



Software Quality: Final Project Progress Report

Software Quality Test of Interview Prep Notebook

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INTRODUCTION	2
RESOURCE PAGE	2
EXPANDED QUESTION BANK	7
INTERACTIVE IMPROVEMENTS	8
REACTIVITY IMPROVEMENTS	9

INTRODUCTION

This report will summarize our group's efforts and strategies in regards to the improvements and tests we will add to and run on the system to optimize the 'handbooks' overall quality. The primary areas which will be improved or expanded are the resources page, the interactivity of the website as a whole, the usability and style of the navigation menu, improving the scaling of the page to make it more usable on mobile devices and finally expanding the question bank for the interview practice section.

Firstly a resource page will be added to the website, this page will consist of useful links to highly rated websites to help further the end users overall understanding on any covered topic. Next the website's reactivity and navigability will be improved, currently hosting many short webpages the website could improve navigation by leading one page into the next or prior by the addition of a next or last section button. Next the website can be better optimized if the navigation window were collapsible, given the content of the page takes up less than 50 % of the available space the collapsable menu would allow the content of the page to be more easily read and better fit the user's screen. In hand with the collapsible menu the pages scaling to mobile or vertical displays can be improved by editing the pages scaling features. Finally an expanded question bank would provide the user further insight into the interview progress and make the web page more impactful. Through these improvements we believe the usability of the webpage will increase drastically.

RESOURCE PAGE

Description

This task is based upon creating a new web page that would function as a reference to all the existing information on the website as well as curating a list of relevant external resources. Resource pages serve as a concentrated web page to more easily find references to material that a user may be looking for. The resources would include extra practice interview questions, algorithm explanations, behavioral questions, and other relevant technical interview, and general software resources.

Purpose

With all the various resources that the Tech Interview Handbook has, there is no centralized page with all of the information. By having the information in one place that is easily accessible it is much more convenient to find the information which is being searched for. This feature would greatly aid repeat users that already know what resource they want to further develop as well as more experienced software engineers looking to brush up on a specific technical interview skill.

Affected Fields

```

1 module.exports = {
2   docs: [
3     {
4       Preface: ['introduction', 'landscape'],
5     },
6     {
7       'Step 1: Prepare a FAANG-ready resume': [
8         'resume/guide',
9         'resume/ats-proof-template',
10        'resume/write-effective-content',
11        'resume/optimize-resume',
12        'resume/free-tools-to-review-resume',
13        'resume/final-tips',
14      ],
15    },
16    {
17      type: 'category',
18      label: 'Step 2: Ace the interview',
19      collapsed: false,
20      items: [
21        {
22          'Interview formats': [
23            'interview-formats',
24            'interview-formats-top-companies',
25          ],
26        },
27        'self-introduction',
28        {
29          'Coding interviews': [
30            'coding-interview',
31            'picking-a-language',

```

Code containing the sidebar will have to be edited to include a redirect to the resource page

File/Folder	Contents	Last Commit
..		
_courses	contents: mention discount for AlgoMonster	21 days ago
algorithms	contents: reorganize algorithms section	last month
resume	contents: optimize build speed	6 days ago
behavioral-interview.md	misc: change Exponent URLs	25 days ago
behavioral-questions.md	contents: make title casing consistent	last month
best-coding-interview-courses.md	contents: introduce some Educative interview courses	14 days ago
best-practice-questions.md	contents: switch Trie question to be before Add and Search Word	17 days ago
cheatsheet.md	contents: improve SEO of coding interview pages	last month
choosing-between-companies.md	contents: complete company culture section	29 days ago

The web page itself will be added to the contents folder

```

1 import React from 'react';
2 import classnames from 'classnames';
3 import Layout from '@theme/Layout';
4 import BrowserOnly from '@docusaurus/BrowserOnly';
5 import useDocusaurusContext from '@docusaurus/useDocusaurusContext';
6 import useBaseUrl from '@docusaurus/useBaseUrl';
7 import styles from '../styles.module.css';
8
9 import successStories from '../data/successStories';
10
11 const BLIND_75_URL =
12   'https://www.teamblind.com/post/New-Year-Gift---Curated-List-of-Top-75-LeetCode-Questions-to-Save-Your-Time-QaW1orEU';
13 const BLIND_OFFER_NUMBERS_URL =
14   'https://www.teamblind.com/post/Sharing-my-offer-numbers-from-big-companies-for-your-reference-yNgqUPQR';
15
16 const FEATURES = [
17   {
18     title: <> Go From zero to hero</>,
19     description: (
20       <>
21         Go from zero to tech interview hero with this handbook. No prior
22         interview experience needed.
23       </>
24     ),
25     link: '/introduction',
26   },
27 ];

