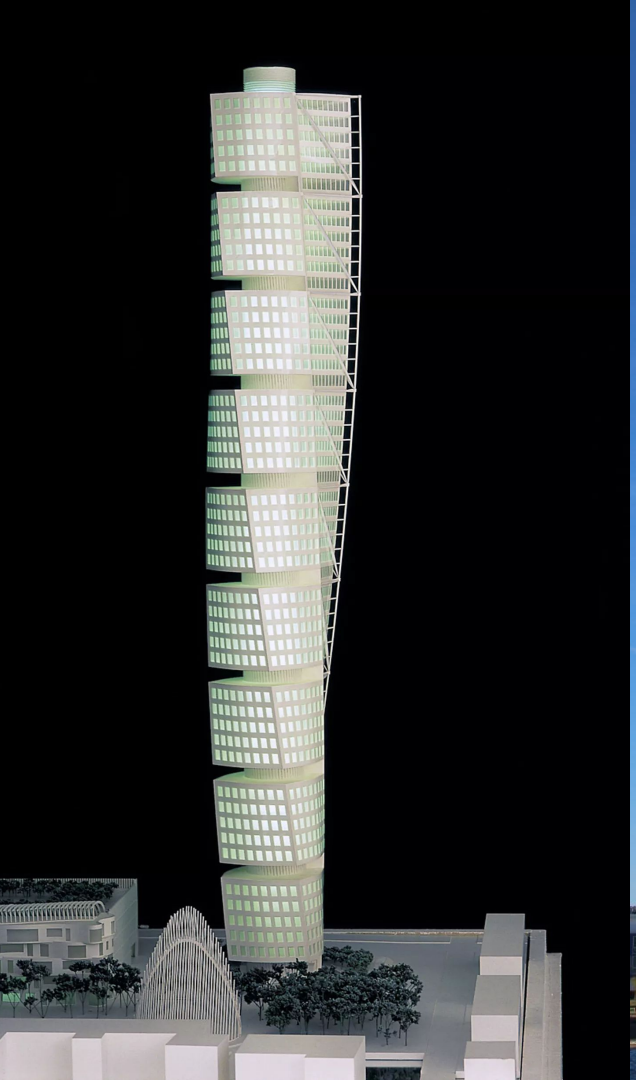
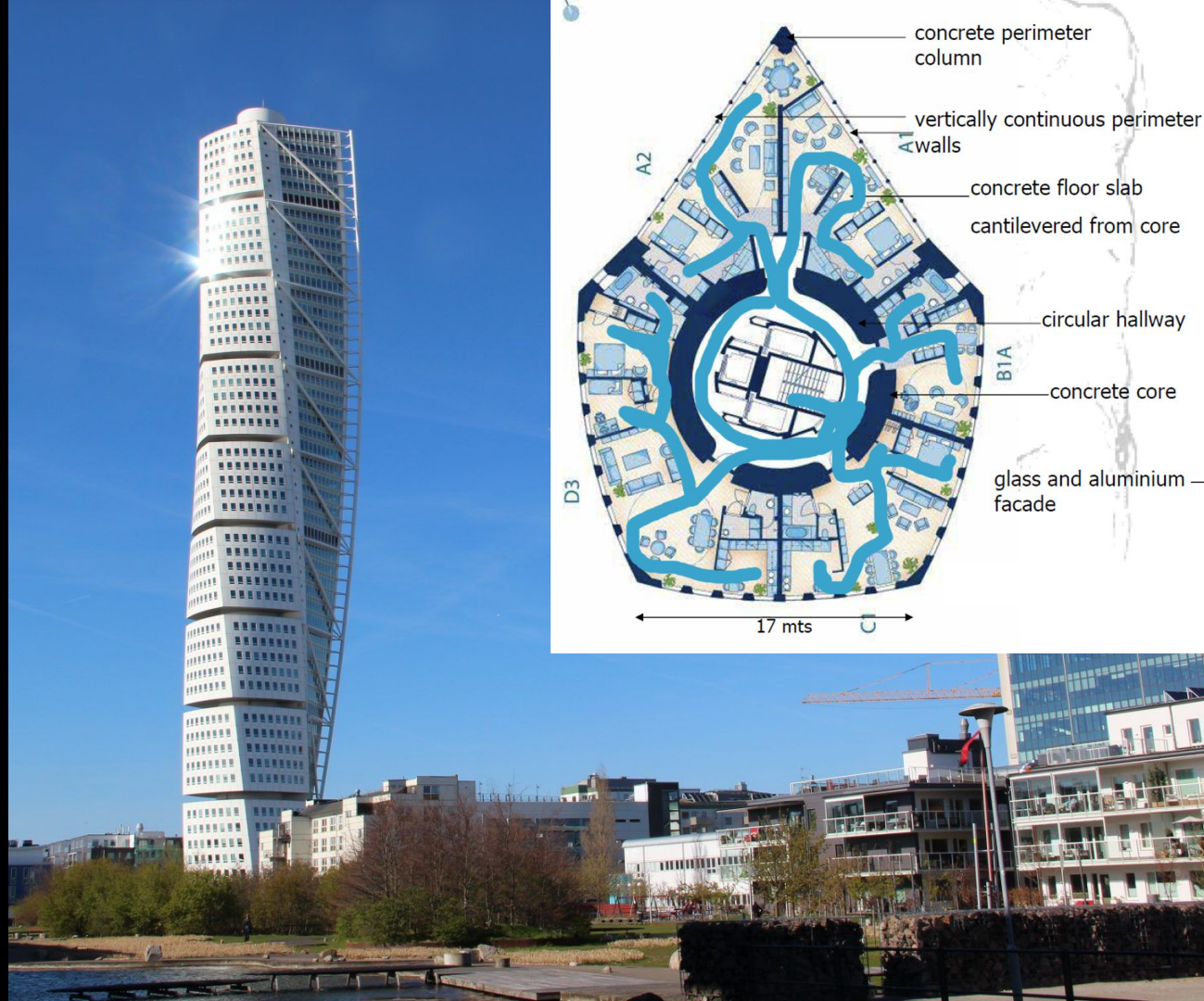
Modelling Use Cases with Pharo

