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CITY College
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International Symposium for Engineering Education 2012

Continuous Feedback for integration of software engineering knowledge and skills through students workshops

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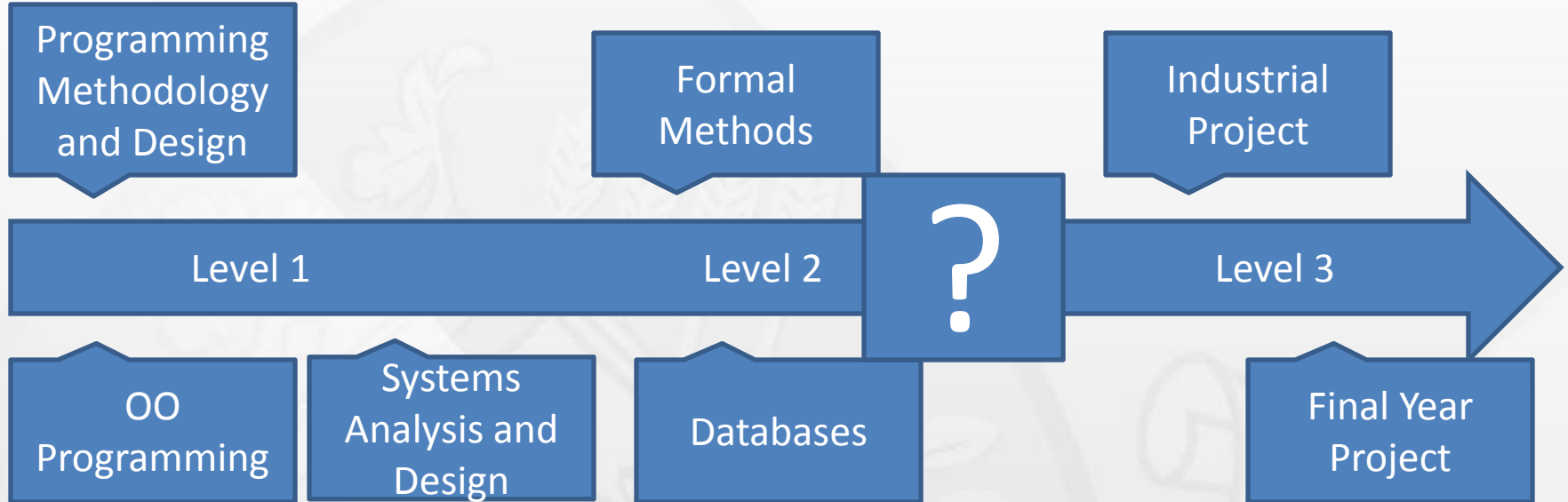
- Some background
- The challenge – skill and knowledge integration
- Course outline and structure
- Teaching and assessment methods
 - Lectures, workshops and continuous assessment and feedback
- Student achievement and impressions
- Overview / final thoughts

- City college is located in Thessaloniki, Greece.
- It was established in 1989 and since 2009 it has become one of the five Faculties of the University of Sheffield.
- Student body from 15 countries in the SEE
- Offers undergraduate and postgraduate programs in Computer Science, Business and Psychology
- Small classes (<30 people)
- Student pastoring / open door policy



Student skills



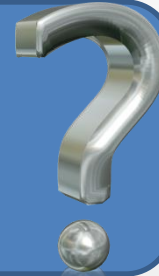


- Levels 1 and 2 gather knowledge and develop necessary skills
- Level 3 produce good quality software

Problems Identified

- Temporary knowledge and skills
- Modularity
- Lack of understanding of purpose of unit
- Lack of experience

I know I have done this before,
but how?



Why am I doing this?



How will I do all
this? Can I make
it?

1. **Experience** in taking part in a large project
2. Somehow to put all the things they have learned together
3. How to create good software
 - Good software = correct and usable
 - HCI component missing
 - Experience and integration = develop software from “scratch” in practice

The challenge

Learn about Usability



Repeat previously
taught material



Go through the process of creating a product from start to end.

