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Bridging the Gap between Textual and Projectional

A proof of concept



LangDev Conference 2022





Who am I?



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Agenda

- Recap about textual and projectional editors
- Ideas for Bridging the Gap
- Demo
- Q&A



Textual vs Projectional Editor

Text Editors

Code/model stored and presented as text

- Familiar for users and developers
- Mature libraries, applications, algorithms
- Expressiveness limited to textual syntax
- Text is free-form:
 - Need to a parser, may break with malformed code
 - Little guidance for novices



Textual vs Projectional Editor

Projectional Editors

Model stored/presented as structured data

- Unfamiliar, need learning curve
- Poor text editing experience out of the box
- Less mature libraries/applications
- Increased expressiveness, not limited by textual syntax
- Free from parsing (to a degree...)
- Can offer more guidance



Word Processors

Bridging the Gap

A Word Processor allows the user to edit formatted documents consisting of text, tables, images, and more.



Word Processors

Word Processors as sort-of Projectional Editors

- **Document model stored as structured data**
- Document model presented as “rich text”
- Operations not limited to text (e.g. indent paragraph, change bullet style)
- **Schema (metamodel) is fixed** potentially with limited extension points (embedded controls)



ProseMirror to the Rescue

**Word Processor Toolkit for the web,
with free schema**

- We can **define our own metamodel**
- We can combine rich-text with structured blocks
 - blocks are *integrated*, not black boxes
- We can incorporate parsing



ProseMirror

- Good text editing out of the box
- Hooks for copy&paste, etc.
- Transactional → well suited for Collaborative editing
- Many existing integration possibilities
- Active, vibrant Community
- Open source & modular by design

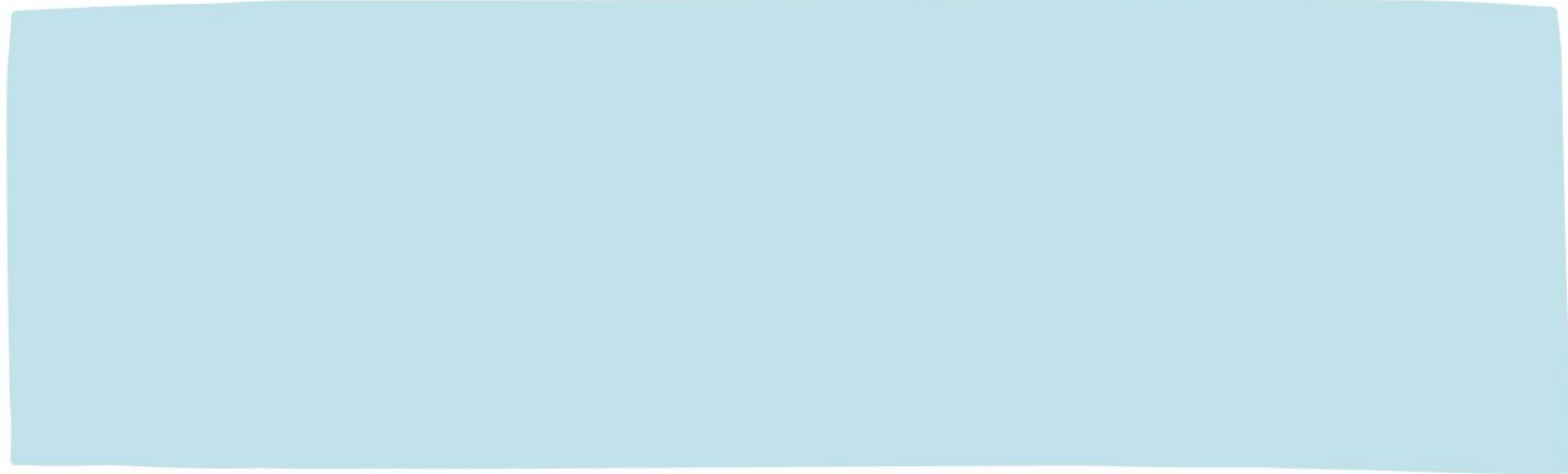


Demo Time

- This is only a Proof of Concept
- This is internal research work @ Strumenta, not open-source
- However, the idea came from a real-world case

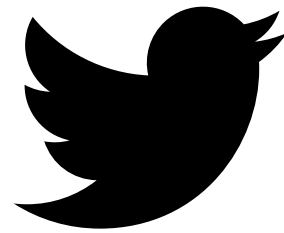


Questions?





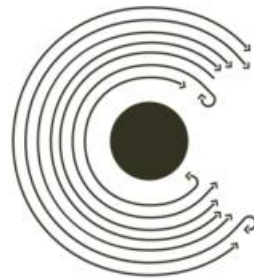
Thank you!



<https://twitter.com/strumenta>

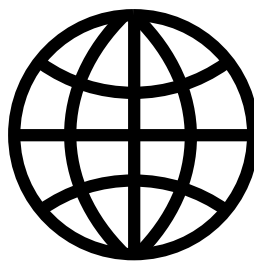


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