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Intel China Embedded Curriculum Online Training

Peking University Sharing

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IA based Embedded Curriculum Summary

(Note: Please list the basic information of your embedded Curriculum on this page. If you have more than one course, please list each course information on a separate page and specify their relationship. Following items for your reference.)

Course Name: **Embedded Software Development Technology**

Course Type: **both PPT & Hands-on**

Target Student/Semester: **senior students and graduate students**

Student Number (per year): **80**

Course Duration: **18 Weeks, 48 Hours**

Prerequisite Courses: **C Programming**
IA based Embedded Curriculum Characteristic

Curriculum/Course Characteristic:

1) This course is aimed to help the students to understand main methods, tools, and techniques of embedded software development.

2) Through a series of programming assignments, the students will gain necessary skills and experience to work on embedded software development projects.

3) The course was based on Atom and Linux.
IA based Embedded Curriculum Key Points

Curriculum/Course Key Points:

1) Gain an **overview of embedded systems applications and design methods**

2) Obtain **practical knowledge** by learning how to develop and write code for Embedded Linux Applications

3) Learn how to **plan and execute** complete embedded systems Applications
IA based Embedded Curriculum Difficult Points

Curriculum/Course Difficult Points:
1) How to improve students' interest in course project
2) How to improve students' practical ability
3) How to improve students' innovation ability
IA based Embedded Curriculum Experience Sharing

Course Experiments:
- Experiment Hours: 16 learning hours
- Experiment Platform: Atom platform
- Experiment Content: Embedded software development based on Atom platform.

Evaluation:
- Assignments and Experiments: 30%
- Final Examination: 40%
- Course Projects: 30%
IA based Embedded Curriculum Experience Sharing

Course1: Introduction to Embedded System
Course2: Embedded Application Software Development
Course3: Embedded OS
Course4: Embedded System Design

Project driven: (One course, one project) The effect is limited and the outcome is easy to lose.

Teaching-Organization: Courses are taught by full-time professors as well as industry experts; pay attention to practical training.

Integrated Practice: Each course has a sub-project and the connections between courses are highlighted.

One project drives multiple courses
IA based Embedded Curriculum Experience Sharing

- Each group with four students to complete a practical projects.
- Students learn by doing to understand the content of lessons more deeply; Stimulate students' interest and self-motivation to learn.
- Each group is required to submit a complete report of the project at the end of the course.
- Improve the ability of self-learning and to solve practical problems, and develop teamwork skills.
IA based Embedded Curriculum Hands-on Practice Case Sharing (1)

Please use the following pages to share at least 2-3 the most effective hands-on practice cases of your IA based embedded curriculum. Each case should include the following items:

**Case Name:** A Simple Ftp Server

**Case Attribution:** Course Project

**Case Objective:** Cultivate students' ability to analyze and solve problems by using learned knowledge synthetically

**Case Content:** Code
IA based Embedded Curriculum Hands-on Practice Case Sharing (2)

Please use the following pages to share at least 2-3 the most effective hands-on practice cases of your IA based embedded curriculum. Each case should include the following items:

**Case Name:** Smart Services @Home

**Case Attribution:** Comprehensive Practice

**Case Objective:** Gain an overview of embedded systems applications and design methods

**Case Content:** The documentation and code
Context-aware systems provides smart services to the users according to the change of the environment.

Through the mobile terminals and sensors, service system can perceive (aware) people’s surrounding environment (context) and provides necessary services automatically.

Context: Person, time, location, computing environment.

Context aware services’ research focus on how to obtain, represent and reason context.
IA based Embedded Curriculum Resource

Please list your IA based Embedded Curriculum resource on this page. For example, textbook, website URL, etc.

Course Website URL: http://opensource.ss.pku.edu.cn/embedded
Thank You!