Requirements
Design Patterns

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What will I learn?
Design patterns give a fancy solution for common problems in object oriented design.

So what are these design patterns exactly?
Abstract building blocks of object oriented components and APIs that clarify the design, improve the code quality and facilitate the communication.

I already has got n-years work experience in software development.
Why should I learn these patterns?
Understanding of the design patterns is one of the differences between programmer and good programmer.
Prerequisites

Skills
- Java
- Maven
- JUnit
- UML

Course
- Object – Oriented Programming
- Software Technologies
- *Software Testing & Project Management*
Assessment Criteria

- 66% Discussion Participation
- Accepted Final Project
- 60% for signature

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<th>Participation</th>
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<tr>
<td>Final Project</td>
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<td>Exam</td>
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Final Project

- Contribution to one of the following projects:
  - DISSECT-CF (Gabor Kecskemeti)
  - ILONA (Zsolt Toth)
- Refactoring to design patterns
- Present the modification as a short paper.

Exam

- Oral
- Dates
  1. 2nd June 2016.
  2. 23th June 2016.
Assessment - Final Project

- Short paper about the modification.
- English is preferred.
- IEEE Template (\LaTeX)
- Minimum 6 pages
- Evaluation
  - by project leader
  - submission deadline: 2017-05-20
  - notification: 2017-06-02
- Demonstrate how your solution outperforms the original version.

Title (max 10 words)

Abstract
  - \(\approx\) 300 words

Introduction
  - Motivation & goals
  - Problem statement

Methods
  - Applied design patterns

Results
  - How were the design patterns applied?

Discussion
  - What are the benefits of their application?
Lectures & Tutorials

- Lectures and Tutorials are not distinguished.
- Only the 1st Lecture is traditional.
- Other classes are flipped.
  - Students are prepared for the class.
  - Students discuss the patterns selected.
  - Teacher asks questions and observes the conversation.
- Some patterns will be implemented during the classes.
Obligatory

- Gamma et al: *Design patterns: Abstraction and reuse of object-oriented design*
- Selected reading assignments

Recommended

- Kent Beck: *Implementation Patterns*