

Embedded Systems Security: Challenges and Solutions

Kim Rodriguez

PhD

Aalto University

Otakaari 24, 02150 Espoo, Finland

Ashley Baker

Dr.

University of Auckland

Private Bag 92019, Auckland 1142, New Zealand

Alex Campbell

Prof.

Trinity College Dublin

College Green, Dublin 2, Ireland

Abstract. This article addresses the pressing issue of security in embedded systems. It examines the vulnerabilities inherent in these systems and discusses various strategies to mitigate risks. The study reviews encryption techniques, access control measures, and secure coding practices, providing a comprehensive guide to enhancing the security posture of embedded systems in critical applications.

Keywords: embedded systems, security, encryption, access control, secure coding

Introduction

Embedded systems are ubiquitous in modern technology, powering everything from consumer electronics to critical infrastructure. However, their increasing complexity has introduced significant security challenges. This paper explores the vulnerabilities inherent in embedded systems and reviews strategies for mitigating these risks. It delves into encryption techniques, access control measures, and secure coding practices, offering a comprehensive guide to enhancing system security. Through this analysis, the article provides valuable insights into safeguarding embedded systems against emerging threats.

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