Comp 324/424 - Client-side Web Design

Spring Semester 2024 - Course Introduction

Dr Nick Hayward

Course details

Lecturer

- Name: Dr Nick Hayward
- Office hours
  - Monday afternoon by appointment @ WTC
- Faculty Page

Course schedule

Important dates for this semester

- NO class Monday 15th January 2024
- Week 5 - Project outline & mockup presentation
  - due Monday 12th February 2024 @ 4.15pm
- Spring break
  - NO class Monday 4th March 2024
- Week 10 - DEV Week demo & presentation
  - due Monday 18th March 2024 @ 4.15pm
- Week 15 - Final project demo & presentation
  - due Monday 22nd April 2024 @ 4.15pm
- Exam week: 29th April to 4th May 2024
- Final project report
  - due Monday 29th April 2024 @ 4.15pm

Coursework schedule

Presentations, reports &c.

- Week 5 - Project outline & mockup
  - due Monday 12th February 2024 @ 4.15pm
- Week 10 - Dev Week demo & presentation
  - due Monday 18th March 2024 @ 4.15pm
- Week 15 - Final project demo & presentation
  - due Monday 22nd April 2024 @ 4.15pm
- Final project report
  - due Monday 29th April 2024 @ 4.15pm

Initial course plan - part 1

- Build and publish a web app from scratch
  - general setup and getting started
  - maintenance and publication
  - basic development and manipulation (HTML, CSS, JS…)
  - add some fun with Ajax, JSON, server-side…
  - initial testing…

Initial course plan - part 2

- Augment and develop initial app
- Explore other options
  - further libraries and options
  - tools and workflows
  - visualisations, graphics…
  - publish (again…)
- Data options
  - self hosted (MongoDB, Redis…)
  - APIs
  - cloud services, storage (Firebase, Heroku, Mongo…)
  - Project management, build tools &c.

Assignments and coursework

Course will include

- weekly bibliography and reading (where applicable)
- weekly notes, code and app examples, extras…
- weekly videos

Coursework will include

- discussions
  - class and weekly discussion topics
- various exercises, code reviews &c.
- Project outline & mockup
  - due Monday 12th February 2024 @ 4.15pm
- Dev Week demo & presentation
  - due Monday 18th March 2024 @ 4.15pm
- end of semester final assessment
  - final presentation and demo due Monday 22nd April 2024 @ 4.15pm
  - final report due Monday 29th April 2024 @ 4.15pm

Credits available during course

- course participation = 30
- discussions &c. = 5 per discussion
  - ~ 6 discussions during semester
- course project
  - project outline & mockups = 15
  - Dev week = 25

    - final demo & report = 50
- ~ 150 credits total

Participation

Course total = 30

- in-class participation & attendance
- participation in class discussions
- participation in group projects
- peer review of demos
- …

Discussions & exercises

Course total = 5 credits per topic

- discussions
    - sample websites, games, services…
    - design topics, UI and UX concepts
    - topics posted to Sakai Forum
    - ~ 5/6 discussion topics during semester
    - 5 credits per discussion topic
- exercises
    - test course knowledge at each stage
    - help develop course project
- extras
    - peer review of project demos
    - code, application reviews
    - …

Project assessment

Initial overview

- combination project work
    - part 1 = Project outline & mockup - 15 credits
    - part 2 = Dev week demo - 25 credits
    - part 3 = Final demo and report - 50 credits
- group project (max. 4 persons per group)
- design and develop a web app
    - purpose, scope &c. is group's choice
        - **NO** blogs, to-do lists, note-taking…
        - **NO** content management systems (CMSs) such as Drupal, Joomla, WordPress…
        - **NO** PHP, Python, Ruby, C# & .Net, Go, XML…
        - **NO** CSS frameworks such as Bootstrap, Foundation, Materialize…
    - must implement data from either
        - self hosted (MongoDB, Redis…)
        - APIs
        - cloud services, storage (Firebase, Heroku, Mongo &c.)
        - **NO** SQL…e.g. MySQL, PostgreSQL &c.

