# Web Designer or Web Developer? A Detailed Comparison of Job Requirements

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## Abstract

The Bureau of Labor Statistics categorizes Web developers and Web designers in one job classification, but they are not the same jobs and they do not require the same skills. This manuscript explores the similarities and differences between web designers and web developers through an analysis of current job descriptions for each position. Overall, our study finds that many skill terms such as web, team, experience, degree, HTML, and CSS were not significantly different between the two positions. But there are far more terms which are statistically different between jobs. Skill terms that are significantly greater in web designer positions versus web developer include creative, Adobe, Photoshop, UX, graphics and social. Skill terms that are statistically significantly greater in web developer positions versus web designer include SQL, JavaScript, jQuery and Microsoft. The results are analyzed and discussed in detail via various statistical and visualization techniques.

**Keywords**: Web, Web Designer, Web Developer, Job Descriptions, Job Analysis, Job Skills.

## 1. INTRODUCTION

The US Bureau of Labor Statistics (BLS) does not make a distinction between web designers and web developers. They include all under a category of Web Developer and give the following definition

"Web developers design and create websites. They are responsible for the look of the site. They are also responsible for the site's technical aspects, such as its performance and capacity, which are measures of a website's speed and how much traffic the site can handle. In addition, web developers may create content for the site." US Bureau of Labor Statistics (2019)

But many other sources including job descriptions note a distinction between web designers and developers. Our study is to examine real world job descriptions and determine whether there are significant differences between web developers and web designers and if so what are the different and similar skills that are required in each area.

The relevant key statistics on Web Developers as noted by the BLS are 2018 median pay of $69,430, 162,900 jobs and a job outlook from 2016 to 2026 of 15% growth (much faster than average). In addition, the Bureau of Labor Statistics notes that there are 162,900 "Web Developer" jobs. But it appears as if the number of jobs may be more important than these numbers.

A current search of Indeed.com, a major online job aggregator notes 45,570 web developer jobs on 5/15/2019. (Indeed, 2019 a). A similar search of Indeed for Web Designer jobs notes 16,723 web designer jobs on 5/15/2019. (Indeed, 2019 b)

To confirm these numbers a separate search of another major online job search aggregator ZipRecruiter finds 78,171 web designer jobs and 185,090 web developer jobs. (ZipRecruiter, 2019 a, ZipRecruiter, 2019 b).

If there are indeed up to 260,000 unfilled web developer/designer open positions, then there

clearly are much higher numbers of people employed in this field. These two major sources suggest that there are significantly more web designer/developer jobs than the BLS reports and that there are significantly more web developer jobs than web designer jobs. It also suggests but does not statistically support that there are major differences between the two positions in the workforce.

Our manuscript is an attempt to determine whether there are statistically significant differences between these two jobs and what those differences and similarities are.

## 2. LITERATURE REVIEW

Previous studies have surveyed employers to identify and evaluate skill sets that are necessary for the IT job market. These studies have been useful in understanding how the needs of industry have changed over time; particularly with respect to technical skills.

Nord and Nord (1995) identified in-demand IT skills in the categories of: technical, systems, managerial and business by surveying a group of analysts. Fang, Lee, and Koh (2005) conducted a national study of the perceptions of IS recruiters on needed skills and traits. Lee and Han (2008) conducted an analysis of skills requirements for an entry-level programmer analyst. They collected and analyzed 837 job postings on Fortune 500 corporate websites for three years. Gallagher, Kaiser, Simon, Beath, and Goles (2010) found soft skills to be of highest importance in IT jobs. Erstad (2017) applied a real-time job analysis software to examine more than 700,000 programming-related job postings during 2016 and 2017 to determine the necessary skills for computer programmers.

In addition to technical skills, other researchers have indicated the diverse soft skill sets needed by IT professionals include: flexibility, change management, creativity, interpersonal, communication, problem- solving, conceptual, strategic management, and continuous improvement (Cappel, 2002; Choong, 2005; Lerouge, Newton, and Blanton, 2005; Bailey and Mitchell, 2000).