```

The main index.js file will need an extra section for a redirect to the resource page and a reference to actually serve the web page

```

1 module.exports = {
2   title: 'Tech Interview Handbook',
3   tagline: 'Free curated interview preparation materials for busy people',
4   url: 'https://www.techinterviewhandbook.org',
5   baseUrl: '/',
6   trailingSlash: true,
7   favicon: 'img/favicon.png',
8   organizationName: 'yangshun',
9   projectName: 'tech-interview-handbook',
10  themeConfig: {
11    announcementBar: {
12      id: 'algomonster', // Increment on change
13      content: 'Stop the grind and study with a plan! Developed by Google engineers,
14        <a href="https://shareasale.com/r.cfm?b=1873647&u=31147538&m=114505&urllink=8afftrack" target="_blank" rel="noopener">AlgoMonster</a> is the fastest way to get
15        <a href="https://shareasale.com/r.cfm?b=1873647&u=31147538&m=114505&urllink=8afftrack" target="_blank" rel="noopener">Join today for a 70% discount!</a>',
16      isCloseable: false,
17    },
18    prism: {
19      theme: require('prism-react-renderer/themes/github'),
20      darkTheme: require('prism-react-renderer/themes/dracula'),
21    },
22    navbar: {
23      title: 'Tech Interview Handbook',
24      logo: {
25        alt: '',
26        src: 'img/logo.svg',
27      },
28      items: [
29        {
30          label: 'Start reading',

```

The URL for the web page will be added to the config file

Test Cases

Test 1. Ensure that links redirect to the correct internal or external web page. This can be automated given we have some sort of data structure that holds the URLs and we can ensure that it is the correct website and that it redirects to a working website using HTTPS requests to the destination URL.

Test 2. Content and formatting tests will have to be manually done each time the resource page is updated to ensure nothing breaks.

COLLAPSIBLE MENU

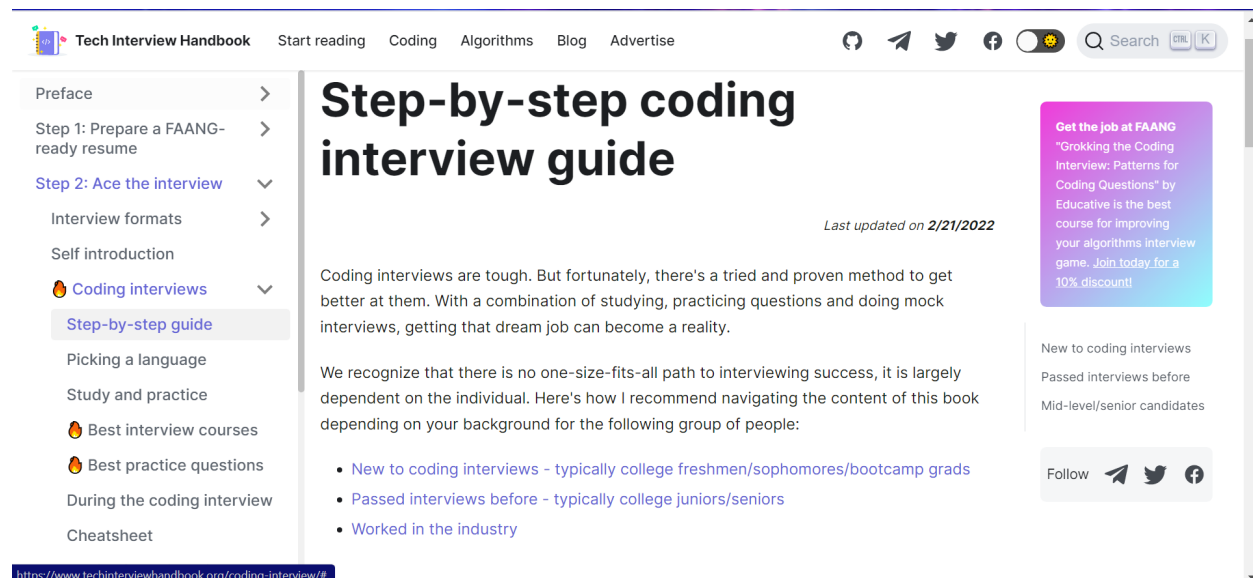
Description

This task would involve creating a separate navbar function for the website to collapse the side menu. The website currently operates with a sticky navbar at the top of the page, which stays displayed at the top no matter how far the page you scroll. There is currently a side menu that takes up one quarter of the screen and can only be resized when the page is extremely zoomed in. As this is inconvenient for many users who might be using a small screen, as they may want to have more information displayed but do not want to adjust their browsers zoom settings in order to block out the side menu. Our proposed solution is making the side menu a closable feature entailing no matter what size screen is in use, the information will be more accessible while still being navigable.

