Creating Tutorial Materials as Lecture Supplements by Integrating Drawing Tablets and Video/Sharing

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Computer Science Education Research Conference
CSERC’19
Inheritance Hierarchy: Students

Student
- String name
- void register(Course c)
- double getTuition()
- Course[] courses
- int noc

ResidentStudent
- String name
- double premiumRate
- void setPremiumRate(double r)
- double getTuition() /* overridden */

NonResidentStudent
- String name
- double discountRate
- void setDiscountRate(double r)
- double getTuition() /* overridden */
public class SMSTester {
    public static void main(String[] args) {
        Course eecs2030 = new Course("Advanced OOP", 1000.0);
        Course eecs3311 = new Course("Software Design", 1000.0);
        ResidentStudent heeyeon = new ResidentStudent("Heeyeon");
        heeyeon.setPremiumRate(1.25);
        heeyeon.register(eecs2030);
        heeyeon.register(eecs3311);
        NonResidentStudent jiyoon = new NonResidentStudent("Jiyoon");
        jiyoon.setDiscountRate(0.75);
        jiyoon.register(eecs2030);
        jiyoon.register(eecs3311);
        StudentManagementSystem sms = new StudentManagementSystem();
        sms.add(heeyeon);
        sms.add(jiyoon);
    }
}
Testing the **Student Management System**

```java
public class SMSTester {
    public static void main(String[] args) {
        Course eecs2030 = new Course("Advanced OOP", 1000.0);
        Course eecs3311 = new Course("Software Design", 1000.0);
        ResidentStudent heeyeon = new ResidentStudent("Heeyeon");
        heeyeon.setPremiumRate(1.25);
        heeyeon.register(eecs2030);
        heeyeon.register(eecs3311);
        NonResidentStudent jiyoon = new NonResidentStudent("Jiyoon");
        jiyoon.setDiscountRate(0.75);
        jiyoon.register(eecs2030);
        jiyoon.register(eecs3311);
        StudentManagementSystem sms = new StudentManagementSystem();
        sms.add(heeyeon);
        sms.add(jiyoon);
    }
}
```
Creating **Effective** Tutorials

- **Information Flow**
  - Recording
  - Illustration Notes
  - Source Code

- **Recorded & Uploaded**

- **Re-Iterated on Demand**

**Computer Desktop Screen**
- Slide Show
- Code Demos on Programming IDE
- Illustrations on Drawing Tablet

**Present**
- Instructor

**Outside-class, Pre-lab**

**Outside-class**
- Students