Essay 02: Explain the difference between HTML, CSS and JS.

HTML: Stands for HyperText Markup Language, and is used as standardized language for web browsers and creating websites. HTML is essentially the language that most web browser understands. HTML deals with the structure of a web page and the foundation of HTML is based Tags and Attributes. Tags are used to markup text with opening and ending brackets in order to create functional HTML while Attributes are added information inside the tags.

CSS: Stands for Cascading Style Sheets, and is the language that includes the presentation and styling of a website. CSS is the visual part of the web page building process for example the coloring, use of fonts, and overall look. CSS is code that makes the website visually appealing for the user.

JavaScript: is a text-based programming language that is operating in the background on a web page. It contributes with the interactive functions of a web page such as features, graphics, animations etc. It's used to create responsive interfaces that makes it user-friendly and increases the overall experience of the web page.

Essay 03: Separation of Concerns in relationship to HTML, CSS and JS?

Before all styles were mixed and clumped together which, made it more complicated to build web pages. Nowadays, it's more convenient to add new functions and features because we keep the components separated out which makes changes easier to implement and less likely to be facing problems with existing code. The separation of concerns between the different languages makes it easier and faster to change and update a particular code if necessary. Thus, it mitigates that existing features breaks or gets interrupted by the newly added changes. If everything is mixed up together it’s more likely that editing will affect the overall application in unwanted places. Essentially, component-driven and the use of libraries enables us to re-use and create code in separate files much more efficiently.

Essay 04: What are Single Page Apps (SPAs)? How do they differ from traditional multi-page WebSites?

A single-page app is operating inside the web browser rather than on the server and therefore, it doesn’t have to reload all pages for every click. Indeed, when surfing on a single HTML web page it gives the illusion of a traditional multi-page.

The major difference between a SPA and a traditional multi-page website is that single page websites are faster due to it doesn’t have to reload every aspect of the website every time the user is switching between different sections on the web page.

Essay 05: What is the difference between Web Designer, Front-End developer and Back-End Developer?

The front-end designer focuses on the user experience and the visual aspects of the application in the browser. However, a front-end designer is more focused on the development part and collaboration with back-end operations than a web designer, who typically is design-focused. The most common languages used by a front-end developer and web designer are HTML, CSS, Javascript, and Jquery.

The back-end developer handles the “behind the scenes” of the application. It usually consists of three parts; a server, an application, and a database. Their job is to make sure the database information is communicating with the browser. Back-end makes sure the website runs smoothly for the user.

Essay 06: Read file relationships: (Site Relative, Document Relative,and Absolute Paths).

Absolute Paths: uses the full-length URL in the creation of link which includes the website domain name, and additionally possible subfolders, page names, or specific files. For example; https:// should be included, domainname.com, and /login.

The link path can be copied straight into the browser to take the user to a specific place on a website.

Site Relative: links are commonly used to locate specific images, gifs, or files that only take you to page with that file. For example, if you search for images on Google and right-click on an image and select “open picture in a New Tab” it would take you to a single page that only showcase that image, and if you decide to share that picture it got its own link.

Document Relative: are links created to specifically locate files or folders. They’re useful when current and linked documents lay in the same folder. When referring a link to a document you follow a system to target a file in a folder. Forward slash (/) meaning go dig one level deeper into the main folder down to subfolders. For example: mainfolder/subfolder/file.

Essay 07: What it means for a company to be Agile. What is the purpose of using Agile, and its Pros and Cons.

When a company is Agile, it means that they’re rapidly adapting to market changes. Therefore, they must be able to move fast, be flexible, and make quick changes. The pros of having an agile strategy are that they can create and deliver direct value to their customers quickly, which makes them competitive. Also, focusing on their customer's current needs and thinking ahead of their future challenges, builds great and strong relationships with the customers. It also ensures that they’re solving actual problems that are relevant in time and place. This could generate new customers that are facing the same issues. Some cons to this strategy are that it opens up more room for errors as the product gets launched faster than it initially would. It’s hard to predict how much work and effort for example a new feature demands. Indeed, it creates greater demand for the workers but also on the client to learn and embrace new changes.

Essay 8: Define the following roles: Project Manager, Business Analyst, Scrum Master, UX designer, Web Developer/Engineer, QA tester, and DevOps.

Project Manager: role is to make sure projects meet the requirements and deadline but also to manage a team and communicate with the customer. Some of the tasks includes: planning, set a direction ,delegate resources, and converse with clients.

Business Analyst: looks for ways to improve and help businesses become more efficient and profitable. Their role is to increase productivity, look over processes, and implement solutions that benefit the core of the business, across departments.

Scrum Master: makes sure that that a team follow the agile guidelines and principles that they once decided to follow. Their role includes clearing obstacles, create an effective work environment, and ensure a good relationship between the team and product owner.

UX Designer: is responsible for the overall user experience of a site, product or service. They're testing out different layouts and designs based on the user behavior, and adjust thereafter to make the experience and service more efficient and easier to use.

Web Developer/Engineer: responsible for building websites and that includes write code, create design and layouts that is both user-friendly and visually appealing.

Quality Assurance Tester: are responsible to test that software or applications, performs and works accordingly. They establish that the user/customer gets the best possible experience and quality using the software. QA testers search for bugs, defects or technical issues that interrupt it from functional properly.

DevOps: role is to provide their knowledge and expertise between IT operations and software development so that it's easier to build and test software quicker. DevOps is a philosophy that is run through practices to maintain IT infrastructure, and create software.

Essay 09: What is the difference between jpg, gif, png, and SVG images?

