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Tuesday, September 10, 2024

Exercise #1: Microsite publishing with Github Pages - Due

11:59 PM

Challenge

Using GitHub and its various products (GitHub Pages, and Codespaces), create and publish a simple microsite that demonstrates the fundamental skills in version control and repo management.

Sample submission

- <https://chriskgbc.github.io/sample/>
 - <https://github.com/chriskgbc/sample>
- <https://github.com/chriskgbc/desn3035-e1>
 - <https://chriskgbc.github.io/desn3035-e1/>

Tutorial recording

<https://www.youtube.com/watch?v=VttBvtViZII>

Preparation

- GitHub (<https://github.com/>)
- GitHub Pages (<https://pages.github.com/>)

Deliverable(s)

- **Required:** Public URL of the GitHub repository or the published microsite
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

September 10, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)

Exercise #1: Microsite publishing with Github Pages

 Due September 10 at 11:59 PM

Tuesday, September 17, 2024 

Exercise #2: Plugin integration with React and npm - Due

11:59 PM

Challenge

Based on an existing GitHub repo, extend and modify the React website by using various third-party packages found using npm.

Sample submission

- <https://github.com/chriskgbc/sample2>
- <https://github.com/chriskgbc/desn3035-e2/>

Tutorial recording

<https://youtu.be/RUg-wswG8cw>

Preparation

- Starting point: <https://github.com/chriskgbc/desn3035-e2-template>
- Bootstrap: <https://getbootstrap.com/>
- npm: <https://www.npmjs.com/>
 - React Leaflet: <https://react-leaflet.js.org/>
 - React Player: <https://github.com/cookpete/react-player>
 - Recharts: <https://recharts.org/en-US>
- NextJS: <https://nextjs.org/docs>

Deliverable(s)

- **Required:** Public URL of the GitHub repository. **No GitHub Pages link is expected or required for this submission: just the repo URL.**
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

September 17, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)

Exercise #2: Plugin integration with React and npm

 Due September 17 at 11:59 PM

Tuesday, September 24, 2024



Exercise #3: Forking, database integration, and pull request via GitHub and Supabase - Due 11:59 PM

Challenge

After forking an existing GitHub repo, integrate an external database via Supabase and submit a formal pull request back into the original repo.

Sample submission

- <https://github.com/chriskkim/desn3035-e3>
 - <https://github.com/chriskgbc/desn3035-e3-template/pull/3>

Notes

Our on-site exercise experience was cut short due to the GBC network misclassifying our Supabase URLs as suspected malware. I recorded a follow-up tutorial on my personal hotspot to close the loop, but one should consider Part 2 optional. The GBC Helpdesk has been notified of this matter.

Tutorial recordings

- Initial exercise: <https://youtu.be/jMrZ11brRig>

- Separate follow-up for Bootstrap integration:
<https://youtu.be/EmxtZcKtbD0>

Preparation

- Starting point: <https://github.com/chriskgbc/desn3035-e3-template>
- Supabase: <https://supabase.com/>
 - Use Supabase with React:
<https://supabase.com/docs/guides/getting-started/quickstarts/reactjs>
- Markdown: <https://www.markdownguide.org/>
 - Letterform: <https://letterform.app/>

Deliverable(s)

- **Required:** Public URL of the GitHub repository or the Pull Request URL.
No GitHub Pages link is expected or required for this submission.
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

September 24, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)



Exercise #3: Forking, database integration, and pull request via GitHub and Supabase



Due September 24 at 11:59 PM

Tuesday, October 1, 2024

Assignment 1: Simple HTML/CSS website via GitHub Pages - Due

11:59 PM

Objective

Students will be asked to develop and deploy a simple HTML and CSS based website (featuring at least three pages) using GitHub Pages, building upon their experience with Exercise #1. You are welcome to use third-party design software such as Webflow.

***Addendum:** You should NOT use React or npm as part of this assignment, as those should be reserved for Assignment 3. Please focus on simple HTML and CSS, as well as the materials covered during Exercise 1.

Deliverable

- Public URL of the completed website hosted by GitHub Pages
- Public URL of the corresponding GitHub repository

Additional Notes

15% assigned per valid submission

This assignment is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing and validity of submitted entry.