! Lots of work for the students = Assessment through the project only (no exam)

! no previous experience = continuous supervision and feedback over the whole project.

This course is about two things:

1. Principles of Human Computer Interaction (HCI).
 2. Complete process of producing proper software from conception initial idea → testing & maintenance (groupwork)
- Use of a case study (an example system) developed with the students.
 - 20 credits, 4 contact hours per week
 - 30% new material, 30% case study, 40% workshops and presentations

- Lecture / case study presentation (usually first 2 hours of the week)
 - Present HCI concepts
 - Develop a system in class with the students
- Workshop session / presentation (usually last 2 hours of the week)
 - In groups students repeat the steps, getting direct and instant feedback
 - Present a major component of their project to the class and exchange ideas



The dialogue



- In class feedback is given in the form of:
 - Direct observations on their work
 - Correlation to the case study
 - References to the taught material
 - References to taught material from previous courses
- Website feedback is about the overall progress of the group
 - Aimed to motivate / inform / shake up the students
 - <https://sites.google.com/site/hcisd2012redteam/home>



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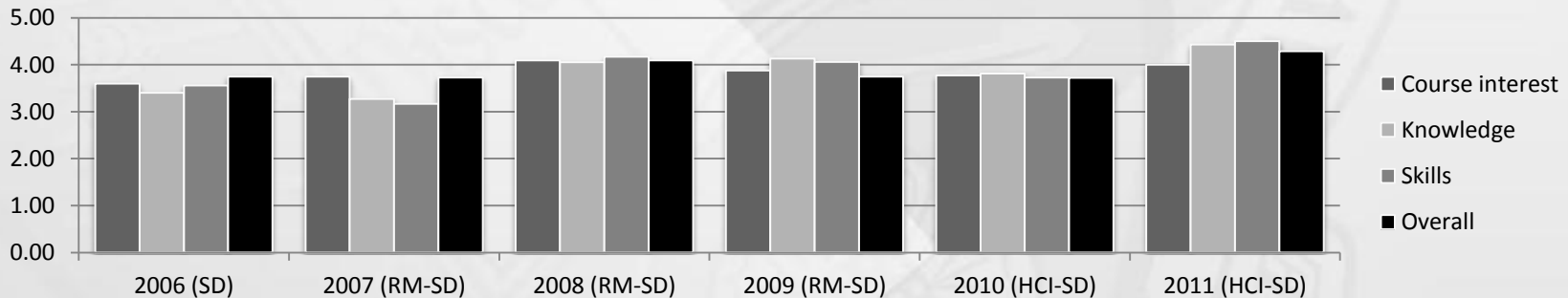
Workshop hour



- Students sometimes come unprepared.
 - Fail mark for that week.
 - Start on the spot and checked by the lecturer at the end.
- One of the groups is not working at all.
 - The problematic group is given specific individual tasks, and the students that do not cooperate fail the course (have to repeat the process on their own to a limited degree).

- Not to present the solution to the students, but let them discover it themselves.
- Each project is different and has its own particularities. However, there are common points.
- Each project has a different difficulty, and this has to be taken into account in the assessment.
- All members of the group must be involved in an equal amount. Part of the workshop session is to detect who has done what in the group.