JPG: is the standard image file format and it supports millions of colors. Great for photos that are printed or posted online. It’s not good for scaling up and down pictures as the file becomes pixelated.

GIF: is used for animations but not particularly good for pictures since it only supports 256 colors. Small web file, usually low resolution for screen use. Good for logos.

PNG: does also support millions of colors and it great for websites as the size of the PNG files are small. It’s not scalable just as JPG and also is not good for printing.

SVG: is vector based which means it’s possible to scale up and down. The file size is small and therefore great for the web.

Essay 10: What are testing environments? What is the difference between Local, Dev, QA, and Production?

A testing environment is a setup server where testing teams can try out software and application to check if it works or if they encounter any flaws. Its beneficial to do before you're launching services to the public.

Local: basically you test on private servers or in-house that have no access to the public.

Dev: Development testing is part of the process in the software development that aims to minimize risk, time and cost for a project.

QA: establish that the end-user get the best experience when using a software or website. The purpose is to detect any flaws or errors that might passed the software development stage.

Production: is the final step of testing in which you monitor everything and see if new changes or feature is more efficient than the old. The goal is to see if the software meet the expectations.

Essay 11: Function vs Form: When are web images considered part of the content (HTML) as opposed to part of the appearance (CSS)?

If the image fills no function its only visually appealing but if the image or an icon has a functional aspect to its design, I would say it’s part of the content. It has to make sense in the context of the code and use of the website. A website with no CSS would be a boring website, it might work but to enhance its functionality an image or button with a nice appeal look could for instance make a visitor stay longer and take an extra action before leaving the site.

Essay 12: What is considered the right size of an image or video asset?

There are a range of restrictions for what the minimum and maximum size of an image/video should be. There is no exact number because it depends on what's the usage of image is for like for thumbnails, cover, slideshow, banner, portfolio pieces etc. Also, what size of the screen it will be viewed on and what the limit of the website layout can manage. Obviously, the size can't be too big or have crazy dimensions because it would take ages to load the page but also not to small because of the quality and resolution will not be very good.

Essay 13: What is the difference between ID's, Classes and Tags? How does Specificity play a role in the selection of HTML elements (both in CSS and JS)

Tags are used to create HTML elements by surrounding and markup text with < > signs. The ID is used to identify one element, in other words, an unique identifier, compared to an class that can recognize multiple elements in HTML.

Specificity is a selection that happens when two or more CSS rules are conflicting to the same element. When that occurs the browser follow the most applicable rule to eliminate what choice to make.

Essay 14: Why is Web Accessibility important?

It’s important because it includes all people, including people with disabilities and deficiencies. The internet should be accessible to everybody and be equal to anyone as it so essential in our lives today. When everybody got the same possibilities to use and benefit from the internet it’s great for everybody. Not only for the user but for the society as whole, businesses, and government. The better and easier developers make it to use the web will create less barrier and better opportunities for education, shopping, health care, banking etc. to strive in the modern age.

Essay 15: What is CSS Preprocessor? What are some examples? In React, what are styled components? How do Styled Components violate separation of concerns?

CSS Preprocessor: is an extension to CSS which makes writing code in one language compliable into CSS.

What are some examples? The three most used and known ones are the following; LESS, Sass, and Stylus.

Styled components in React: is a library that offers many features which allows developers to create CSS styles in the components.

How do Styled Components violate separation of concerns?
Because the concept of separation of concerns is that code should be organized and not mixed between different languages. Implementing styled components is grouping the languages to make them work together which violate the idea of keeping them separate.

Essay 16: What is the difference between Web Hosts, Domains, and FTP?

Web Hosts: is a service that basically keeps a web page up and running and its doing so from a server. Web Hosters provide people that are making sure that the servers are functioning properly and are safe as they're located somewhere physically, usually in a server hall. This allows business and individual to have websites that accessible 24/7 and that are able collect and store data.

Domains: are the ID or IP address that is connected to the website. The domain name is the URL, a link that makes people find the web site.

FTP: is a tool used to upload files from the local server to the web hosting which makes it available on the internet.

Essay 17: What is a Package Manager (e.g. NPM, Composer)? How does it play a role in software development?

Package Manager: is a collection of tools that manages installing, upgrading, constructing, and erasing of programs. NPM stands for Node Package Manager and is an online repository used for publishing Node.js packages. What great about it is that saves a lot of time and effort for web developers as it automatically installs and implement new packages and tool.

Essay 18: What is Version Control? What is the difference between Git, GitHub and Heroku? How does it fit into the development process?

Version Control: is a system that makes it possible for several people to work on a single project simultaneously. Every person can add or edit the files that they're working on without interrupting the other people's work. They can later decide to upload their flies to the rest of the team.

Git is a version control system and works as mentioned above, GitHub on the other hand is a hosting service in the cloud where you can upload the changes you made using Git in form and makes them accessible for the team. Heroku is a free to use PaaS service that is used to deploy, build and manage web applications. It also allows you to scale and host the web applications. It's great for the web development process because teams can easily work together on a project and all different services follows a clear path from creation to hosting. This makes the process more efficient than if everybody would be working locally independently.

Essay 19: What are the ingredients of a code review in Web Development?

According to perforce.com there’re 9 best practices for a code review.

1. Know What to Look for in a Code Review
2. Build and Test — Before Review
3. Don't Review Code for Longer Than 60 Minutes
4. Check No More Than 400 Lines at a Time
5. Give Feedback That Helps (Not Hurts)
6. Communicate Goals and Expectations
7. Include Everyone in the Code Review Process
8. Foster a Positive Culture
9. Automate to Save Time