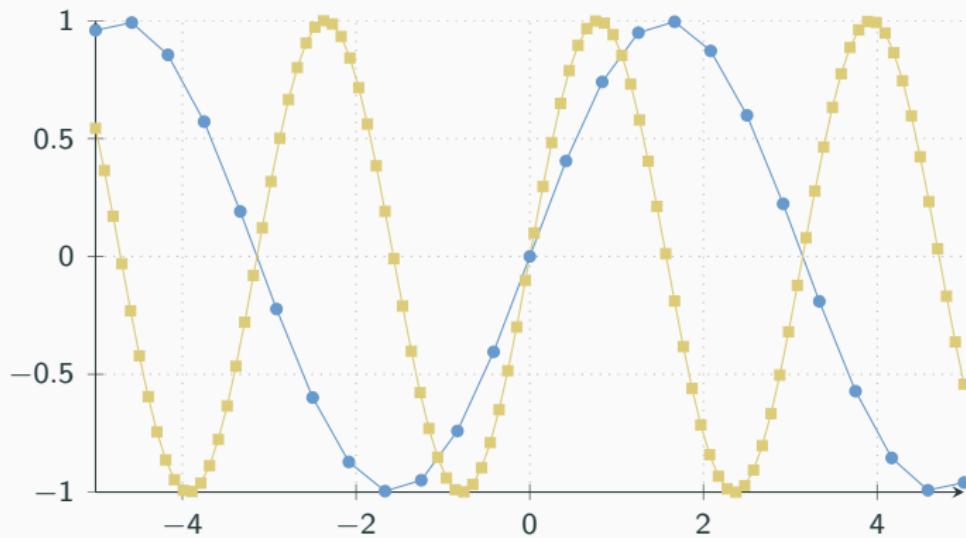
Blocks

Three different block environments are pre-defined and may be styled with an optional background color.

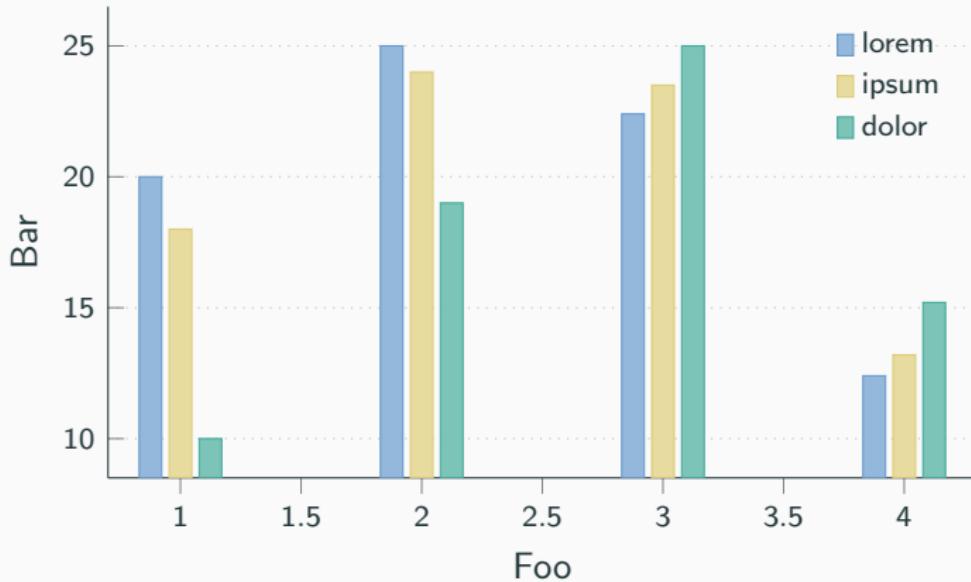
Default	Default
Block content.	Block content.
Alert	Alert
Block content.	Block content.
Example	Example
Block content.	Block content.

$$e = \lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n$$

Line plots



Bar charts



Quotes

Veni, Vidi, Vici

metropolis defines a custom beamer template to add a text to the footer. It can be set via

```
\setbeamertemplate{frame footer}{My custom footer}
```

References

Some references to showcase [allowframebreaks] [?, ?, ?, ?, ?]

Conclusion

Summary

Get the source of this theme and the demo presentation from

github.com/matze/mtheme

The theme *itself* is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.



Questions?

Backup slides

Sometimes, it is useful to add slides at the end of your presentation to refer to during audience questions.

The best way to do this is to include the `appendixnumberbeamer` package in your preamble and call `\appendix` before your backup slides.

metropolis will automatically turn off slide numbering and progress bars for slides in the appendix.

References i