**ASSIGNMENT 1**

**Question: What are 5 emerging things in web development?**

## 1. Artificial intelligence

Whenever you talk about the future of technology, artificial intelligence (AI) is always high on the agenda. But right now, I think it is actually justified. A lot of advances have been made in the field of AI in the last year.

AlphaGo, a program built by Google DeepMind, became **the first program to beat a professional Go player.**

Some of the biggest tech companies, such as Google, Microsoft and Facebook, have been releasing their AI technology to be used by the public. Artificial intelligence is already used by large applications, either to improve search engines, like in Google’s case, or in Wikipedia’s case to identify inaccurate or damaged articles.

With easier access to the necessary tools for AI development, we can expect developers to start using AI in new and different ways in the new year.

One such example is AI-driven web site creation. **For example if you sign up for**[The Grid](https://thegrid.io/)**, Molly your AI web designer will ask you questions about branding, colors, layout and content, and then, based on pre-programmed algorithms, automatically create an aesthetic website for you.** You can ask Molly to update the website as many times as you like, until you get it just right. (All the while contributing to the machine’s learning.)

## ****2. Internet of Things (IoT)****

The internet of things is a movement where typically non-internet-connected objects are given network connectivity in order to send and receive data. These objects can range from your toaster or kettle, to sensors on motors or sensors embedded in concrete to detect cracks and weaknesses.

[Web developers](https://careerfoundry.com/en/tutorials/web-development-for-beginners/introduction-to-web-development/) may not be directly involved in the creation of such devices. However, it’s likely we’ll be involved in the development of applications that use, analyse and display the devices’ data. Companies such as Xively and BugLabs have already started working on APIs that can be used by developers to communicate with IoT devices.

## ****3. Rails 5****

The newest version of Rails, Rails 5, was released in late June 2016. Seeing as Rails 5 is still young, we expect its popularity to grow as it continues to mature. The newest release of Rails came with some interesting additions that web developers should get excited about (aka “now for the science part”):

1. Turbolinks 5 allows developers to create Single Page like Applications directly from the Rails stack, by allowing links to fetch full HTML pages and replacing the body, without the need for client-side JavaScript frameworks.
2. ActionCable is a new way to use websockets in Rails to create real time applications. This makes creating notifications and chat features so much easier, all the while still having access to all your ActiveRecord resources.
3. Rails 5 also merged the popular rails\_api gem into its codebase. Developers can now easily create API only applications in Rails and hook them up to their favorite [JavaScript](https://careerfoundry.com/en/blog/web-development/how-long-does-it-take-to-learn-javascript/) or native frameworks.

## ****4. Angular 2 and beyond****

2016 also saw the release of Angular 2, and with it came a lot of changes - Google’s frontend JavaScript framework has been completely redesigned.

It now takes advantage of JavaScript ES6’s features, applications are written in TypeScript, and they now moved towards a more component driven architecture.

Along with its release, Angular now has a more defined and regular release schedule. As they explain in [this post](https://angularjs.blogspot.ca/2016/10/versioning-and-releasing-angular.html), they intend to release three minor updates and one major update every 6 months, which means that we’re sure to see a lot more changes in this widely popular framework.

## ****5. Yarn package manager****

Package managers are incredibly popular tools, especially in the frontend JavaScript communities. They make it easier for developers to install, update, configure and uninstall code modules within their applications. They do so by communicating with a registry of code modules and manage the various dependencies code modules usually have.

The most popular JavaScript package managers are NPM and Bower. However, **a new package manager has been developed by Facebook, in collaboration with Exponent, Google and Tilde.** We expect its popularity to grow.

Yarn aims to address issues Facebook have experienced with NPM, particularly in areas such as performance, security, and consistency. This new package manager still has access to the NPM and Bower registries.

For example, when using NPM, depending on the order in which modules are installed, developers might end up with two different versions of a particular module in their local development environment. This can cause issues where everything works fine on one developer’s machine but not on another’s. To address this issue, Yarn uses lockfiles to tie modules to a specific version within a project, thus assuring that the same version is installed on all developers machines.

## ****6. Static website generators****

Static website generators create websites from plain text, usually stored in files and not in databases. In certain situations, static websites built by generators such as Jekyll, allow for some advantages, such as increased speed, security, ease of deployment and their handling of traffic surges. However, they have no real time content or user content (such as comments), which have become a “must” on the web today.

As Content Delivery Networks and APIs become more and more the way of life of the web and make it easier for content and templates to be deployed, many devs think static site generators might be an interesting area to watch in the coming year.