Purpose

The side menu of the website is extremely important for navigation, but takes up too much room on the page with little to no flexibility to be adjusted by users. By adding a simple dropdown menu to display the menu, users can choose when to open and close it as they see fit, as well as continue to have it available for navigation.

Affected Fields



Current view of the website, with no way to change the side menu



150% zoom, side menu gets moved into a hamburger menu

```

--
11     'resume/optimize-resume',
12     'resume/free-tools-to-review-resume',
13     'resume/final-tips',
14 ],
15 },
16 {
17   type: 'category',
18   label: 'Step 2: Ace the interview',
19   collapsed: false,
20   items: [
21     {
22       'Interview formats': [
23         'interview-formats',
24         'interview-formats-top-companies',
25       ],
26     },
27     'self-introduction',
28     {
29       '🔥 Coding interviews': [
30         'coding-interview',
31         'picking-a-language',
32         'study-and-practice',
33         'best-coding-interview-courses',
34         'best-practice-questions',
35         'during-coding-interview',
36         'cheatsheet',
37         'coding-signals',
38         'mock-interviews',
39       ],

```

Affected code would involved allowing the hamburger menu to be selectable immediately and changing the size of the navbar to fit all screen sizes with the newly added menu

Test Cases

Hamburger Menu Functions: When a user loads into the page, the side menu should be collapsible into a small hamburger menu that fits in or under the sticky navbar.

Test would 100% pass if the menu shrinks down on button click and renders properly.

Menu open: If the side menu is collapsed, the menu will open on button click

Tests will pass 100% if the button opens the sidebar menu with all items rendered inside properly.

Menu Speed: If the side menu is currently closed, it should open at a suitable speed to be easy on the user's eyes

Tests will 100% pass if the sidebar opens on hamburger click.

EXPANDED QUESTION BANKDescription

This task would entail the addition of a quiz styled question bank which would give the user an option to practice their responses (in multiple choice format) to potential questions which may be asked by an interview during a software or technological interview. These questions would range from coding questions related to finding error or testing the user's knowledge of a specific language, questions which would test the user's knowledge of the software development process, as well as preparing for behavioral and more personal questions which could catch an unprepared professional off guard.

Purpose

By adding a quiz function to help users prepare further the website improves its usability to the end user as well as becoming a more robust program which could attract further end users.

Affected Fields

File/Folder	Commit Hash	Description	Time Ago
yangshun	contents: optimize build speed	250e643	6 days ago
..			
_courses	contents: mention discount for AlgoMonster		21 days ago
algorithms	contents: reorganize algorithms section		last month
resume	contents: optimize build speed		6 days ago
behavioral-interview.md	misc: change Exponent URLs		25 days ago
behavioral-questions.md	contents: make title casing consistent		last month
best-coding-interview-courses.md	contents: introduce some Educative interview courses		14 days ago
best-practice-questions.md	contents: switch Trie question to be before Add and Search Word		17 days ago
cheatsheet.md	contents: improve SEO of coding interview pages		last month
choosing-between-companies.md	contents: complete company culture section		29 days ago

A new file will be added to the page folder which contains the quiz page

master tech-interview-handbook / website / sidebar.js / <> Jump to

yangshun contents: add best coding interview courses page ✓ Latest commit 2004a10 on Feb 6 History

1 contributor

Executable File 96 lines (96 sloc) 2.34 KB

```

1 module.exports = {
2   docs: [
3     {
4       Preface: ['introduction', 'landscape'],
5     },
6     {
7       'Step 1: Prepare a FAANG-ready resume': [
8         'resume/guide',
9         'resume/ats-proof-template',
10        'resume/write-effective-content',
11        'resume/optimize-resume',
12        'resume/free-tools-to-review-resume',
13        'resume/final-tips',
14      ],
15    },
16    {
17      type: 'category',
18      label: 'Step 2: Ace the interview',
19      collapsed: false,
20      items: [
21        {
22          'Interview formats': [
23            'interview-formats',
24            'interview-formats-top-companies',
25          ],
26        },
27        'self-introduction',
28        {
29          'Coding interviews': [
30            'coding-interview',
31            'picking-a-language',

