CS-410-T2855 Software Reverse Engineering

8-1 Journal

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* **Reverse engineering IoT**: Why can reverse engineering be used to improve cloud-based information technology (IT) systems?

Reverse engineering can improve cloud-based technology by allowing developers to increase security. Reverse engineering could potentially allow developers to find vulnerabilities which would allow the software to be secured so it could not be hacked.

* **Patching**: How is reverse engineering used to patch cloud-based IT systems?

Reverse engineering allows developers to find bugs and vulnerabilities in code in which patches are create a patch to fix those vulnerabilities making the software secure.

* **Vulnerability**: Why is it that so many IoT devices are already infected with malware and many more are vulnerable to exploitation?

Because quite often IoT devices lack the security that normal computing devices contains. Hackers are constantly checking these devices and exploiting things such as default username and passwords. Quite often privacy and information security are not built-in to a lot of IoT devices.

* **Impact**: How does reverse engineering impact new IT technologies, such as IoT and cloud computing?

Because technology is advancing so fast a lot of the IoT devices lack the security measures they should have contained. Because of this a lot of these devices are vulnerable. Reverse engineering would allow for the code to be broken down and examined, bringing to light any vulnerabilities or security concerns. Developers could then make changes to the software that would secure these devices and prevent attacks. The same rings true for cloud computing, while cloud computing usually contains security measures reverse engineering would expose potential risk before they become risks.

* **Future**: Are there other new technologies that you can think of that either already use reverse engineering or should consider using reverse engineering in the future?

IoT devices for sure, I don’t want someone hacking my refrigerator and turning it off or turning all of the temperatures up and causing my food to spoil or causing my stove to turn on and burning my house down. IoT devices could benefit from reverse engineering. Another area that I’m not sure about would be these smart devices, such as smart watches, fit bits etc. How secure are these devices? While most use a subset of another programming languages, how much security is built-in to these devices. My smartwatch connects to the internet and has it’s own IP address so I know it is accessible from the internet. Reverse engineering would definitely benefit something like that.