Aken, A., Litecky, C., Ahmad, A., & Nelson (2010) extracted approximately one million unique IT job descriptions and found most important skills as did Jones, Leonard, and Lang (2018).Todd, McKeen, and Gallupe (1995) compared the content of IS job advertisements from 1970 to 1990. Park, Jun, and Kim (2015) used online job postings from monster.com and jobkorea.co.kr to analyze differences between US and South Korea skills requirements of IS consultants. Peslak et al. (2018) analyzed 500 job descriptions for programmer analyst positions posted in February 2018 on postjobfree.com to determine the most important skills, degrees, and amount of experience required for most positions. Verma, Yorov, Lane, and Vurova (2019) also conducted a content analysis of job advertisements for business and data analytics positions.

There are many research studies that have used the web for data mining as we do here. One of the most relevant is Design Mining the Web (Kumar et al., 2013) where the authors describe Webzeitgeist, their platform for large-scale design mining. They developed a database of over 100,000 Web pages and 100 million design elements. This paper describes the principles driving design mining.

After a thorough literature search the authors found little direct research on the specific positions of web designer or web developer. Kennedy (2010) focuses on the various aspects of web design work including creativity, accessibility, risk, and motivation and how they affect a web designers' skills and maintenance thereof. Bessen (2014) in the Harvard Business Review authored perhaps the most directly relevant work on web designer and developer positions, specific job skills required, and the problems associated with ever-changing web skills, employer needs, and how schools have difficulty keeping up with this environment. Bessen (2014) presents a detailed analysis of the changes that web designers and developers have experiences. They have had to change from print to web to mobile. Technologies have rapidly changed from HTML to Flash to HTML5. He suggests that employers are in a bind because they need experience but with the rapidly changing technologies, experience is hard to come by and may be outdated quickly.

Our work explores current desires of employers for both specific and general skills that are desired for Web designers and Web Developers. These will include exploring experience, education, vendor specific skills, general web authoring skills, creativity, and other technical skills. We will then explore whether there are significant differences between these positions in these areas.

## 3. METHODOLOGY

The authors reviewed job postings in April 2019 from the website https://www.postjobfree.com/. This website was used instead of, perhaps, more familiar sites, such as indeed.com, because its terms of service have no restrictions and are noted as 100% public. Indeed.com and other job sites have very specific restrictions that prevent the extraction of data and threaten legal actions, if data are extracted. Postjobfree.com has no such restrictions. This site allows you to search a job title and then returns open jobs and their descriptions.

The authors separately entered "Web Developer" and "Web Designer" as the search terms and obtained 247 returned job descriptions for each job title. This number was the download limit of the website. Postjobfree.com includes job postings world-wide with a primary focus on the United States.  Although the site allows for geographic specification, this was not entered to allow for geographic dispersity.

The data were entered into an Excel spreadsheet and then specific words and combinations of words were extracted and counted. Function words such as "a," "the," "for," etc. were excluded, as well as, general words that do not reflect job-related skills.

This classification was determined and reviewed by the authors. Although an analysis was performed using multi-word phrase(s), the authors decided to focus on key one word counts, since the longer phrases were not consistent across job descriptions.

In order to analyze these job descriptions, we used a variety of tools. Databasic.io was used to extract non-function words from our collections of posted job descriptions. An Excel spreadsheet was then used to extract whether key words were used in each specific ad. SPSS 25 was used to perform t tests to determine differences in the number of ads that included these terms both for web designer ads and web developer ads. Finally, Voyant tools were used for job ad word clouds as well as development of collocation graphs which show relationships between key words and other terms. "Collocates graph shows a network graph of higher frequency terms that appear in proximity". Voyant Tools (2019) These graphics were used to further explore similarities and differences between the two positions.

