



# IDE - Chrome Developer Tools

---

Hannah Culver



# Task 1: Website Analysis

---

# Google (www.google.com)

---



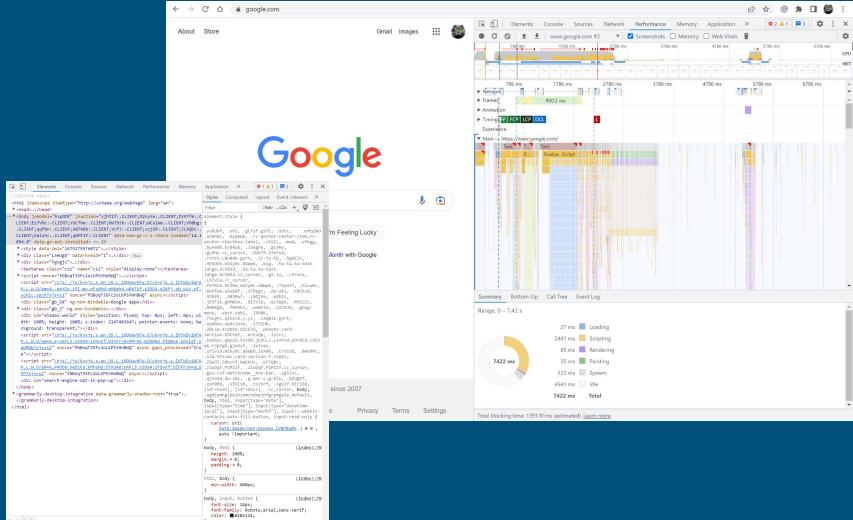
**composition:** simple and intuitive structure (keyboard focusable search bar, buttons and links, etc.)

**performance:** 7422 ms total (27 ms spent loading)

**network usage:** no throttling

**source code readability:** not too long (html format)

**JavaScript syntax correctness:** .js file only 3 lines?



# Amazon (www.amazon.com)

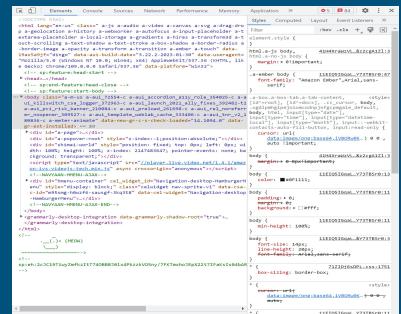
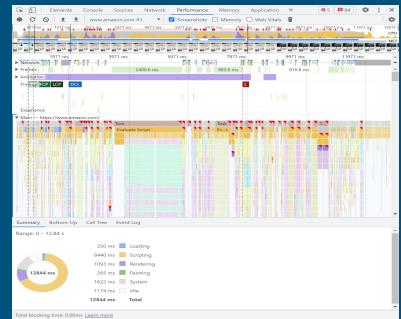
**composition:** similar to google (search bar) + lots of interactive (targeted) ads

**performance:** 12844 ms total (250 ms spent loading)

**network usage:** no throttling

**source code readability:** little easter egg of a duck saying meow

**JavaScript syntax correctness:** <script type="text/javascript"> in (index) file



Ohio University ([www.ohio.edu](http://www.ohio.edu))

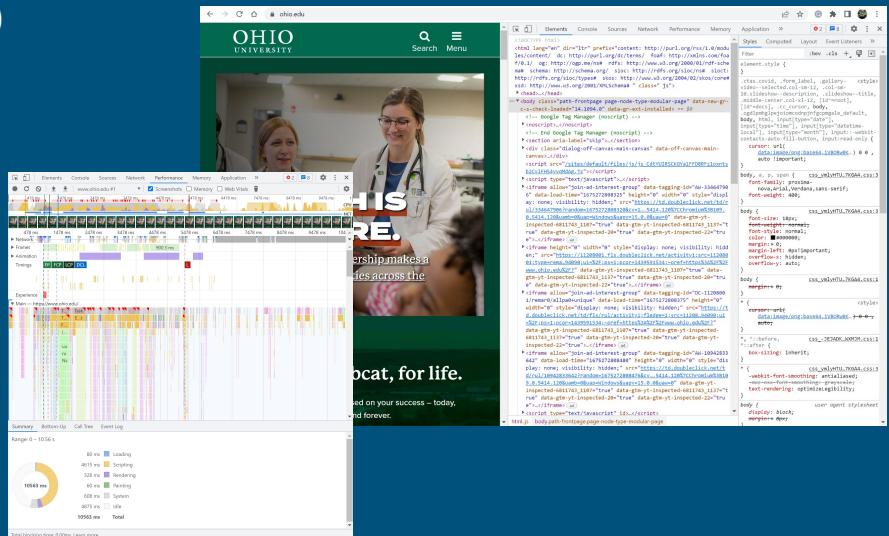
**composition:** big header picture followed by lots more info about the university (stats, how to enroll...)

