**Case Study ID: 01**

**Wireless Security Protocols**

**1.Introduction**

**1.1 Overview**: Wireless security protocols protect networks from unauthorized access and data breaches. They have evolved from WEP to stronger protocols like WPA3.

**1.2 Objective:** Ensure secure wireless communication through encryption, authentication, and access control.

**2. Background**

**2.1 Organization/System:** Briefly describe the organization and its reliance on wireless networks.

**2.2 Current Network Setup:** Overview of the existing wireless network, including hardware, software, and security protocols.

**3.Problem Statement**

**3.1 Challenges Faced:** Identify security vulnerabilities and issues with the current wireless network.

**4.Proposed Solutions**

**4.1 Approach:** Strategy to address security challenges, such as upgrading protocols and enhancing controls.

**4.2 Technologies/Protocols Used:** List and describe the protocols and technologies to be implemented.

**5.Implementation**

**4.1 Process:** Outline steps for deploying the proposed solutions.

**4.2 Implementation:** Details of the execution, including changes and upgrades.

**4.3 Timeline:** Key milestones and deadlines.

**5.Results and Analysis**

**5.1 Outcomes:** Summary of improvements post-implementation.

**5.2 Analysis:** Evaluate the effectiveness of the solutions.

**6.Security Integration**

* 1. **Security Measures:** Overview of ongoing security practices like monitoring and updates.

**7.Conclusion**

**7.1 Summary:** Recap of objectives, solutions, and results.

**7.2 Recommendations:** Suggestions for future security enhancements.

**8.References**

**1. \*\*Wi-Fi Alliance. (2018). WPA3 Specification.\*\***

Overview of WPA3 security improvements. Available at [wi-fi.org](https://www.wi-fi.org).

**2. \*\*Arbaugh, W. A., Shankar, N., & Wan, Y. C. J. (2001). Your 802.11 Wireless Network has No Clothes.\*\***

Discusses WEP vulnerabilities. Presented at the IEEE Conference on Wireless LANs.

**3. \*\*Housley, R., & Arbaugh, W. (2003). Security Problems in 802.11 Networks.\*\***

**\*Communications of the ACM, 46(5), 31-34.\***

Analysis of security issues in early Wi-Fi networks.

**4. \*\*IEEE. (2004). IEEE 802.11i Standard.\*\***

Introduces WPA2 with AES encryption.

**NAME: B.ADITHYA RAJ**

**ID-NUMBER: 2320030276**

**SECTION-NO: 4**