## 4. ANALYSIS OF DATA AND FINDINGS

The results of our study start in the frequency tables. Table 1 shows the key relevant skill words that appeared in the web designer ads. As you can see the most frequent word was design, mentioned 1343 times in 247 ads. Web also naturally follows with 919 mentions.

| | | frequency |
|---|---|---|
| designer | design | 1343 |
| | experience | 919 |
| | web | 919 |
| | user | 407 |
| | team | 391 |
| | creative | 345 |
| | create | 226 |
| | website | 213 |
| | css | 196 |
| | html | 179 |
| | adobe | 153 |
| | javascript | 143 |
| | ux | 141 |
| | mobile | 132 |
| | photoshop | 117 |
| | graphics | 110 |
| | degree | 103 |
| | illustrator | 101 |
| | wireframes | 81 |
| | wordpress | 80 |
| | social | 74 |
| | agile | 37 |
| | php | 34 |
| | jquery | 30 |
| | microsoft | 20 |
| | Programming | 19 |
| | database | 15 |
| | net | 14 |
| | sql | 9 |
| | asp | 6 |

**Table 1 Web Designer Word Frequency**

But the most important non-job-title word is experience. As noted by Bessen (2014) with the

ever-changing landscape of web design, specific experience is most valued. Many general skills are mentioned for designer including user, team, creative and create, and website. These general skills have higher mentions than any specific technologies. The highest specific technology is CSS at 196 mentions. This technical skill is followed by HTML, Adobe, JavaScript, Photoshop, Illustrator. All of these technologies have more than 100 mentions in 247 job ads. WordPress was mentioned 80 times but other technical skills had much lower mentions including PHP, jQuery, and Microsoft. Some other general skills with over 100 mentions include UX (user experience) and mobile.

**Web Developer**
Table 2 shows the key relevant skill words that appeared in the web developer ads. As you can see the most frequent word is not design which is only mentioned 324 times in 247 ads. The highest word is experience with 1196 mentions. Web also naturally follows with 954 mentions. The importance of experience noted by Bessen (2014) is again supported. General skills mentioned for developer include team, degree, and user all over 100. But these general skills have lower importance than many specific technical skills relative to the web designer. The highest specific technology is JavaScript at 245 mentions. This technical skill is followed by .net, SQL, HTML, CSS, and database. All of these technologies have more than 100 mentions in 247 job ads. jQuery was mentioned 95 times and other technical skills over 50 were ASP, Microsoft, and PHP. Some other general skills with over 50 mentions include MVC, agile, mobile, and create and creative.

The review of Tables 1 and 2 provides some revealing results from the job descriptions but even though there are major differences between skill words used, we needed to determine whether these differences are statistically significant. In order to accomplish this, we analyzed each job description for the key major skill terms we found in web designer and/or web developer ads. The results of this analysis are shown in Tables 3 and 4.

| | word | frequency |
|---|---|---|
| developer | experience | 1196 |
| | web | 954 |
| | team | 324 |
| | design | 324 |
| | javascript | 245 |
| | .net | 206 |
| | sql | 187 |
| | html | 172 |
| | css | 159 |
| | degree | 124 |
| | user | 121 |
| | database | 100 |
| | jquery | 95 |
| | Agile | 94 |
| | programming | 87 |
| | asp | 80 |
| | microsoft | 77 |
| | create | 77 |
| | php | 74 |
| | mvc | 72 |
| | website | 72 |
| | creative | 63 |
| | mobile | 60 |
| | adobe | 32 |
| | ux | 24 |
| | wordpress | 17 |
| | photoshop | 13 |
| | graphics | 13 |
| | illustrator | 6 |
| | social | 3 |
| | wireframes | 1 |

