Alberta Doctors' Digest

Automating the mundane

Last time we focused on an impressively simple DIY air filtration device; hopefully you've been convinced that sometimes the best gadgets are the ones you create yourself. Today, we'll step it up slightly with two more options for you to explore, experiment and tinker with to your liking. All the resources on the list below are open source and available to use freely (or low cost) for personal and commercial projects.

Keep in mind when considering your options there will be acronyms, jargon and syntax that neither you nor I understand. Just as a cursory internet search will not create a physician, the below resources will not turn you into a computer programmer overnight. Don't let this fact dissuade you, though, as often we need to understand only enough to get started, and we can safely ignore the more complex stuff for another time. Let this be an opportunity to put aside our physician hats and simply have fun exploring how we can turn our pet projects into something fun and rewarding to make our lives easier.

Python

As a teenager, I was thrilled about getting a summer job as an inventory clerk. It paid $14 an hour (which was double the minimum wage at the time) plus paid travel time to job sites! I no longer had to hustle for commission like my previous job selling phones and gadgets at the mall. But I quickly realized that the job came at the cost of my sanity as it involved manually counting stock for eight hours a day. Needless to say, I didn't last long at this job. However, it did give me one important insight – manual, repetitive and monotonous work was a dying trade, and it wasn't just me who didn't want to keep doing it.

Although I am no longer counting inventory (usually), I have sought other ways to automate as many of my mundane tasks as possible. For those who have similar feelings towards the boring, I recommend that you check out Python. Python is a widely popular programming language developed in the 1980s that is used extensively by software developers of differing expertise across many settings. It is designed to be comparatively easy to learn while being robust enough to handle bigger tasks like machine learning and complex data analysis. Large companies like YouTube, Facebook, Reddit and IBM heavily employ Python in their work, as do many smaller businesses.

Python is not in the exclusive domain of software developers or programmers. As non-programmer physicians, our needs don't necessarily involve complex algorithms or analysis, so a computer science degree is not a pre-requisite to starting to program. However, Python is a sneaky way to start to learn the ins-and-outs of coding logic with a side bonus of making our lives a little bit easier. With only a half day of work and a YouTube video, I was able to code a simple automated login sequence on my computer that automatically logged into my calendar to check my work schedule; saving me a few mundane steps that I would rather avoid.

Python's website hosts a fairly robust guide to getting started for non-programmers and those with some programming knowledge. Anyone can learn Python regardless of background, education or age, but the secret is to realize that you do not need to know everything about programming. The ever popular Automate the Boring Stuff with Python: Practical Programming for Total Beginners by software developer/author Al Sweigart accentuates this philosophy of practicality and simplicity. Best of all, the author has made it freely available at the website above to encourage more people to learn how to program.

Arduino

Budding programmers who also want to work with their hands should look at Arduino. It's another open-source offering that combines hardware and software components to allow users to create nearly whatever they want. Low cost, ease of use, and the ability to experiment are keys to its popularity. There are thousands of template projects with follow along guides supported by a robust and engaged user community that encourages experimentation. This leads to projects ranging from the outlandishly fun to the more practical such as a UV sterilization device, an automated pill reminder box, and an automated hand sanitizer dispenser.

Low-cost starter kits ranging from $20-$100 are also available from the Arduino website for those who want to dip their toes into experimenting with sensors and switches. They are also helpful serving as an introductory crash course to coding and electronics.

Although you can buy many automated solutions at any big box store for less money, by designing your own tech solution it can be a relief to realize that you don't have to. By tinkering, you can tap into your own creativity to problem solve and design solutions specific to your needs. Plus, you'll know whatever you create will do exactly what you want it to do in your health care practice.

Editor's note: The views, perspectives and opinions in this article are solely the author's and do not necessarily represent those of the AMA.

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