Innopolis University, B24 Spring 2024
Software Architecture

# Hands-on: Pipes-and-filters

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In this task you need to implement the pipes-and filters pattern from [BCK13]. The implementation should be based on principles described in [BCK13]. You can use any procedural or OOP programming language.

The final application should read video stream either from your web camera or a video file frame by frame in real time. Frames should be then processed by 4 different effects (e.g. black and white, mirror, resize, etc.). Each effect should be applied by a separate filter. Processed frames should be visualised in real time.

## Submission artifacts

- Git repository URL
- Video demo uploaded to YouTube or Google Drive

## Grading criteria

- Compliance of implementation with pipes-and-filters pattern principles and quality of code
  - **9/10 points**
- Quality of codebase organisation: naming of files and folders, clear separation of concerns, helpful README.md
  - **1/10 point**

**[BCK13]:** *Software Architecture in Practice, **Third Edition**, by Len Bass, Paul Clements, and Rick Kazman, Addison-Wesley 2013*