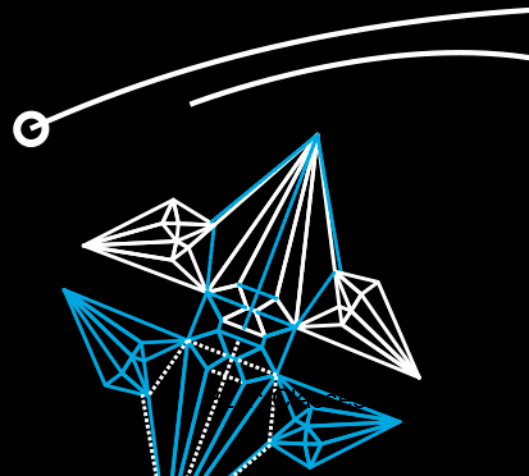
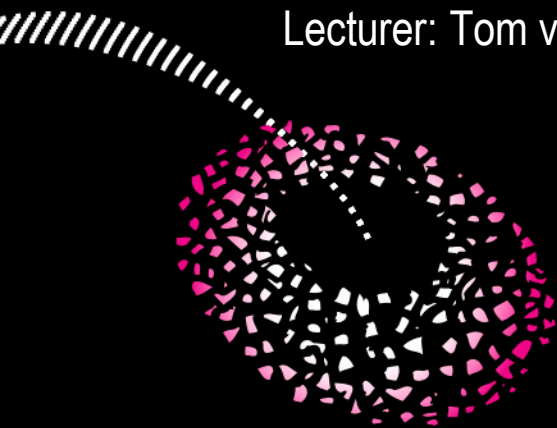
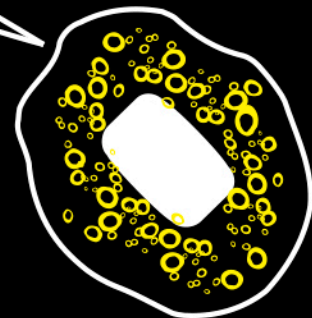


UNIVERSITY OF TWENTE.

Pair programming

Topic of Software Systems (TCS module 2)

Lecturer: Tom van Dijk



PAIR PROGRAMMING

- Classic pair programming
 - Driver and navigator
 - Clearly defined roles

- Strong-style pair programming
 - Useful for knowledge transfer
 - “Navigator tells driver what to do”

PAIR PROGRAMMING

- Method used in software development
- Fewer bugs
- Less procrastination
- Better design
- More effective knowledge transfer
- Better communication

CLASSIC PAIR PROGRAMMING

Driver

- Focus on details
- Leave larger issues to navigator
- Say aloud what you are doing

Navigator

- Focus on high level
- Leave coding to the driver
- Check for bugs
- Say aloud what you are doing

STRONG-STYLE PAIR PROGRAMMING

Driver

- Follow instructions of navigator
- Understand **what** you are doing
- Discuss design decisions later
- Trust the navigator

Navigator

- Give the next instruction as soon as the driver is ready
- Communicate clearly to the driver
- Don't grab the keyboard

HOW TO PAIR PROGRAM

- Only driver behind keyboard
- Switch often
- **Communicate!** Be patient!
- Use plugins like **CodeTogether** for remote pair programming
 - Or **TeamViewer**, **VNC**, etc.

COMMON PROBLEMS

- 1 person working and 1 person watching
- Fighting over the keyboard instead of communicating
- Not saying what you are doing
- Not saying when you don't understand something
- Not taking breaks or switching roles
- Distractions

FINAL THOUGHTS

- Read more using the resources on Canvas
 - <https://martinfowler.com/articles/on-pair-programming.html>
- Pair programming is a **skill**
- Check with your group TA
- Good luck!