so there seems to be a little bit of a trend here on YouTube for people to do magic in their videos and Peter McKinnon and I happen to be a little bit of a magician myself so as you can see there's nothing in my hands and if I just snap my fingers what how did this work I know you must be confused by now you're probably questioning everything you thought you knew things like do I even exist what's the purpose of life is the earth really round and unfortunately a magician never tells so I guess you're just gonna have to let this one go anyway let's move on with the video these are five projects that I think every programmer should try at least once [Music] first project is building a web scraper web scraping is something that I think that every programmer should try at least once because it can be super useful especially when it comes to automation of tasks let's take something like paying the electric bill for instance you could easily create a Python script where all you enter is the amount to be paid and then the script takes care of going to your bank site logging in and making the payment I guess you want to be careful with something like this I can see how this could easily go wrong but that is just one example that comes to mind that illustrates the use of web scraping and there's tons of other instances where you might be doing a repetitive and really tedious boring task that could easily be automated with some web scraping so therefore I think that web scraping or building a web scraper is a really good project to try out and there's a lot of interesting applications for it second project that I think you try is building a simple API sorry for the rhyme creating an API is also something that I think is extremely useful not only because it's a great skill to have to be able to build an API but also because by doing this you get a vastly better understanding of how the web works you'll understand the basics of that going to building something like Facebook Instagram or Google and if you also add in an SQL database with this you get a project that's well set up to give you a really solid understanding of the basics of back-end development this is one of those projects that I personally think is the most fun to work on because once you understand how to build a simple API and an SQL database to go along with that you basically understand how to build something like Facebook even though there's a lot more that goes into building Facebook this is the fundamental stuff that you need to know in order to be able to do something like that which is really cool once you understand it and now you might be thinking well what would I host this on luckily for you our video sponsor atlanticnet takes care of that for you atlanticnet provides great VPS hosting and they are offering a free one gig virtual server with SSDs and block storage for free for a year plus $50 in free credits to use for other services that they offer try atlanticnet to develop test or launch your next projects unlike many other big names they have great always available technical support and their support people actually work there which is something that's really important for me especially when I get stuck late at night coding on some problem and I want to get help straightaway they actually provide this which is great so go to Atlanta net slash Cal and use the coupon code Cal with capital letters to get a $50 credit ok third project is to create a simple snake game so this one's a classic there are tons of tutorials available on how to do this and how to improve it and add crazy features to it I recommend building your first one in JavaScript because it's just the simplest way to get one up and running and after doing that I would also recommend giving it a go in another language and building it with a graphical user interface or GUI for instance of your Java would be great for some like this for me personally creating a GUI in Java has always made a lot more sense than something like TK intern Python it would require a lot less code to write it in TK interim Python but for whatever reason when I've used TK interim Python it's never really run that smoothly and I've gotten a lot of issues that I've never really experienced with Java so that might just be me but anyway I think that this is a great project to learn the basics of creating a game and all the things that go along with that like animations and game logic I also recommend following a tutorial to understand how to create the base game and then going off on your own and trying to add new features things like implementing logics so that when the snake bites its own tail it bites off one part of the tail instead of the game being over you can google this because there are lots of great challenges that you can add in that are fun to try moving on to the fourth project creating a basic web server if this doesn't excite you then I guess you're pretty normal but I'm not so it excites me and there are lots of reasons for why you'd want to be able to build a web server and lots of uses you could have for one but one of the main things for me is that if you're able to create an API with a database and then you add that you're also able to create a web server to go along with that then you basically become the full package because that's all that goes into creating something like Google they basically have web servers running with an API that allows you to access their databases that's hosted on their web servers now this is one that may cost you a little bit of money to try out because you will need a dedicated machine to build this but I suspect that a lot of people might have an old PC somewhere sitting around gathering dust which honestly can be perfect for something like this keep in mind that you don't have to build the most powerful web server in the world since you will most likely be the only user I don't believe that you need a whole lot to build something decent you can then use this web server to store your files and essentially creating your own cloud storage and I know that a lot of people are feeling a little bit iffy about Google and Apple and whatever else having access to all your files so if you create your own web server then you can be the only one who has access so I definitely think that this is an interesting project to try out and I might actually make a video on this in the future at some point last project that I think every programmer should try is creating a chip 8 emulator alright so this one is just fun to try out and I also think that it's quite different from the other projects that I've described in the sense that I think it's a little bit more difficult to actually create so what is an emulator and what is the difference between an emulator and a simulator the simplest description here is to take the classic pong game as an example let's say that the original pong game was written in the language C and assigned to run on system a which only runs programs written see I can still write a pong game in Java and run it on a different system that only runs Java code but that means that I'm simulating that game what I can also do is I could emulate the actual system a that pong runs on which allows me to run the original pong game written in C on a system that only runs Java code this means that we won't just be able to run pong but we will be able to run any other game that was developed for system a so this is a really interesting thing to try out and it opens up a whole new world of possibilities in terms of writing emulators for more modern machines like Xbox Playstation or whatever else you might want to dig your teeth into I'll leave links in the description to resources that I think might be helpful for this and also for the other projects that I've described but that's it for this one I hope you enjoyed it and before you go I just want to mention that I've created a separate channel called live coder where I do some live stream coding every now and then so if you want to you can go subscribe to that channel for some pure long-form coding sessions alright that's it for this one I hope you enjoyed it and I hope I'll see you in the next one [Music] you guys should be coding from the start I have a lot of respect for Philip and I'm sure that his platform can do a lot of great things but just web startups and phone stores are so competitive right now that you're you have to assume that anything you're doing there's a team of 2 to 4 dedicated hardcore hackers and working 24/7 it's something extremely similar so if you have this iteration loop where you have to submit something out to someone else than they have to come back you know that wasn't quite right because I was tough lost in translation you're gonna get like 1 or 2 cycles per day at best meanwhile that other team is getting 20 cycles a day I mean to the it's gotten so intense now that non coding founders and startups are having a really difficult time having value at these early stages but it just seems really risky to me [Music] you