```

Code contained in the sidebar will be altered to include a link to a test page

master tech-interview-handbook / website / docusaurus.config.js / <> Jump to

yangshun contents: optimize build speed ✓ Latest commit 258e643 6 days ago History

2 contributors

Executable File 201 lines (201 sloc) 5.55 KB

```

1 module.exports = {
2   title: 'Tech Interview Handbook',
3   tagline: 'Free curated interview preparation materials for busy people',
4   url: 'https://www.techinterviewhandbook.org',
5   baseUrl: '/',
6   trailingSlash: true,
7   favicon: 'img/favicon.png',
8   organizationName: 'yangshun',
9   projectName: 'tech-interview-handbook',
10  themeConfig: {
11    announcementBar: {
12      id: 'algonster', // Increment on change
13      content: 'Stop the grind and study with a plan! Developed by Google engineers,
14      <a href="https://shareasale.com/r.cfm?b=1873647&u=3114753&m=114505&urllink=safftrack" target="_blank" rel="noopener">AlgoMonster</a> is the fastest way to get
15      <a href="https://shareasale.com/r.cfm?b=1873647&u=3114753&m=114505&urllink=safftrack" target="_blank" rel="noopener">Join today for a 70% discount!</a>',
16      isCloseable: false,
17    },
18    prism: {
19      theme: require('prism-react-renderer/themes/github'),
20      darkTheme: require('prism-react-renderer/themes/dracula'),
21    },
22    navbar: {
23      title: 'Tech Interview Handbook',
24      logo: {
25        alt: '',
26        src: 'img/logo.svg',
27      },
28      items: [
29        {
30          label: 'Start reading',

```

A URL for the new quiz page will be added to the config file

Test Cases

Test 1. The Correct question number coordinates to the correct question, although questions will be proceeded in a random order their identifier key will remain the same and it must be ensured that each question property equals its key. This test would be accepted by 100% pass rate of expected keys to questions.

Test 2. The Correct Answer matches its correct identifier key. This test will be run with the same desired outcome as 'Test 1' and for the same purpose.

Test 3. The correct answer correlates to the correct question as each question and answer have been tested to ensure they have their proper identifier. This test can be completed by comparing the identifier of the question and answer and ensuring they are the same. This test will return successful if 100% of the questions return the correct answer.

Test 4. The user has the option to select any of the possible answer options for each question. This will ensure that all answer options are available to the end user. The passing criteria for the test would be that when given the corresponding input (A, B, C, D) the answer which related to that question and that answer boolean will switch from false to true.

Test 5. The user will receive a correct mark when they enter the correct answer. This test will pass as by whenever the user enters the correct answer their score will increment by 1.

Test 6. When the user enters the wrong answer their score will not increase. The test will pass when all incorrect inputs for a question have been attempted and the user's score is not incremented.

INTERACTIVE IMPROVEMENTS

Description

This task will add an additional nav button for backward navigation from one page to another. The nav button will be implemented beside the forward button near the bottom of the page and will have its text updated to display the previous pages heading. The nav button will also dynamically resize to best fit the user's display sizes improving the website's portability from computer display to mobile.

Purpose

Currently there is only one nav button which only supports forward traversal from one heading to the next. A backward page traversal button will allow users on mobile to have easier navigation when using their phone with one hand. This will also allow for users on desktop to move more easily with less mouse movement. Finally this would improve the web pages usability while the hamburger navigation system is minimized.

Affected Fields

[illegible]

The new nav button will be added to the body of the effect html pages

Test Cases

Test 1. Testing rendering. This will test the button being rendered properly and that it is properly aligned with the rest of the webpage. This will also check for overlapping and proper adjustments when screen size is changed or when the application is being used on a mobile device versus a desktop. The input will be the information used for rendering the nav button while the output will be any visual issues related to the nav buttons implementation. The test will pass when all visual errors have been resolved.

Test 2. Testing for activation and redirection. This will test if the button is clickable/acts as a button that the user can interact with and use and a navigation input. This will also test the button's redirection to the next proper page. Even though this is an easy task it can still be very easy for us to make mistakes since there are well over 20 files that will be affected. The button will be automated to display the prior page in the nav hierarchy upon an input. the input will be an automated process simulating a click on the forward or backward button, the output will be the correct new page (one prior or one further in the nav hierarchy depending on the input). This will pass if the page redirects to the correct next/ prior page that was stated before for forward or backward nav buttons.