

# Creating Technology-Enhanced Lectures & Tutorials for Visual Learners

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# How to Help this Frustrated Student?

Frustrated Student:

I **did attend** classes but failed to:

- ***follow completely***
- ***complete the weekly lab assignments***



# My Approach: Applicable to Your Courses?

- Lectures/Tutorials centred around *detailed*, *visual* illustrations on *concrete* examples
- I have adopted this approach for teaching *all* my courses:
  - **EECS1021** Object Oriented Programming from Sensors to Actuators [ W19 ]
  - **EECS1022** Programming for Mobile Computing [ W18, W21 ]
  - **EECS2030** Advanced Object Oriented Programming [ F17, F18, F19 ]
  - **EECS3311** Software Design [ F17, F18, W19, F19, W20, F20 ]
  - **EECS4302** Compilers and Interpreters [ W20 ]
- As long as there's *something* you want to teach in your course, then my approach is *applicable*!

# My Approach: Four Phases

## 1. PREPARATION

- Most **time consuming**, yet most **critical**
- Clarify **what** examples/concepts you wish to demo in details.
- Create **starter pages**: **MAINTAINABLE, EXTENSIBLE, REUSABLE.**

## 2. SETUP

- Application 1: Live lectures/reviews [ wireless microphone ]
- Application 2: Offline lectures/tutorials [ studio microphone ]

## 3. DELIVERY

- Presentation [ e.g., powerpoint, PDF ]
- Programming Tool [ e.g., Eclipse ]
- **Drawing Tablet** (e.g., iPad) [ projected to your computer ]

## 4. SHARING

- As the subject expert, **insights/remarks** made while you demonstrate are the most valuable for your audience.
- **Record** the entire delivery and **share** it with students (or even those in the public).

# Resources

- A detailed tutorial session:

<https://www.eecs.yorku.ca/~jackie/research/talks.html>

- Explore more examples of adopting the approach:

- **Lectures:**

<https://www.eecs.yorku.ca/~jackie/teaching/lectures>

- **Tutorials:**

<https://www.eecs.yorku.ca/~jackie/teaching/tutorials>

- **Starter Pages** and Annotations:

<https://www.eecs.yorku.ca/~jackie/teaching/iPad>

- Read more about the approach:

- **Chen-Wei Wang**. *Creating Tutorial Materials as Lecture Supplements by Integrating Drawing Tablet and Video Capturing/Sharing*. In *8th Computer Science Education Research Conference (CSERC)*, pp. 1 – 8. ACM, 2019. [PAPER]

- **Chen-Wei Wang**. *Integrating Drawing Tablet and Video Capturing/Sharing to Facilitate Student Learning*. In *ACM Global Computing Education Conference (CompEd)*, pp. 150 – 156. ACM, 2019. [PAPER]

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