**Table 2 Web Developer Word Frequency**

| | DevorDes | Mean |
|---|---|---|
| sql | 1 | .49 |
| | 2 | .04 |
| experience | 1 | .94 |
| | 2 | .89 |
| web | 1 | .98 |
| | 2 | .98 |
| team | 1 | .65 |
| | 2 | .70 |
| design | 1 | .74 |
| | 2 | .96 |
| javascript | 1 | .66 |
| | 2 | .35 |
| net | 1 | .45 |
| | 2 | .19 |
| html | 1 | .66 |
| | 2 | .64 |
| css | 1 | .57 |
| | 2 | .60 |
| degree | 1 | .45 |
| | 2 | .37 |
| user | 1 | .44 |
| | 2 | .61 |
| programing | 1 | .35 |
| | 2 | .08 |
| database | 1 | .32 |
| | 2 | .08 |
| jquery | 1 | .26 |
| | 2 | .11 |
| agile | 1 | .30 |
| | 2 | .13 |
| asp | 1 | .23 |
| | 2 | .17 |
| microsoft | 1 | .19 |
| | 2 | .08 |
| create | 1 | .28 |
| | 2 | .50 |
| php | 1 | .19 |

| | | |
|---|---|---|
| | 2 | .10 |
| mvc | 1 | .19 |
| | 2 | .00 |
| website | 1 | .32 |
| | 2 | .56 |
| creative | 1 | .22 |
| | 2 | .68 |
| mobile | 1 | .21 |
| | 2 | .31 |
| adobe | 1 | .06 |
| | 2 | .47 |
| ux | 1 | .15 |
| | 2 | .29 |
| wordpress | 1 | .05 |
| | 2 | .16 |
| photoshop | 1 | .05 |
| | 2 | .40 |
| graphics | 1 | .04 |
| | 2 | .33 |
| illustrator | 1 | .02 |
| | 2 | .36 |
| wireframes | 1 | .00 |
| | 2 | .22 |
| social | 1 | .01 |
| | 2 | .18 |

**Table 3 Keywords by Developer or Designer**

Table 3 also shows by mean, what percentage of ads a particular term or skill was for each job description. Please note that 1= Web Developer and 2=Web Designer. Overall, there are a plethora of interesting results from Table 3. SQL for example is mentioned in 49% of developer ads but only 4% of designer ads. Contrasting this is experience which was in 94% of developer ads and 89% of designer ads. Team is mentioned in 65% of developer ads and 70% of designer ads. The specific skill of HTML is in 66% and 64% respectively. Likewise, CSS is in 57% and 60%. But some words/skills are less clear as to whether they are statistically different. For example, JavaScript is in 66% of developer ads and 35% of designer ads. User is in 44% of developer ads and 61% in designer ads. To examine the significance

of these differences we performed an independent samples t-test of means.

| | Sig. (2-tailed) |
|---|---|
| sql | 0 |
| experience | 0.079 |
| web | 1 |
| team | 0.249 |
| design | 0 |
| javascript | 0 |
| net | 0 |
| html | 0.639 |
| css | 0.649 |
| degree | 0.082 |
| user | 0 |
| programing | 0 |
| database | 0 |
| jquery | 0 |
| agile | 0 |
| asp | 0.056 |
| microsoft | 0 |
| create | 0 |
| php | 0.003 |
| mvc | 0 |
| website | 0 |
| creative | 0 |
| mobile | 0.014 |
| adobe | 0 |
| ux | 0 |
| wordpress | 0 |
| photoshop | 0 |
| graphics | 0 |
| illustrator | 0 |
| wireframes | 0 |
| social | 0 |

**Table 4 t test Results**

There were statistically significant differences found in the following words/skills: SQL, design, JavaScript, .net, user, programming, database, jQuery, agile, Microsoft, create, MVC, website, creative, Adobe, UX, WordPress, Photoshop, graphics, Illustrator, wireframes, social, PHP, and mobile. In all, 24 of the selected terms were found to have significantly different mentions in web designer ads versus web developer ads. We therefore conclude that there appears to be a

significant difference in the job requirements for web designers and web developers. The only terms that web developers and designers had in common were ASP, experience, degree, team, HTML, CSS, and web. This is a limited but interesting mix of general and specific technical skills.

**Other tools**
The final area of comparison was an investigative review of data visualization and collocation methods to explore areas of difference and similarities between web developers and web designers.

