CSE261: Computer Architecture

0. Introduction

Seongil Wi

Department of Computer Science and Engineering

Who am I?

about:Seongil Wi

- Assistant professor
- Security researcher

- Office: E106, 301-8
- Office Hour: Wednesday, 2~3pm (by appointment)
  - 🏠 Homepage: https://seongil-wi.github.io/
  - ✉ Email: seongil.wi@unist.ac.kr

My Research

- UNIST CSE / WebSec Lab. (Web Security Lab)
  - 🏠 Homepage: https://websec-lab.github.io/

Web Security Lab

- Research keywords:
  - **Web and Software Security**
  - Client/Server-side Security
  - Web Vulnerability Discovery

WebSec Lab (Web Security Lab)

- Finding **security bugs** in web components (applications, browsers, …)
- Finding **emerging web threats**
- Analyzing online **criminal activities**
- Using…
  - Dynamic/static analysis
  - Clone detection
  - AI techniques
  - Etc.

Making ***web ecosystems*** more *secure!*

This Course
Computer Architecture

You will learn fundamental ***principles*** used in modern computer architectures to improve the performance of computations

Course Information

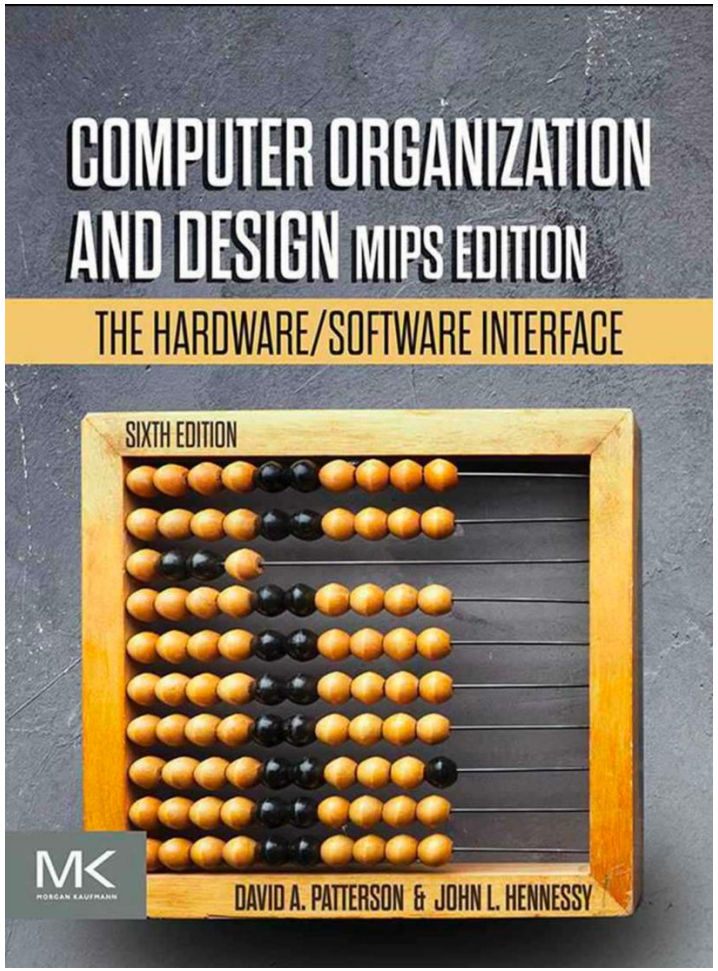
- **Course Website:**
  - https://websec-lab.github.io/courses/2024f-cse261/

- **Syllabus:** See the course website

- **TA:**
  - Minseok Kim (김민석, minseok1335@unist.ac.kr)
  - Jium Min (민지운, min1905@unist.ac.kr)
  - Dongyeon Yu (유동연, dy3199@unist.ac.kr)
  - Sunghyun Yang (양성현, sunghyun@unist.ac.kr)
  - Jihun Baek (백지훈, qorwlgns444@unist.ac.kr)

Textbook

- **Computer Organization and Design MIPS Edition– The Hardware/Software Interface**
  - David A. Patterson and John L. Hennessy
  - Morgan Kaufmann/Elsevier, 2021 (**6th Edition**)



- Lecture slides will be provided

Reading the textbook is not mandatory, but it is highly recommended

Course Logistics*

- **Homework:** 25%
  - 3~4 Programming assignment
- **Quizzes:** 10% (1~2 quizzes)
- **Midterm exam:** 30%
- **Final exam:** 35%

* Subject to change.

