

An Exploration of Cyber-Security in Free Public Wi-Fi Networks

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Abstract

Information security is considered both an evolving field and a key concern in the modern mobile society. This research explores the vulnerabilities of public, free Wi-Fi hotspots, how their security can be compromised, and the perceptions of end-users, network administrators/owners and information security experts on cyber-security. Primary data was gathered through interviews with these three groups of stakeholders. An experimental test was also set up in a controlled environment to perform penetration testing. The goal of the experimental test was two-fold: to verify whether it is indeed practically possible to exploit the vulnerabilities of public Wi-Fi networks and to assess the level of difficulty for achieving this. The gathered insights were critically evaluated against the literature towards exploring the state of cyber-security in Cyprus. The findings from the thematic analysis of the interviews reaffirm what the literature suggests with regards to users' and owners' lack of awareness and technical skills. Additionally, convenience and cost were cited as major factors explaining why strict security measures are not deployed by small businesses. Coupled with these findings, the experimental test revealed the ease and speed with which public Wi-Fi networks can be compromised.

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