Project outline & mockup assessment

Course total = 15 credits

- begin development and design of a web application
  - built from scratch
    - HTML5, CSS…
  - builds upon examples, technology outlined during first part of semester
  - purpose, scope &c. is group's choice
  - **NO** blogs, to-do lists, note-taking…
  - presentation should include initial designs, mockups, and any current HTML5 and CSS

Project outline & mockup assessment

Assessment will include the following:

- brief presentation or demonstration of current project work
  - ~ 10 minutes per group
  - analysis of work conducted so far
  - presentation and demonstration…
    - outline initial project idea and concept
    - outline current state of web app concept and design
    - show mockups and designs
    - …
  - due Monday 12th February 2024 @ 4.15pm

Dev week demo & assessment

Course total = 25 credits

- continue development of a web application
  - built from scratch
  - HTML5, CSS, plain JavaScript…
- continue design and development of initial project outline and design
- working app (as close as possible…)
  - **NO** content management systems (CMSs) such as Drupal, Joomla, WordPress…
  - **NO** PHP, Python, Ruby, C# & .Net, Java, Go, XML…
  - **NO** CSS frameworks, such as Bootstrap, Foundation, Materialize…
  - **NO** CSS preprocessors such as Sass…
  - **NO** template tools such as Handlebars.js &c.
- data may be implemented from either
  - self hosted (MongoDB, Redis…)
  - APIs
  - cloud services (Firebase…)
  - **NO** SQL…e.g. (you may **NOT** use MySQL, PostgreSQL &c.)
- outline research conducted
- describe data chosen for application
- show any prototypes, patterns, and designs

Dev week demo & assessment

DEV week assessment will include the following:

- brief presentation or demonstration of current project work
  - ~ 10 minutes per group
  - analysis of work conducted so far
    - e.g. during semester & DEV week
  - presentation and demonstration
    - outline current state of web app
    - explain what works & does not work
    - show implemented designs since project outline & mockup
    - show latest designs and updates
  - due Monday 18th March 2024 @ 4.15pm

Final project assessment

Course total = 50 credits

- continue to develop your app concept and prototypes
- working app
  - **NO** content management systems (CMSs) such as Drupal, Joomla, WordPress…
  - **NO** PHP, Python, Ruby, C# & .Net, Java, Go, XML…
  - **NO** CSS frameworks, such as Bootstrap, Foundation, Materialize…
  - **NO** CSS preprocessors such as Sass…
  - **NO** template tools such as Handlebars.js &c.
  - must implement data from either
    - self hosted (MongoDB, Redis…)
    - APIs
    - cloud services (Firebase &c….)
    - **NO** SQL…e.g. (you may **NOT** use MySQL, PostgreSQL &c.)
- explain design decisions
  - describe patterns used in design of UI and interaction
  - layout choices…
  - what else did you consider, and then omit? (again, why?)
- show and explain implemented differences from DEV week
  - where and why did you update the app?
  - perceived benefits of the updates?
- how did you respond to peer review?

Final project assessment

Assessment will include the following:

- final presentation & demonstration of project work
  - ~ 10 minutes per group
  - analysis of work conducted during semester
  - presentation and demonstration
    - outline state of web app concept and design
    - show final working version of web app
      - explain designs, patterns &c.
      - explain what does and does not work in the final app
      - any other pertinent information on project design & development

  - due Monday 22nd April 2024 @ 4.15pm
- final project report
  - written summary of project design, development, and research
  - no word/page limit…
  - suggested report outline will be provided
  - due Monday 29th April 2024 @ 4.15pm

Goals of the course

A guide to developing and publishing interactive client-side web applications and publications.

Course will provide

- guide to developing client-side web applications from scratch
- guide to publishing web apps for public interaction and usage
- best practices and guidelines for development
- fundamentals of web application development
- intro to advanced options for client-side development
- …

Course resources - part 1

website Course website is available at https://csteach324-424.gitlab.io

- timetable
- course overview
- course blog
- weekly assignments & coursework
- bibliography
- links & resources
- course notes & extra notes
- videos

Course resources - part 2

GitLab

- course repositories available at https://gitlab.com/csteach324-424
  - weekly notes
  - examples
  - source code (where applicable)

Citation and attribution of work

- AI and associated generative tools may be used for project work
  - **n.b.** citation must be provided for any submitted material from such sources
  - e.g. code, documentation &c. generated by ChatGPT or other AI based services
- code submitted from other derived sources must also include an appropriate citation
  - e.g. from articles, websites, other projects, open source projects and repositories &c.
  - …