Attendance

- Attendance is, of course, mandatory and enforce UNIST attendance rules

- **I will not include your attendance score in the grade**
  - **However,** I will drive the course in a way that rewards those who consistently participate with higher scores!
  - Show me evidence in case of military training, doctor's appointment, etc.

- **Also, missing more than 8 times will get an 'F'**
  - Your responsibility to check attendance online!

I expect you to be here, as you expected me to be here!

Grading Policies

- **A+/A/A-:** 40%
- **B+/B/B-:** 45%
- **C+/C/C-:** 15%

Homework*

- **HW1: MIPS assembly programming**
- **HW2: Simple MIPS simulator (using python)**
- **HW3: Cache simulator (using python)**

- Late penalty of 10% per day (up to 3 days)
- Detailed instructions will be announced later

* Subject to change.

QnA

Q. Is it okay to send an email at midnight?

- Of course! No one cares

Q. Is it ok to use ChatGPT for the programming assignment?

- Your sub-goal: Learn how to use AI ethically & constructively

Q. What happens if I submit AI-generated code?

- If unlucky, detected by our plagiarism checker. You will get **F**
- If lucky, you get a high score. But will be naturally selected soon

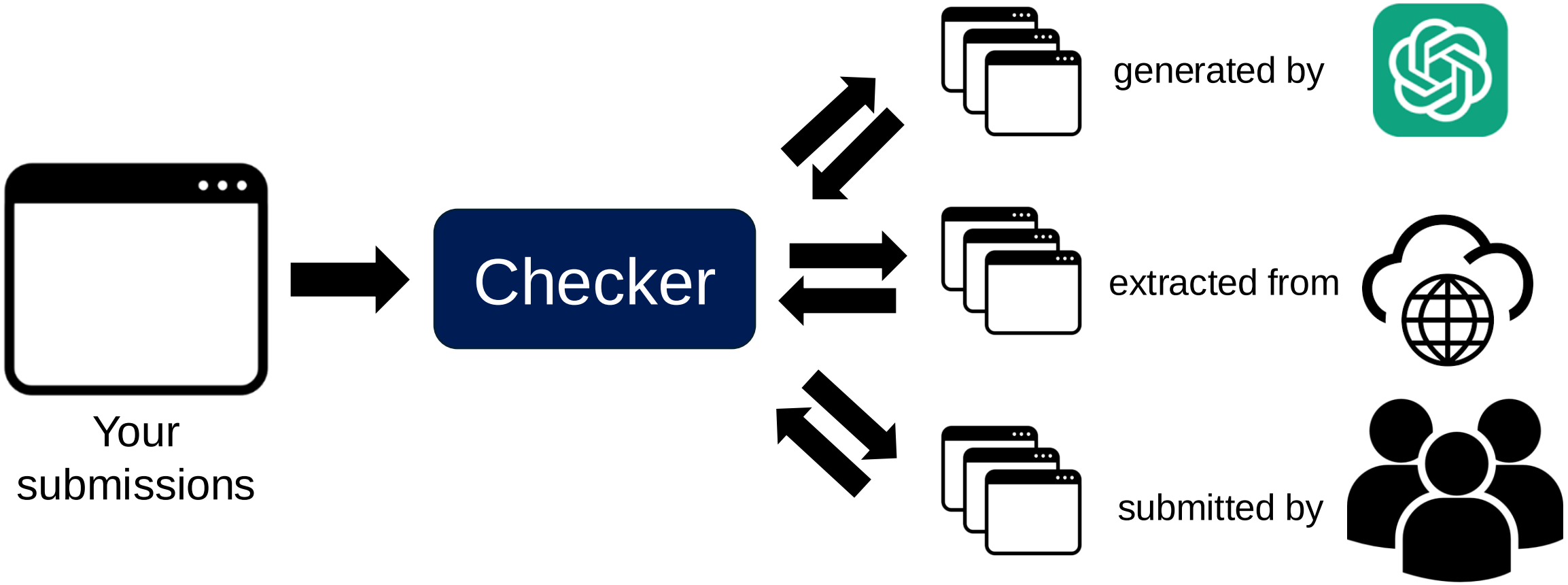
Important Notice (1): Academic Integrity

- Any solution you submit (hw, exam, etc.) must be your ***own*** work

If you violate this rule,
you will immediately get an **F**

Plagiarism Checker

- We use automated tools to strictly identify violations
- Even collaborating on several lines of code is subject to this



Important Notice (1): Academic Integrity

- DO NOT share the course contents (e.g., assignments or exams) with others
  - E.g., Github public repository, chegg.com, etc
- DO NOT discuss the **details of solutions** with others
- DO NOT plagiarize
  - Submit your own work
- Any integrity violation: at LEAST F

UNIST CSE Policy on Cheating and Plagiarism

Note: The term **solution** means program code, mathematical derivation, experimental setup, etc., for any type of deliverable, homework assignment, or projects in class.

