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Lab 7
Assignment 10

Security Issues of Online Voting Applications

The article we read discussed the security issues involved in Voatz, an online voting application. Vulnerabilities included factors such as storing their blockchain network, which is used to record votes, credentials on their API server, possibly allowing attackers to access and change votes. The article also cited researchers who argued that there is no way to ensure that the online vote recorded is the same as the actual vote. On the other hand, with paper ballots, voting officials can use risk limiting audits and compare random samples of the paper ballots to the results generated by the ballot counting machines.

For online voting in general, there are several factors involved in providing a promising solution. Most importantly, black and white box testing must be done. Black box testing is a method of testing your software through analyzing how it manipulates input into output with no access to the source code. White box testing is similar, but with the addition of the source code being exposed. In addition to security, secrecy and verifiability must be addressed as well. This means that the solution needs to have the ability to verify the identity of the voter and that the vote was that person's intended vote while keeping the voter's identity a secret.

Overall, the takeaway is that there is much room for improvement before adopting online voting. The Voatz team themselves were skilled engineers given several years to create a solution and there were still several security vulnerabilities and a lack of voter secrecy and verifiability. Although online voting presents many benefits, physical voting methods should continue to be used until the security issues and lack of voter secrecy and verifiability are resolved.

Works Cited

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