Problem statement and solution proposal

What are models?





concrete perimeter column
vertically continuous perimeter walls
concrete floor slab
cantilevered from core
circular hallway
concrete core
glass and aluminium facade
A2
A1
B1A
D3
C1
17 mts

Why do we need models?

- Communicate design
- Promote ideas
- Visualize functionality
- Design production process

Why do we need models in software systems?

- Communicate with stakeholders and team members
- Visualize logic and behaviour
- Enable different perspectives on the problem
- Plan implementation

How are models used in software systems?

- Proof of concept phase
- UMLs for:
  - Classes
  - Activites
  - Sequences
  - Use cases
- DSLs for:
  - Behaviour tests
- Documentation

Do the models fulfil all their purposes?

Kind of, but not completely.

What's the problem?

- Static
- Doesn't get communicated enough
- No transparency for the stakeholder between the model and the product after POC phase

Why is it a problem?

- End product deviates from the initial models
- Team members do it *their* way - *“There was a UML for that?”*
- Expectations of the product will not be met - *“This is not what we have payed for!”*

What could be an approach to these problems and why?

Visualisation of all acquired use cases in a single dynamic model:

- Model is **directly** linked to the developed program code
  - Model represents code and vice versa
- Designed to evolve
- Understandable with minimum knowledge about domains

What have I done so far?

- Initial programming experience with Pharo and Bloc
- Data acquired
  - 93’000 diagrams from 24’000 projects from github

Why Pharo, why Bloc?

- Live programming
  - Advanced run-time reflectivity
  - Live customizable objects inspection
- Bloc
  - Bloc is a low-level UI infrastructure & framework for Pharo
  - Boxes and arrows!

What will I do next?

- Data analysis and interpretation
- Implementation cycles of the modelling tool

Questions?

Thanks for listening