A common tool for visualizing large text material is a word cloud. A word cloud shows relative frequency of words in a document (in this case the collected job descriptions) by size of the word itself.



**Figure 1 Web Developer Word Cloud**



**Figure 2 Web Developer Word Cloud**

A quick view of the word clouds (Figures 1 and 2) suggests a strong similarity between the two

clouds. Web, experience, team, and work all pop out as important terms. But once we begin to explore the clouds somewhat smaller terms we start to see there are differences. Design and development have vastly different sizes in each cloud. In the developer cloud we see JavaScript, environment, software, solutions as prominent words. In the designer cloud we see terms such as creative, user, and understanding. After this review, we can see the differences in the descriptions via these word clouds. (Please note that larger versions of these clouds appear in the Appendices.)

Another fertile area for data visualization is network graphs that show collocation of words. These are readily available via Voyant Tools. "Collocates Graph represents keywords and terms that occur in close proximity as a force directed network graph." Voyant Tools (2019). Keywords are shown in blue and collocated words (words in proximity) are shown in orange. "Simple collocation graphs and collocation networks show association and cross-association between words in language and discourse and can thus be used in a range of areas of linguistic and social research." (Brezina, 2018)

The first two collocated graphs (Figures 3 and 4) show the key words and words in proximity for web developer ads and then web designer ads. Key words for developer are web, development, and experience. Words in proximity to web (and therefore regularly appear together) are web developer, web development, web applications, web experience and web years. Experience yields unique results of experience working, experience years, experience using. Unique results for development are development years, development using.
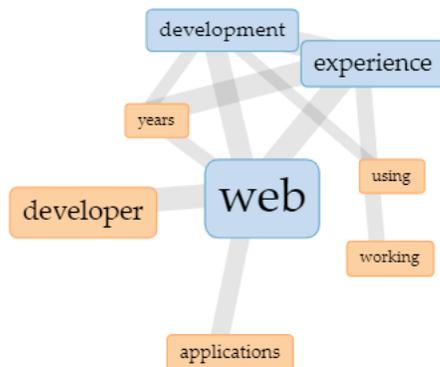
The collocates graph for web designer ads has some similarities but also some major differences. The keywords here are design, experience, and web but collocated words show differences. For design, we have design skills, design experience, design web, and design user. For experience, we find unique collocates of experience years but also experience working, and experience web. For web unique collocates are web apply and web designer.
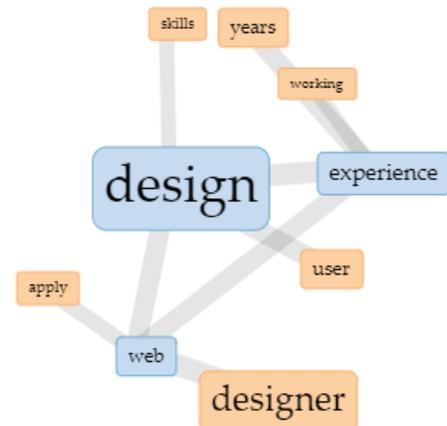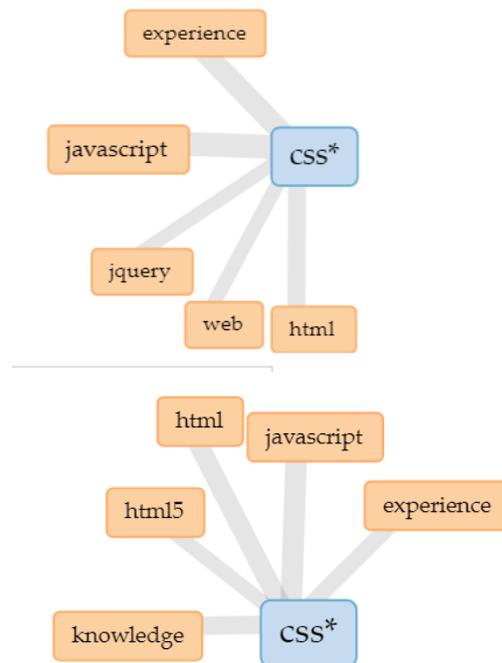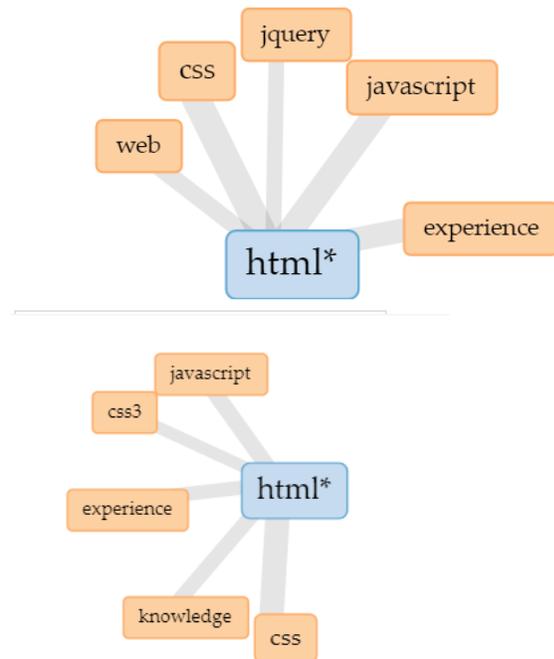