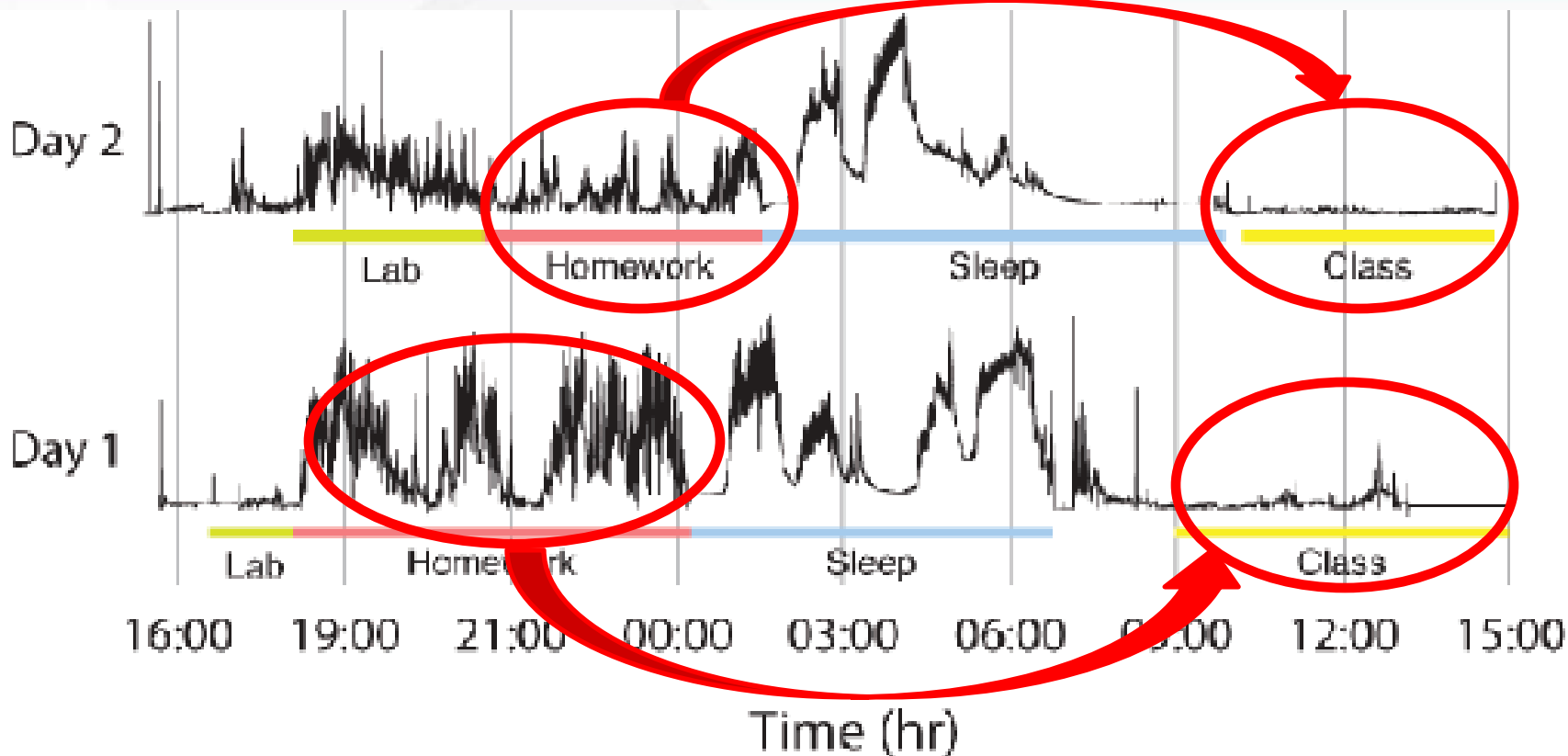
- Liked the developmental feeling of the course.
- Believed that the HCI part would be very useful for their next projects.
- Commented about how different information from previous courses was necessary
 - *“That’s why we discussed this in ...”*
- In most cases the resulting software was of top quality:
 - (<http://csdprojects.city.academic.gr/>)
- Feedback forms
 - Likert scale 1-5



- Students work in groups to create a software product.
- The processes is simulated first with a case study and then repeated by the students in special workshop sessions
- Role-playing takes place in and out of the workshop
- Feedback is continuously provided to the students in the workshop sessions (time sharing) and with a Google site



One final thought





- For more information:
 - k.dimopoulos@city.academic.gr
 - <http://www.city.academic.gr>
- Useful links:
 - <http://csdprojects.city.academic.gr/>
 - <https://sites.google.com/site/hcisd2012redteam/home>