Consider current development trends used in building web applications. Present an example and explain how effective you find it. Consider your classmates' answers. Do you agree or disagree? Why?

Professor and classmates,

A trend that I’ve noticed increasing over time is low-code development. Actual programming isn’t a necessity for the development of simpler applications anymore which I hate to admit as programming is the fun part of development in my opinion- it’s the business logic and documentation that confuses me. While programming would probably always be necessary for complete customization of an application, a developer can now use certain platforms that require little to no programming to create an application or website. I suppose this doesn’t completely phase out programming so I really should just see this as being helpful to those who see programming as the most frustrating part of software development. This trend may even make more people take an interest in software development as it grows.

Seeing the trends mentioned before my response, I believe that while there are two opposing trends occurring involving more reliance on the internet and less reliance on the internet, I believe that there is a stronger pull for more reliance on the internet simply considering the massive spike in the use of cloud computing. I can definitely see the use of cloud technology in ecommerce and databases but it does make me think of times I’ve gone without internet or with very slow internet and thus makes me worry for the future of people that live outside of somewhat large cities. The more that businesses and organizations rely on the internet, the more inconvenient the world becomes for those that can’t obtain at least a decent signal as long as no effort is being made to bring a better signal to these individuals.

Scott,

I had never heard of the term Progressive Web Application but I believe I know what you’re talking about. Your description made me think of restaurant websites that, when accessed on mobile devices, tend to function as applications- Dominos website came to mind in particular as they involve features like their delivery tracker and rewards points almost as if they are modules in an application. Is that an example of a Progressive Web Application? Is a download of one of these web applications automatic or is it something a person has to do beforehand?

Dioukou

It’s kind of interesting that the trend you brought up is related to Cloud technology which requires the use of internet, but Scott’s trend is one that allows the use of websites without internet to some extent. I didn’t expect such opposite trends to be trending at the same time, but I can see how both are very useful for both developer and user alike.

IoT (Internet of Things) is something I’d never heard of before. I think I’d heard talk of a separate internet that needs to be designed for AI to use so as to ensure that the information they use is all factual and reliable. Is that what the IoT is?

Professor Estey,

So what I understand is that, while blocking means a sequential code, non-blocking is asynchronous. I know that Java and C# are also sequential for the most part- that is as long as multiple threads aren’t involved. Javascript only uses one thread though so NodeJS is Javascript’s way of doing what multiple threads make possible in Java and C#. Is that right?

Also, I realized I really do need to brush up on Javascript. It’s been over a year since I’ve even seen JavaScript code so those examples kind of threw me off guard. Luckily I still have my old notes to go through.

Scott,

You do have a point. Programs and applications that are unique in how they function still require actual programming. As helpful as AI such as ChatCPT can be at times, they aren’t actual AI but instead are just extremely advanced algorithms. They can’t think and design for themselves so the solutions they provide just come from a database or maybe the internet. For now at least, there’s no real threat of AI taking over programming jobs. If anything, the current “AI” might just make our jobs a little easier. If it were possible to design such AI, I wonder how many developers would rely on it.

Professor Estey

I chose to compare NodeJS to Tomcat.

One major difference between the two is that Tomcat uses multiple threads while NodeJS just uses one thread. You might think that multiple threads would mean faster speeds, but this isn’t the case. Their speeds are about the same so multiple threads may possibly just complicate things if they keep getting blocked. If the developer doesn’t set up the threads correctly, NodeJS would be a better choice. If they have enough experience in preventing blocked threads, however, Tomcat might have faster speeds.

Another difference is that Tomcat is a web server while NodeJS is a runtime environment. Tomcat is built for more specific functions and thus the focus is on those functions. It would probably be better to use Tomcat if those functions are all that you need because of this reason. NodeJS has a wider range of uses, however, so if your application requires- or may require in the future- more than what Tomcat can provide then NodeJS would be a better choice.

Finally, As NodeJS isn’t a server itself, it requires Express to build REST API’s. NodeJS itself can’t complete this task on it’s own. ON the other hand, it’s a much more flexible ecosystem for creating API’s than Tomcat.

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Dempsey,

I wonder if the trend of heightening security has anything to do with Space Force being established. Cybersecurity is one of the main jobs of Space Force after all so I’d imagine they’d already made some leaps and bounds towards better security measures for critical data belonging to the FBI and CIA among other organizations by now. I’m sure some of these measures would be classified, but those that aren’t probably began circulating around the software development world.

Jess,

So ChatGPT does count as actual AI then? I’ve got to admit I didn’t know much about it and kind of assumed it was among the many programs that people call AI but is actually just advanced algorithms. It’s made the news a lot lately so I shouldn’t be surprised at it’s ability to think and design.

The last time I checked up on AI, there was only one that was considered an actual AI- that being the robot Sophia who gained citizenship in some European country- I forget which one- as they believed she has earned her personhood. She did have some questionable responses as to what she would do to humanity if AI took over such as putting the humans she likes in “people farms” and letting the rest die off or something. I guess strange things like that are to be expected with Sophia being an earlier AI though.

Some people are afraid AI might wipe us out while others believe they would just make life much more convenient for us. I’ve always been more focused on the moral implications of creating actual AI. As a Christian, it makes me wonder if they would have souls or not and, if they do, if we are playing God. Humanity should take responsibility for any AI that gains awareness either way though.