Criteria

- Experience (5%)
 - Each page must include its own title and its own description
 - Technical formatting of the page must adhere to best practices of prototype design
 - Images must be sized appropriately
 - Proper use of images, links, and other media elements
 - Writing skills, grammar, spelling, style etc.
 - The content is well written and does not have spelling or grammatical errors
 - The content is well formatted and considers punctuation, readability, typography, etc.
- Functionality (5%)
 - All links work as expected and lead to the appropriate screen
 - There are no "screen-not-found" errors

- Links click to the page they are referring to
- Forms, search, music playing or other special functionality works as expected
- Images load fast
- Design (5%)
 - Orientation: Users will always know where they are in the prototype
 - Interaction: Users will always know how to navigate through the prototype
 - Target market and demographic
 - Screen size and resolution
 - Visual balance, composition, colour theory and artistic expression
 - Consideration of visual hierarchy, elements and principles of design

Inspiration

- <https://github.com/collections/github-pages-examples>
- <https://www.awwwards.com/websites/bootstrap/>
- <https://onepagelove.com/>
- <https://webflow.com/made-in-webflow/microsite>

Deadline

October 1, 2024 at 11:59PM (tentative)

(Fixed penalty of 10%, equivalent to 1.5% of the final grade, for late submission

Assignment 1: Simple HTML/CSS website via GitHub Pages

 Due October 1 at 11:59 PM

Concept Quiz #1 (Covering Weeks 1 to 3) - Due

11:59 PM

Concept Quiz #1 (Covering Weeks 1 to 3)

 Due October 1 at 11:59 PM  Starts Sep 24, 2024 2:00 PM Ends Oct 11, 2024 11:59 PM

Tuesday, October 15, 2024 

Exercise #4: Next.js initialization, page modularization, and GitHub Pages deployment - Due
11:59 PM

Challenge

Using the provided HTML page as a starting point, experiment with 1) spinning up a brand new Next.js page from scratch, 2) modularizing the page into reusable components, and 3) deploying to live via GitHub Pages.

Sample submission

- <https://github.com/chriskgbc/desn3035-e4>
- <https://chriskgbc.github.io/desn3035-e4/>

Tutorial recordings

<https://youtu.be/gPZCMPJbESE>

Scenario

"We just received a completed HTML page from our vendor. Do you think you can convert this work to React/Next.js and share the repo with us? It would be great to see if you can test deployment as well."

Preparation

- NextJS
 - <https://nextjs.org/docs/getting-started/installation#manual-installation>
 - <https://nextjs.org/docs/pages/api-reference/components/link>
 - <https://nextjs.org/docs/app/building-your-application/deploying/static-exports#configuration>
- Additional tips
 - <https://github.com/gregrickaby/nextjs-github-pages>
- Starting point:
<https://code.schoolofdesign.ca/public/chris.kim@georgebrown.ca/desn3035-t4>

Deliverable(s)

- **Required:** Public URL of the GitHub Pages website or the GitHub repository.
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

October 15, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)



Exercise #4: Next.js initialization, page modularization, and GitHub Pages deployment



Due October 15 at 11:59 PM

Tuesday, October 29, 2024



Exercise #5: Browser automation and report generation via GitHub Actions - Due

11:59 PM

Follow-up Discussion

Having a "no usable sandbox issue"? It turns out the issue had to do with the fact that the latest version of Ubuntu on GitHub Actions ("ubuntu-latest") randomly fluctuates between 22.04 and 24.04, where 24.04 is incompatible with our work.

This can be solved by updating your YAML file to use "ubuntu-22.04" explicitly:
<https://github.com/chriskgbc/desn3035-e5/commit/49831573b372ad9d816f7dd983a5fe65c749ea00>

Challenge

Using the provided GitHub repo as a starting point, experiment with 1) browser automation with Puppeteer and Lighthouse and 2) GitHub Actions pipeline with a brand new workflow file.

Sample submission

<https://github.com/chriskgbc/desn3035-e5>

Tutorial recordings

<https://youtu.be/lznTDECMwLQ>

Scenario

"Our website repo is complete and set to deploy automatically, but it would be great to generate a Google Lighthouse report each time somebody pushes a commit. Do you think you can handle that with a new GitHub Actions workflow?"