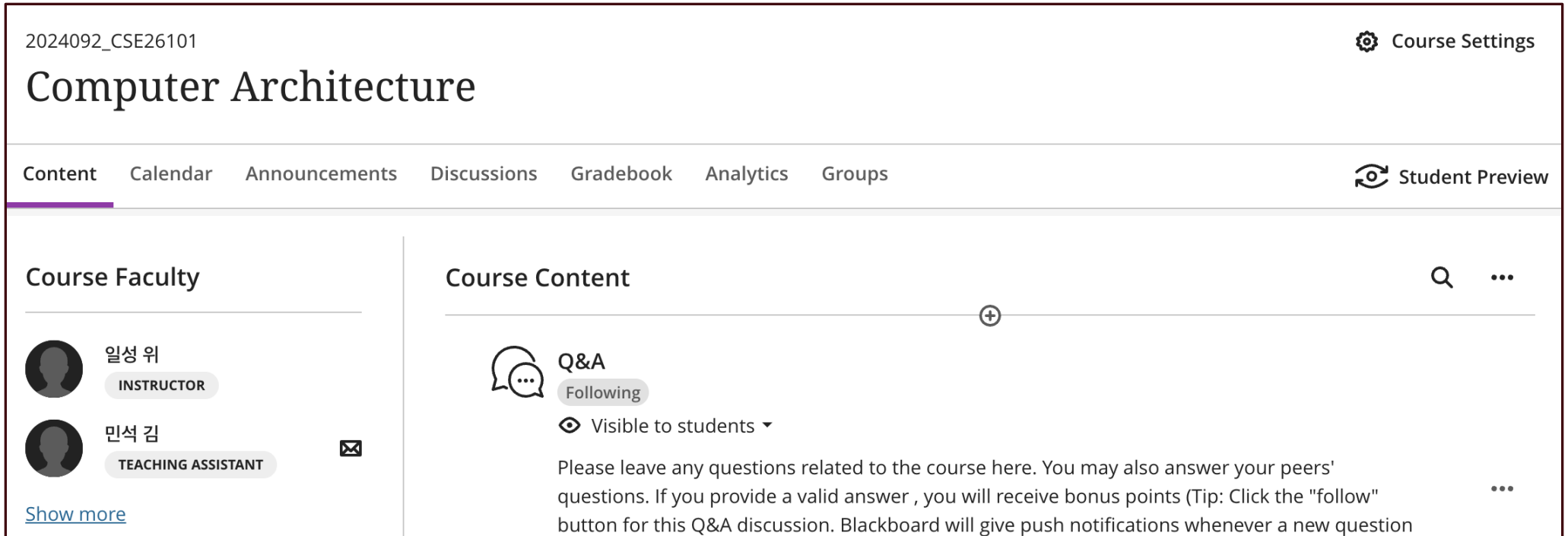
The purpose of this document is to make our expectations in CSE as clear as possible in regard to the Honor Code at UNIST. The basic principle under which we operate is that each of you is expected to **submit your own work in your courses**. In particular, attempting to take credit for someone else's work by turning it in as your own constitutes plagiarism, which is a serious violation of fundamental academic standards. However, you are also encouraged to work as a team and collaborate with each other, and it is usually appropriate to ask others—the TA, the instructor, or other students—for direction and debugging help or to talk generally about

Important Notice (2): Class

- **Language:** English (default)
  - You can use Korean for your questions, discussions, exams, quizzes, and homework
- **Questions & discussion:** highly encouraged
  - (Out-of-class) If you have questions: blackboard > TA > instructor
  - Except for
    - Too detailed ones (e.g., installation method, syntax of the program, …). TA is not a debugger!
    - Directly related to the solutions
- **Actively discuss with your classmates**

Blackboard Discussion and Participation

- We will use Blackboard discussions for Q&A
- We will check **your participation** in the discussion
- If you answer other students' questions, and if the answer is valid one, you will receive bonus point!



Final Remark

- Do not judge by yourself!
  - If you are confused, ask your TAs or me

Question?