Good code quality is needed for efficiently developing maintainable and extendable software.

**Goal:**
Self-explanatory system (Explanation + Exploration)

**Methodology:**
Spatially for less experienced software developers | less technical stakeholders

**Educational:**
Based on Filó, T.G. et al. work on "A Catalogue of Thresholds for Object-Oriented Software Metrics"

**Data-driven explanations**
- 4 participants (3 PhD, 1 postdoc)
- Mix of visualization and software experts
- Study included 5 phases (45 minutes)
  - Identify different aspect of code quality in a document
  - Participants reviewed features of the system and provided feedback
  - Interview the participants asking general questions

**Strengths and Weaknesses**
- Provides recommendations for interactive documents with illustrative data
- Does not provide solution to visualization problems with transparent design
- Offers recommendations for interactive documents with illustrative data
- Using same scale for count of different attributes in same based

**Results**
- Added methodological and educational explanation
- Added interaction between all representations (only text vs. interaction was present in prototype)

**Interaction model**
- Transient selection on hovering over a class name anywhere highlights:
  - text-vis: polyline in parallel coordinates, dot in scatterplot
  - text-events: bar in embedded visualization
  - text-loc: other occurrence of class name in the text
- Persistent selection on clicked: encoded by black color (good for comparing classes)
- Persistent range selection on the axes of parallel coordinates

**DEMO**
https://vis-tools.paluno.uni-due.de/cqd/

**Formative Evaluation**
- 4 participants (3 PhD, 1 postdoc)
- Mix of visualization and software experts
- Study included 5 phases (45 minutes)
  - Identify different aspect of code quality in a document
  - Participants reviewed features of the system and provided feedback
  - Interview the participants asking general questions
References

1. Talk: https://vimeo.com/370669433
2. Tool: https://vis-tools.paluno.uni-due.de/cqd/
3. Paper: https://www.computer.org/csdl/journal/tg/5555/01/08807349/1cG6mtDwLNm

Thank you!
Questions?