Vietnam National University of HCMC
International University
School of Computer Science and Engineering

Web Application Development (IT093IU)

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(Semester 2, 2023-2024)

Lecturer

Lecturer & Lab section:

- Lecturer: Assoc.Prof.Nguyen Van Sinh
- Lab Tutors: Msc.Nguyen Trung Nghia
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Description

- Introduce techniques in web programming, web frameworks focused on Java (jsp). Besides, .Net, PhP, Node.js, Djangle, etc., are also introduced.
- Provide knowledge of basic web design:
  - HTML & Tools: https://websitesetup.org/web-design-software/
  - CSS (Cascading Style Sheet)
  - JavaScript (in any frameworks); XML
  - Extend: Ajax, ZK and Djangle frameworks
- Train core technologies of Java framework.
- Support skills for student to design and implement a web-based application.
- Sharing experiences: how to build a web-app in practice?
- Orientate for research in Internship/pre-thesis/thesis

Learning outcome

- Have knowledge and understanding the basics of web programming models, tools and techniques
- Be able to develop some small applications
- Manage core techniques of Java framework
- Obtain the essential skills in design and develop web-based applications
- Improve self-study ability in other web application based on extended techniques.

Requirements

- This is an advanced course; it has a fast pace, requiring much effort working *outside of class time*

- Students are expected (required) to attend all class sections on time and <u>prepared</u> things (very important!)

- Students must finish their assignments on time.

- If you cannot complete an assignment, contact the instructor/lab tutor (before the deadline)

- Tests are to be taken at day and time scheduled. DO NOT copy from other students.

Reading

Textbooks and referent books:

1. Dave Wolf and A.J. Henley. "Java EE Web Application Primer Building Bullhorn: A Messaging App with JSP, Servlets, JavaScript, Bootstrap and Oracle", 2017.

2. Prem Kumar Karunakaran. "Java Web Application Development", second edition, 2020.

3. Laura Ubelhor and Christian Hur. "Developing Business Application for the Web With HTML, CSS, JSP, PHP, ASP.NET and JavaScript", 2017.

4. *Refer: N.V.Sinh, N.T.T.Sang, T.M.Hà* "Xây dựng ứng dụng Web cho Thương mại điện tử trên Netbeans", Nhà xuất bản Xây dựng 2017.

5. Prem Kumar Karunakaran - Introducing Play Framework - Java Web Application Development 2020

6. Web Development with MongoDB and NodeJS

Activities

- Lectures: 15 sessions (3 teaching periods for each), starting from 19/02/2024.
- Lab sections: 12 sessions (4 periods for each), starting from 15/03/2024
- **Marking:**
  - Midterm exam: 30%
  - Lab, project, assignment, quiz: 30%
  - Final Exam: 40%

Policies

- Copy program, source codes and report from others → minus 50% of the final grade of the course

- Absence > 20% → you are not allow taking the final exam

- Quiz will be checked in random

Lectures

- The lecture should be prepared in advance
- It will be uploaded on the blackboard after presenting on the class (they are updated each Semester)
- The exercises will be provided at the end of each lecture

Agenda

Week	Section (Handout)	Reading
1	L00. Introduction to the course L01. Introduction to basic HTML	Refer to the books: 1, 2, 4
2	L02. Advanced HTML (cont) L02. Cascading Style Sheet with HTML5	Refer to the books: 1, 2, 4
3	L03. Introduction to Java framework and new technologies in web development	Refer to the books: 1, 2, 3, 4
4	L04. Servlet and MVC model	Refer to the books: 1, 2, 3, 4
5	L05. JSP + JDBC and MySQL	Refer to the books: 1, 2, 3, 4
6	L06. Introduction to PhP (connect PhP to MySQL)	Refer to the books: 1, 2, 3, 4
7	L07. Web state, session, cookies	Refer to the books: 1, 2, 3, 4
8	L08. Java Script, APIs and Libraries	Refer to the books: 1, 2, 3, 4
9 &10	L09 & L10. Node JS Framework (Nodejs and MySQL)	Refer to the books: 1, 2, 3, 4
11	L11. Graphical models on the webpage, web multimedia and web 360	Refer to the books: 4 & Internet
12 &13	L12. XML & XSLT	Refer to the books: 1, 2, 3, 4
14	L13. Ajax	Refer to the books & internet
15	L15. the existing web frameworks & Review	Refer to the books & internet

Lab sections

- Software:
  - IDE: Netbeans, Eclipse, .Net
  - Web Server: Tomcat GlassFish, PhP
  - DBMS: MySQL
  - *Other frameworks, IDE (option to do project)*

- Working:
  - 12 sections
  - Finish all required exercises for each lab section
  - Attend labs to get advices on your assignments
  - Work hard on your exercises and assignment topics
  - Group project presentation

Assignments

- Working in group, 2 or 3 students/group
- 2 types of topics:
  - Selected topics that are provided by lecturer or your topics
  - Propose your Internship/pre-thesis/thesis topics (for the future)
- Work at home and in the lab sections
- WHAT ARE WE LOOKING FOR?
  - Demonstrate program
  - Report document
  - Implement various database functionalities (input data, query data, update data, search data, etc.,)
  - Present project in the last lab section

Q & A

Thank for your attention!

Research topics

➢ eCommerce sites; ERP sites; DSS, BI or an Expert system
➢ ASP.Net, NodeJS, Djangle, etc.
➢ PhP, Python, or Ruby(Ruby on Rails for web).
➢ Frontend: Javascript, Angular Js/2, React Js
➢ WordPress
➢ Web 3D, WebGL and VRML
➢ Responsive and PWA (progressive web-app)
➢ VR: Virtual reality; AR: Augmented reality for web
➢ Apply VR, AR in Ecommerce, online fashion, etc.
➢ Games online, other entertainments.
➢ ERP application in every fields
➢ Your proposal !