**Figure 4 Web Designer**



**Figure 5 and 6 Developer (top) Designer (lower)**



**Figure 3 Web Developer**

Finally, since some key technical skills appeared in both job ads and did not show statistically differences in mentions. We explored collocate graphs for these key skills. From this analysis we did find differences in words in proximity and this differences in the ads.

CSS was mentioned in about 50% of the ads for both web developer and web designer. But the collocate graphs show similarities and differences. Both web designer and developer are seeking experience in CSS, and combine JavaScript and HTML with CSS but the developer is also pairing with jQuery and web whereas the designer seeks CSS knowledge and HTML5.





**Figure 7, 8, 9, 10  Developer (top) Designer (lower)**

HTML collocates are very similar with both having JavaScript, CSS, and experience but developer includes web and jQuery whereas designer includes CSS3 and knowledge.

Javascipt collocates share HTML, experience, and CSS but developer includes jQuery and web whereas designer includes HTML5 and PHP.
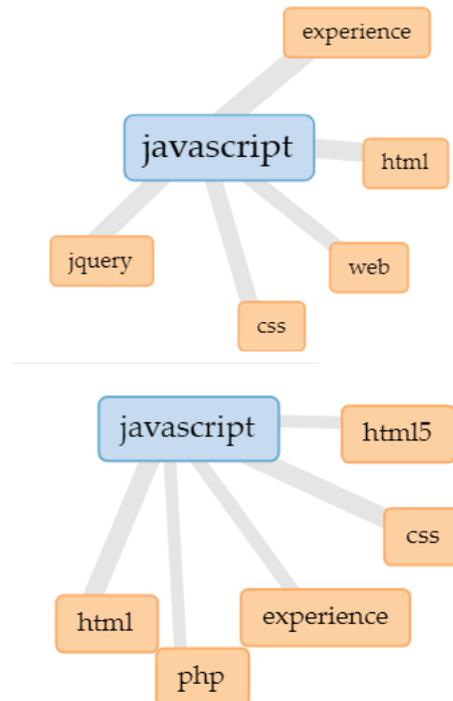
## 5. SUMMARY AND CONCLUSIONS

In this paper, the authors have examined 247 job postings for web developers and 247 job positions for web developers to determine whether there was a significant difference in the positions. We have performed word counts to explore the differences and found that there are significant differences between job descriptions for web developers versus web designers using a variety of statistical and data visualization tools. The results can be used by students, faculty, practitioners and researchers to understand skills necessary for today's marketplace. The study can also be used as a basis for comparing other job descriptions. The study can serve as a model for comparing any written documents for similarities and differences.

