Real Fast HACKERMAN

Security AND FORENSICS

HACKERMAN APPROVES

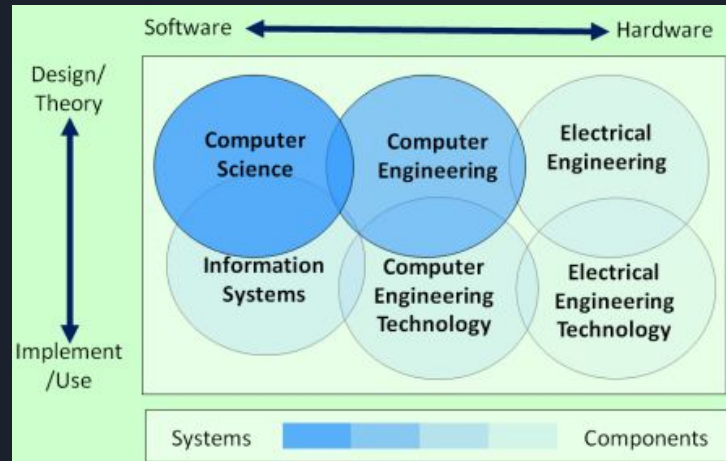Ethan Phelps, Daniel Mironiuk, Daniel Kamvakis, and Adam Styer

What is Software Engineering

Software Engineering (SE) focuses on the process of developing and maintaining software systems. The process to construct software is represented by the 4D rule, Define ⟶ Design ⟶ Develop ⟶ Deliver

A lot of SE is mainly team oriented and every decade, software has been innovated at an exponential rate as well as the methods to create software (Waterfall to Agile)

The Difference Between SE & Other Fields

There is a convoluted issues when distinguishing Software Engineering from mainly Computer Science. Yes, they do work on the same projects and work hand-in-hand, but the methods of their work are different. Computer Scientists focus on the math and logic to cover both theory and application in programming, while Software Engineers are concerned with a more inclusive engineering process that deals with the fabrication, design and maintenance of the software itself. More concisely, Software Engineering focuses on the entire process, not just algorithms.

How is Software Engineering reflected in this industry?

Software Engineers have to design their products with security in mind. It's much easier to protect something that isn't full of holes, so it's up to the original designers to make sure they account for common types of malicious attacks and start to build in counter-measures early into the software's production.

In forensics, Software Engineers produce up-to-date applications to aid in criminal and civil investigations. Software Forensics analyzes system source code to detect copyright infringement and theft, as well as scanning available and deleted data to prove criminal activity in a court of law.

Secure Software Design

How does Software Engineering respond and contribute to a continuously changing field?

Software Engineers respond to changing fields by following the major trends and testing out something that is new and exciting and seeing if it is useful or not.

Security: In security, companies often hire hackers to break in to their program or site and then have the Software Engineers fix the bug or loophole that the hackers used to get in. This results in having a more secure product and it allows people feel safer when they use the product.

Forensics: In forensics, Software Engineers can use the newest languages or technology to help them create software that can make storing and recovering data easier and faster. Also, Software Engineers can work directly with the police and government to shape software to their needs.

What Software Engineering careers are in this industry?

- <u>Cyber Security</u> - Create software to prevent and recover from any malicious cyber attacks

- <u>Sensor System Developer</u> - Design and develop software for radar applications

- <u>Data Management Specialist</u> - Efficiently gathering and storing any evidence involved with forensics, such as pictures, cell phone search history, and credit card usage

What companies are hiring in this industry?

- <u>MITRE</u> - A federally funded corporation that provides cybersecurity solutions

- <u>Saab Defence and Security</u> - A military defence and civil security group

- <u>Coalfire</u> - A forensics group that helps to examine digital evidence

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