**performance:** 10563 ms total (80 ms spent loading)

## **network usage:** no throttling

## **source code readability: nice and neat**

## JavaScript syntax correctness: well-commented





# Blackboard (blackboard.ohio.edu)

**composition:** institution page with announcements

**performance:** 15185 ms total (290 ms spent loading)

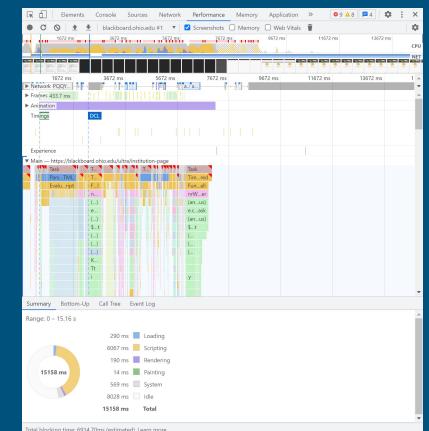
**network usage:** no throttling

**source code readability:** fairly readable

**JavaScript syntax correctness:** 2 lines (minified)



```
html, body { font-family: "Open Sans", sans-serif; font-size: 14px; margin: 0; padding: 0; }
body { color: #2e3236; font-size: 0.875em; font-style: normal; font-weight: 400; line-height: 1.5; background-color: #f5f5f5; }
body, input, button { font-family: "Open Sans", "Helvetica Neue", Helvetica, Arial, sans-serif; font-size: 1em; font-weight: 400; line-height: 1.5; }
body { font-size: 1em; line-height: 1.5; }
body { font-size: 1em; line-height: 1.5; }
```



# Duolingo (www.duolingo.com)



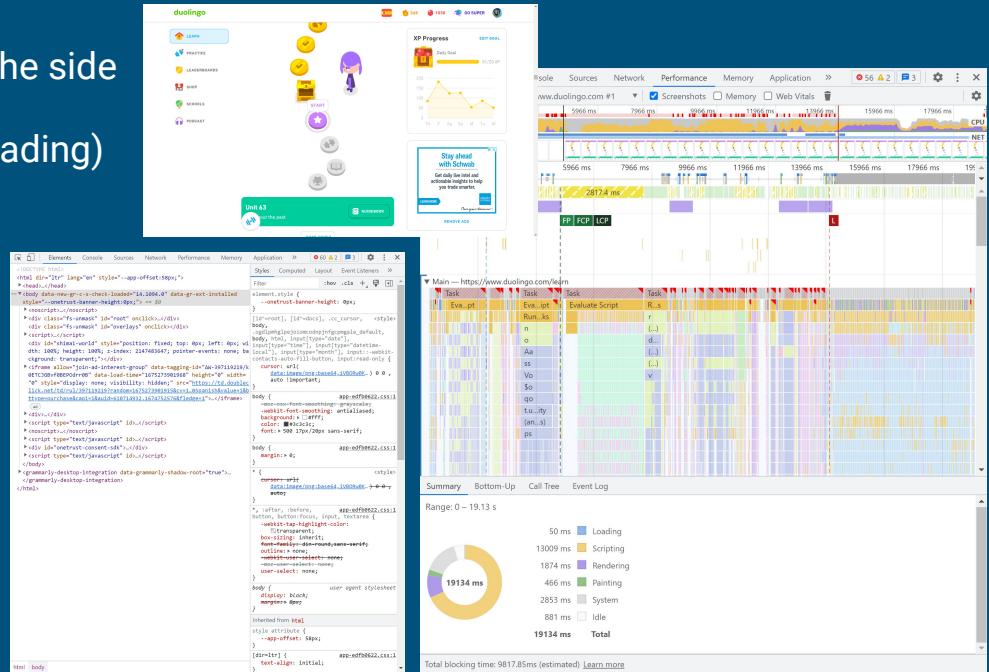
**composition:** roadmap design with menu on the side

**performance:** 19134 ms total (50 ms spent loading)

**network usage:** no throttling

**source code readability:** pretty short

**JavaScript syntax correctness:** 1 line (learn)



# Question 1

---

**How do the web page/app structure and components differ among the five websites?**

Google is the most minimalist and basic-appearing website, as its primary function is just to execute searches made by the user. Amazon is a bit more complex because it displays certain advertisements based on the user's past interaction with the application.

Both Ohio University and Blackboard are school-related websites, however Blackboard has a personalized account associated with each and every student.

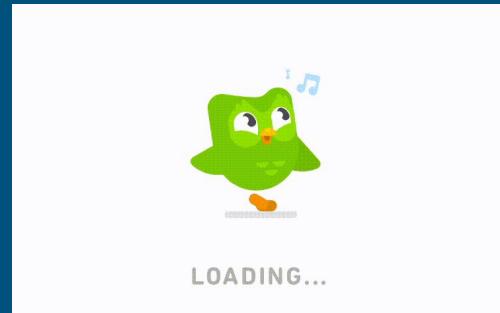
Duolingo is similar to a game, with “levels” that you are meant to complete in order to learn a language.