Some of the key findings from the study include:

- There appear to be signficantly more jobs in web development and web design than the BLS reports
- There are signfiicant differences between job postings for web developers versus web designers
- These signficant differences include these skill words: SQL, design, JavaScript, .net, user, programming, database, jQuery,

agile, Microsoft, create, MVC, website, creative, Adobe, UX, WordPress, Photoshop, graphics, Illustrator, wireframes, social, PHP, and mobile

- There were no signficiant differences between web developer and web designer ads for these skill words: ASP, experience, degree, team, HTML, CSS, and web
- Word cloud have similarities between web developer and web designer job descriptions but also have many key differences.
- Collocation network graphs show differences in keywords and words in proximity for web developers versus web designers
- Some of these differences include importance of HTML5 for designers compared to jQuery for developers
- Need for JavaScript and PHP for designers but JavaScript and jQuery for developers
- Need for HTML knowledge for designers versus only experience for developers
- Apply web skills for designers compared to web applications for developers

So, overall the current distinction between web designers and web developers is real and is significant. Further research is proposed to explore distinctions and skills needed for the wide variety of information technology postiions such as programmer analyst versus systems analyst. The authors plan to pursue this fertile area.

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# Appendices

**Appendix 1 t Test For Differences Of Means**

| Group Statistics | DevorDes | N | Mean | Std. Deviation | Std. Error Mean | difference | t test | sig. |
|---|---|---|---|---|---|---|---|---|
| sql | 1 | 247 | 0.49 | 0.501 | 0.032 | 0.45 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.04 | 0.197 | 0.013 |  | Equal variances not assumed | 0.000 |
| design | 1 | 247 | 0.74 | 0.437 | 0.028 | -0.22 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.96 | 0.188 | 0.012 |  | Equal variances not assumed | 0.000 |
| javascript | 1 | 247 | 0.66 | 0.476 | 0.03 | 0.31 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.35 | 0.477 | 0.03 |  | Equal variances not assumed | 0.000 |
| net | 1 | 247 | 0.45 | 0.499 | 0.032 | 0.26 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.19 | 0.393 | 0.025 |  | Equal variances not assumed | 0.000 |
| user | 1 | 247 | 0.44 | 0.497 | 0.032 | -0.17 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.61 | 0.489 | 0.031 |  | Equal variances not assumed | 0.000 |
| programming | 1 | 247 | 0.35 | .479 | .030 | 0.27 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.08 | 0.11 | 0.267 |  | Equal variances not assumed | 0.000 |
| database | 1 | 247 | 0.32 | 0.466 | 0.03 | 0.24 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.08 | 0.267 | 0.017 |  | Equal variances not assumed | 0.000 |
| jquery | 1 | 247 | 0.26 | 0.437 | 0.028 | 0.15 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.11 | 0.318 | 0.02 |  | Equal variances not assumed | 0.000 |
| agile | 1 | 247 | 0.3 | 0.461 | 0.029 | 0.17 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.13 | 0.336 | 0.021 |  | Equal variances not assumed | 0.000 |
| microsoft | 1 | 247 | 0.19 | 0.39 | 0.025 | 0.11 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.08 | 0.267 | 0.017 |  | Equal variances not assumed | 0.000 |
| create | 1 | 247 | 0.28 | 0.45 | 0.029 | -0.22 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0.5 | 0.501 | 0.032 |  | Equal variances not assumed | 0.000 |
| mvc | 1 | 247 | 0.19 | 0.39 | 0.025 | 0.19 | Equal variances assumed | 0.000 |
|  | 2 | 247 | 0 | 0 | 0 |  | Equal variances not assumed | 0.000 |