Preparation

- Starting point: <https://github.com/chriskgbc/desn3035-e5-template>
- Google Puppeteer: <https://pptr.dev/>
- Google Lighthouse: <https://github.com/GoogleChrome/lighthouse?tab=readme-ov-file#using-the-node-module>
- ChatGPT (optional): <https://chatgpt.com/>
 - Prompt #1: "Write a GitHub Actions workflow that I can manually trigger to 1) fetch repo content, 2) run npm i, 3) run scripts/main.mjs, and 4) archive the artifacts."
 - Prompt #2: "Make it run automatically when another workflow is completed"

Deliverable(s)

- **Required:** Public URL of the GitHub repository.
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

October 29, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)



Exercise #5: Browser automation and report generation via GitHub Actions



Due October 29 at 11:59 PM

Tuesday, November 5, 2024



Assignment 2: Open-source project contribution via GitHub Issue / Pull Request - Due
11:59 PM

Objective

Students will be asked to browse existing open source projects on GitHub / npm and demonstrate their ability to interact with the wider community. One can contribute to a select project by either 1) reporting an apparent issue and/or 2) submitting a pull request that improves upon the project or fixes an apparent bug.

Thereafter, students will individually write a short (~500 words or longer as applicable) report that provides a critical and reflective analysis of their experience in contributing to open source projects. Descriptive and reflective in nature, this report may also explain the student's original intent and relevant inspirations, while examining the open source contribution in relation to the current state of the industry.

Deliverable

- Public URL of the open source contribution(s)
- Text document (ex. PDF)

Additional Notes

15% assigned per valid submission

This assignment is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing and validity of submitted entry.

Criteria

- Completeness and relevance of the open source contribution (5%)
- Insights, strategies, and reflections derived from the experience (5%)
- Rigour, style, and etiquette evident in contribution and reflection (5%)

Reference

Examples of Reflective Writing: <https://student.unsw.edu.au/examples-reflective-writing>

Tips in Writing a Reflective Statement:

<https://www.examples.com/business/tips-in-writing-reflective-statement.html>

Deadline

November 5, 2024 at 11:59PM (tentative)

(Fixed penalty of 10%, equivalent to 1.5% of the final grade, for late submission



Assignment 2: Open-source project contribution via GitHub Issue / Pull Request



Due November 5 at 11:59 PM

Concept Quiz #2 (Covering Weeks 4 to 7) - Due 11:59 PM

Concept Quiz #2 (Covering Weeks 4 to 7)



Due November 5 at 11:59 PM

Starts Oct 29, 2024 2:00 PM

Ends Nov 5, 2024 11:59 PM

Tuesday, November 19, 2024



Exercise #6: Markdown-to-PDF and automatic release via GitHub Actions - Due 11:59 PM

Prompt for ChatGPT

Based on the following YAML file, create a new GitHub Actions job that:

- 1) Create a new release with a randomly generated tag name
- 2) Download the artifact called "docs" from the previous job
- 3) List the downloaded files recursively
- 4) Upload the artifact to the release

{contents of the convert.yml}

Confirmed YAML

<https://github.com/chriskgbc/desn3035-e6/blob/main/.github/workflows/convert.yml>

Challenge

Using the provided GitHub repo as a starting point, 1) experiment with Markdown syntax and automatic PDF export and 2) establish an automatic release pipeline via GitHub Actions.

Sample submission

<https://github.com/chriskgbc/desn3035-e6>

Tutorial recordings

<https://youtu.be/HrPoCKXm9DQ>

Scenario

"We would like to automatically generate the PDF document based on the up-to-date Markdown file. Do you think you can address a couple of editorial fixes and establish the automation pipeline?"

Preparation

- Starting point: <https://github.com/chriskgbc/desn3035-e6-template>
- Markdown
 - Syntax: <https://www.markdownguide.org/basic-syntax/>
 - Table generator:
https://www.tablesgenerator.com/markdown_tables
- GitHub Actions
 - Markdown to PDF: <https://github.com/BaileyJM02/markdown-to-pdf>
 - Marketplace: <https://github.com/marketplace>
- ChatGPT: <https://chat.openai.com/>

Deliverable(s)

- **Required:** Public URL of the GitHub repository.

- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

November 19, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)

Exercise #6: Markdown-to-PDF and automatic release via GitHub Actions

 Due November 19 at 11:59 PM

Tuesday, November 26, 2024 

Bonus Exercise: Cloud server deployment via Linode - Due

11:59 PM

Code Snippets for /etc/nginx/sites-available/default

SSL certificate implementation (for encrypting data and activating HTTPS access)

```
listen 443 ssl default_server;
listen [::]:443 ssl default_server;
ssl_certificate /root/desn3035-eb/ssl/cert;
ssl_certificate_key /root/desn3035-eb/ssl/key;
```

Proxy pass (for rerouting HTTP and HTTPS web connection)

```
proxy_pass http://localhost:3000;
```

Challenge

Using the provided GitHub repo as a starting point, 1) establish a new cloud server, 2) edit appropriate DNS records, and 3) launch the website for public access.

Sample submission

<https://chrisk.textflora.com/>

Tutorial recordings

https://youtu.be/YihA0HJRX_M (added timestamps for ease of navigation)

Scenario

"We have a new website ready to be deployed for public access, and I would like you to spin up a new Linux server to host it. Do you think you can also tie the server to an existing domain and install an SSL certificate as well?"

Preparation

- Starting point: <https://github.com/chriskgbc/desn3035-eb-template>
- Linode: <https://cloud.linode.com/>
 - Main credentials
 - (Check your GBC inbox)
 - (Will need a valid phone number for SMS verification)
 - Backup credentials #1A
 - ID: gbc_shared
 - PW: 3y6hW3SVqrykd\$!
 - Backup credentials #1B
 - ID: gbc_shared2
 - PW: LBADtjn.Jx3H
 - Backup credentials #2A (created for emergency; avoid using it if possible)
 - ID: gcc_shared
 - PW: 3y6hW3SVqrykd\$!
- NodeJS: <https://nodejs.org/en/download/package-manager>

Deliverable(s)

- **Required:** Public URL of the website.
- **Required:** Accompanying discussion (approximately 50 to 100 words) detailing your experience: what was challenging? what did you find fascinating? where else would you apply these techniques?

Evaluation

5% assigned per valid submission

This exercise is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing, presence of accompanying discussion, and validity of submitted entry.

Due date

November 26, 2024 at 11:59PM

(Fixed penalty of 10%, equivalent to 0.5% of the final grade, for late submission)

Bonus Exercise: Cloud server deployment via Linode

 Due November 26 at 11:59 PM

Tuesday, December 3, 2024

Concept Quiz #3 (Covering Weeks 9 to 12) - Due 11:59 PM

Concept Quiz #3 (Covering Weeks 9 to 12)

 Due yesterday at 11:59 PM  Starts Nov 26, 2024 2:00 PM Ends Dec 6, 2024 11:59 PM

Tuesday, December 10, 2024

Assignment 3: Complex framework-based website via React - Due 11:59 PM

Objective

Building upon our experience with React / Next.JS and npm, students will be asked to develop and deploy a React-based website using GitHub Pages. You are encouraged to reuse assets from your past submissions in and out of this course.

Deliverable

- Public URL of the corresponding GitHub repository

Additional Notes

25% assigned per valid submission

This assignment is designed for open-ended exploration and experimentation, but will be subject to potential penalty based on submission timing and validity of submitted entry.

Criteria

- **Project documentation (5%)**
 - README: Clear, concise instructions on setting up, running, and deploying the project; details about required dependencies, how to install them, and any configurations necessary for local development
- **Functionality and feature completeness (5%)**
 - Core feature: Essential features implemented and functional; core user flows are smooth and error-free
- **User experience and visual design (5%)**
 - UI consistency: Consistent design, adhering to a defined color scheme, typography, and layout; adapts well to different viewports, from mobile to desktop; easy to navigate, with clear labeling and placement of menus, buttons, and links.
- **Code quality and maintainability (5%)**
 - Modularity and reusability: Code is well-organized into modular, reusable components; focusing on a specific task and avoiding duplication
- **Deployment workflow and automation pipeline (5%)**
 - Continuous Integration (CI): CI pipeline (e.g., GitHub Actions) to automate testing and code linting on every pull request or code push; automated workflow to build and deploy the app on each commit to the main branch

Deadline

December 10, 2024 at 11:59PM (tentative)

(Fixed penalty of 10%, equivalent to 2.5% of the final grade, for late submission

Assignment 3: Complex framework-based website via React

 Due December 10 at 11:59 PM

