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Security Architect

A Security Architect is a cybersecurity professional with a high level of education and many years of experience. Security Architects know the ins and outs of all things related to traditional cybersecurity and social cybersecurity, playing a vital role in the design, implementation, and testing of cyber networks, software and hardware. Because of the nature of this career, Security Architects must understand social science principles and lean on social science research, as it pertains to cybersecurity, to effectively do their job.

According to a webpage designed by the Cybersecurity & Infrastructure Security Agency (CISA), a Security Architect's core tasks range from developing and integrating, "... cybersecurity designs for systems and networks with multilevel security requirements..." to working/collaborating with stakeholders in the pursuit of identifying critical business functions (CISA). The duties accomplished by these professionals are directly influenced by everyone involved with the system, from the employees who operate them, to malicious hackers that the system will be subject to. With this in mind, the Security Architect must develop systems that are user friendly while also maintaining effective security and cost-effectiveness all at the same time. Taking into account the stakeholders in an organization, the type of market the organization is in, and the employees, creates a complex social atmosphere with various threats the security architect has to consider when creating/implementing the security systems.

As a result of poor cyber infrastructure, an organization can succumb to the economic consequences of victimization. Some examples of major organizations that can have major consequences include those in education, health care, and law. For example, if a law office experiences a cyber incident, large amounts of personal/financial data can be stolen or leaked, resulting in substantial financial losses and damaging the lives of the innocent people involved.

If a large-scale attack were to cripple one of these organizations, whole societies could be negatively affected; a timeline called, “Significant Cyber Incidents,” created by the Center for Strategic and International Studies (CSIS), recorded an incident that happened to France in January, 2024. The incident was the largest data breach France had ever experienced, the timeline states, “A data breach of French health insurance companies in January 2023 affected 33 million French citizens... attack comprised sensitive birth date, social security...” (CSIS). Tara Seals covers what caused the attack in her article, “33M French Citizens Impacted in Country’s Largest-Ever Breach,” informing that the general director of Viamedis’ (one of the two health insurance companies), stated, “...threat actors mounted a successful phishing attack on an employee as the initial vector.” A Cyber Architect has a critical job that, if done improperly, can have huge negative impacts on entire societies/countries. Weighing in on the proper measures to guard against cyber-attacks with higher risks and probability rather than less probable risks. This will allow an organization to use their resources more effectively, saving money and other resources.

In an article by Melissa Sartore called, “Security Architect Career Overview,” she informs her readers that, “Security architects anticipate potential threats and design systems to preempt them.” (Sartore 2022). Without some type of knowledge on human behaviors, psychology, people’s motivations, and everything else that is covered in Social Sciences, a

Security Architect would be building his infrastructure and security measures blindly. The French data breach affecting 33M citizens I previously mentioned is a prime example of how devastating the human factor can be. All software and hardware can be properly secure, but it only takes one person to allow a hacker access into a secure network system. Social cyber-security, and traditional cyber-security are two different battlefields in the same war which is why the architect needs to be able to navigate and understand both.

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