| website | 1 | 247 | 0.32 | 0.467 | 0.03 | -0.24 | Equal variances assumed | 0.000 |
|---|---|---|---|---|---|---|---|---|
| | 2 | 247 | 0.56 | 0.498 | 0.032 | | Equal variances not assumed | 0.000 |
| creative | 1 | 247 | 0.22 | 0.417 | 0.027 | -0.46 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.68 | 0.469 | 0.03 | | Equal variances not assumed | 0.000 |
| adobe | 1 | 247 | 0.06 | 0.239 | 0.015 | -0.41 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.47 | 0.5 | 0.032 | | Equal variances not assumed | 0.000 |
| ux | 1 | 247 | 0.15 | 0.362 | 0.023 | -0.14 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.29 | 0.455 | 0.029 | | Equal variances not assumed | 0.000 |
| wordpress | 1 | 247 | 0.05 | 0.224 | 0.014 | -0.11 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.16 | 0.369 | 0.023 | | Equal variances not assumed | 0.000 |
| photoshop | 1 | 247 | 0.05 | 0.224 | 0.014 | -0.35 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.4 | 0.491 | 0.031 | | Equal variances not assumed | 0.000 |
| graphics | 1 | 247 | 0.04 | 0.197 | 0.013 | -0.29 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.33 | 0.472 | 0.03 | | Equal variances not assumed | 0.000 |
| illustrator | 1 | 247 | 0.02 | 0.154 | 0.01 | -0.34 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.36 | 0.482 | 0.031 | | Equal variances not assumed | 0.000 |
| wireframes | 1 | 247 | 0 | 0.064 | 0.004 | -0.22 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.22 | 0.417 | 0.027 | | Equal variances not assumed | 0.000 |
| social | 1 | 247 | 0.01 | 0.11 | 0.007 | -0.17 | Equal variances assumed | 0.000 |
| | 2 | 247 | 0.18 | 0.387 | 0.025 | | Equal variances not assumed | 0.000 |
| php | 1 | 247 | 0.19 | 0.396 | 0.025 | 0.09 | Equal variances assumed | 0.003 |
| | 2 | 247 | 0.1 | 0.302 | 0.019 | | Equal variances not assumed | 0.003 |
| mobile | 1 | 247 | 0.21 | 0.411 | 0.026 | -0.1 | Equal variances assumed | 0.014 |
| | 2 | 247 | 0.31 | 0.464 | 0.03 | | Equal variances not assumed | 0.014 |
| asp | 1 | 247 | 0.23 | 0.425 | 0.027 | 0.06 | Equal variances assumed | 0.056 |
| | 2 | 247 | 0.17 | 0.373 | 0.024 | | Equal variances not assumed | 0.056 |
| experience | 1 | 247 | 0.94 | 0.247 | 0.016 | 0.05 | Equal variances assumed | 0.079 |
| | 2 | 247 | 0.89 | 0.313 | 0.02 | | Equal variances not assumed | 0.079 |

| degree | 1 | 247 | 0.45 | 0.498 | 0.032 | 0.08 | Equal variances assumed | 0.082 |
|--------|---|-----|------|-------|-------|-------|-------------------------|-------|
|        | 2 | 247 | 0.37 | 0.483 | 0.031 |       | Equal variances not assumed | 0.082 |
| team   | 1 | 247 | 0.65 | 0.477 | 0.03  | -0.05 | Equal variances assumed | 0.249 |
|        | 2 | 247 | 0.7  | 0.459 | 0.029 |       | Equal variances not assumed | 0.249 |
| html   | 1 | 247 | 0.66 | 0.476 | 0.03  | 0.02  | Equal variances assumed | 0.639 |
|        | 2 | 247 | 0.64 | 0.482 | 0.031 |       | Equal variances not assumed | 0.639 |
| css    | 1 | 247 | 0.57 | 0.495 | 0.032 | -0.03 | Equal variances assumed | 0.649 |
|        | 2 | 247 | 0.6  | 0.492 | 0.031 |       | Equal variances not assumed | 0.649 |
| web    | 1 | 247 | 0.98 | 0.141 | 0.009 | 0     | Equal variances assumed | 1.000 |
|        | 2 | 247 | 0.98 | 0.141 | 0.009 |       | Equal variances not assumed | 1.000 |



**Web Designer**

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