# Question 2

---

**How does the site perform differently on a slow computer with slow networking connections versus on a fast computer with fast networking connections?**

Duolingo takes a lot longer to load up the current lesson on a slow computer. The slower the network, the longer you will see the loading screen before you are taken to the actual lesson you have selected.



# Question 3

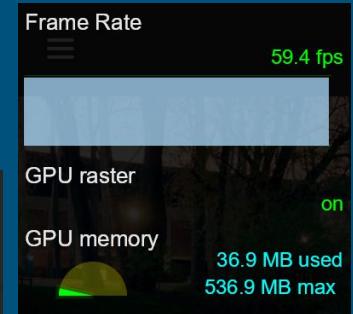
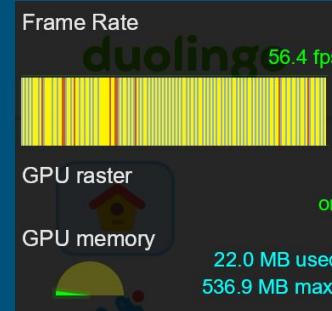
---

**How do the frame rates of those two sites compare when there is not enough CPU/GPU resource to ensure good user experience?**

Blackboard: 59.4 fps (static webpage, changes when scrolling or when next to pics)

Duolingo: 56.4 fps (character animations, begins to lag once the frame rate lowers)

Blackboard runs at a slightly higher frame rate (3.0 fps faster).



# Question 4

---

## Why does this all matter?

Faster websites are better for businesses and ensure that the user does not get bored and click away.

It is also important to keep in mind when designing a website the aesthetic of a site but at the same time find a balance between the number of components being displayed and run-time performance.

Think... what exactly is the purpose of the website?

Is there room for optimization? And if so, how can it be further optimized?



# Task 2: Breakpoint Debugging

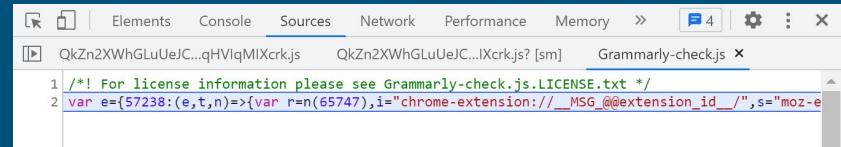
---

# Debugging Google



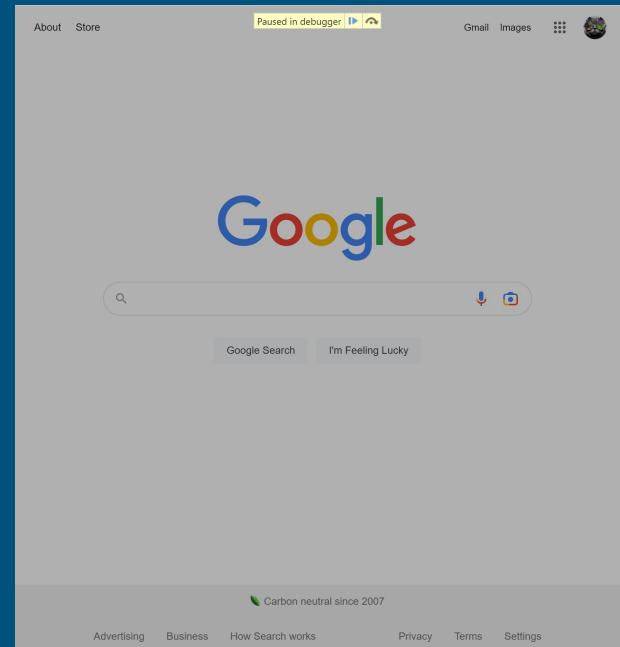
## Steps:

1. open up DevTools
2. go to Sources tab
3. open up file ending in .js
4. set a breakpoint on line 2
5. pause script execution and begin to walk through by using the step over or step into next function call button
6. end debugging session by resuming script execution



A screenshot of the Chrome DevTools Sources tab. The tab bar shows 'Elements', 'Console', 'Sources', 'Network', 'Performance', and 'Memory'. The 'Sources' tab is selected. In the main pane, there are two tabs: 'QkZn2XWhGLuUeJC...qHVlqMIXcrk.js' and 'Grammarly-check.js? [sm]'. The 'Grammarly-check.js? [sm]' tab is active, displaying the following code:

```
1 /*! For license information please see Grammarly-check.js.LICENSE.txt */
2 var e={57238:(e,t,n)=>{var r=n(65747),i="chrome-extension:///_MSG_@@extension_id__/",s="moz-e
```



# Debugging Google (cont.)

## Notes of Interest:

- stepping into next function call from original .js file took me to the grammarly extension (see previous slide)
  - was able to access h1-searchEngine.js by setting a breakpoint on line 15 of =s1 file
  - hovering over the “I’m Feeling Lucky” button changes the visibility from “inherit” to “hidden”