Introduction to CS491/2
Senior Design Project I/II

Sep 21, 2020, Monday

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Course Description

• Capstone **design** project
• **Technical** and **innovative**
• **Group** project
• Emphasizing **engineering design** principles on a specific topic in any field of computer science and engineering
  • **creative** components in design
• Two semesters
Course Description

• Students develop their project idea themselves.
• Opportunity to enhance innovation and entrepreneurship skills.
• You should try to use all knowledge and skills you acquired in your computer engineering education. It is culminating engineering projects.
• There will be a project fair at the end as well.
• There will be awards in different categories. Various companies sponsor them.
Steps of a typical project

Idea → Problem → Analysis → Design → Implementation → Test → Product Solution → Maintenance
Course Work

• CS491
  • Project specification
  • Analysis
  • High level design
  • Oral presentation + demo

• CS492
  • Low level design
  • Final report
  • Oral presentation + demo

Some implementation
  Prototyping
  Learn tools
  Try and See
  Code small pieces

Implementation
Process

- Before submitting project specification
  - **Form a team** of 3, 4, or 5 students
  - Come up with an innovative project idea (**The hardest part**)
    - Identify and formulate a novel problem
  - Develop (novel) initial solution ideas
  - Choose a **supervisor**
  - Supervisor:
    - Assesses the project
      - It is a capstone design project
      - Time and number of members suitable
      - It is innovative
    - Then, assigns you to one of the **Innovation Experts**


Either the problem or the Solution must be novel
Meeting with innovation experts

• Prepare a presentation describing your project
• It should last about 20-30 minutes
• Make an appointment
• Visit the innovation expert
• Present your project
• Ask for suggestions
• Have him/her fill the *Assessment of Innovativeness Form*
Evaluation of Innovativeness

• Innovation expert will fill in the following form:
  • Assessment of Innovativeness Form

• Questions:
  • What is the nature of the innovation in the project?
  • Are there similar products, systems, services, or technologies in the market?
    If there are what are the differences in relevant aspects such as cost, efficiency and usability?
  • Who are the potential users?

• Grade: out of 20. It is 20% of your CS491 grade.
• Return the form to your project supervisor.
Import dates for 2020-2021

• CS491
  • Project Specification: **Oct 12, 2020, Monday.**
  • Analysis Report: **Nov 9, 2020, Monday.**
  • High Level Design Report: **Dec 21, 2020, Monday.**
  • Presentation and Demo: Last week of semester or final exam period

• CS492
  • Low Level Design Report: **Feb 8, 2020, Monday.**
  • Final Report: **April 30, 2020, Friday.**
  • Presentation and Demo: Last week of semester or final exam

• CSFair: Before or after final exams.
Use Iterative Model

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Spec (S) | Alyz A | HLD (D) | LLD (D) | Implement (I) | Test (T) |


S A D I T S A D I T S A D I T S A D I T S A D I T

Requirements → Analysis & Design → Implementation → Deployment

Initial Planning → Evaluation → Testing

from: https://en.wikipedia.org/wiki/Iterative_and_incremental_development

CS491/2 Senior Design Project
CS492 in Fall

• CS491-492 will be offered once per year.
• CS491 in Fall and CS492 in Spring
• Just for Fall 2020, CS492 will be offered for the last time in Fall 2020.
• Dates for CS492:
  • Presentations and demos: last week of semester or final exam week.
  • No CS Fair.
CS Fair 2021

• We will have a project fair, called **CS Fair**, at the end 2020-2021 academic year for 2020-2021 projects.
• Date: last week of Spring 2021 or just after final exams.
• If face-to-face: Bilkent Hotel.
• If online: zoom based organization.
Project web page by each team

• Each team is required to prepare a webpage for their project.
• It should contain:
  • Description of the project
  • Team members, supervisor, jury members, innovation expert.
  • All reports.
  • Screen shots, demo.

• Email the URL of the webpage to course TA by the end of the 3\textsuperscript{rd} week of the semester (Oct 9, 2020).
Seminars

• Meet 1-2 hours per week for seminars.
• This is the first of these seminars.
• Attendance to the seminars is required. There may be a quiz at the end as well.
  • You attendance + quiz performance will be part of your CS491 grade.
• Seminars are only in CS491.
Related Web Pages

• You can find detailed course information, related documents and forms, and what is expect from the following pages:
  • CS491 course webpage:
    • http://www.cs.bilkent.edu.tr/CS491-2/CS491.html
  • CS492 course webpage:
    • http://www.cs.bilkent.edu.tr/CS491-2/CS492.html
  • Details for the current academic year:
    • http://www.cs.bilkent.edu.tr/~cs4912/2020-2021
  • CS Fair webpage:
• Thank you for listening.

• Questions?