

Transforming Sri Lanka's Postal Landscape: A Real Time Alert Based Smart Post Box System

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Traditional Sri Lankan postboxes, burdened by inefficiency and lagging communication, often trap residents in a limbo of missed deliveries and delayed news. Our methodology selects and predicts the optimal system through past research and comparison. The most widely discussed technology is the integration of IoT, which promises to enhance efficiency, security, and user experience. Identified issues for success include improving postal service efficiency, implementing enhanced security measures, and we leverage technologies like Arduino, RFID, and ESP 8266 for streamlined parcel management. Challenges such as infrastructure, regulations, and user acceptance underscore the need for meticulous planning. We integrate weight sensors and Blynk app notifications for enhanced security and monitoring, based on their proven effectiveness. Prioritizing factors like infrastructure, regulation, and user acceptance, our iterative approach ensures successful integration into Sri Lanka's postal services, addressing sector-specific challenges. The inclusion of the image helps visualize the concept of a Smart Postbox and adds a touch of concreteness to the description. Additionally, mentioning the potential future scenario of convenient mail management through smartphone notifications further emphasizes the transformative potential of this system. This study envisions a significant transformation in Sri Lanka's postal services, with the proposed Smart Post Box System serving as a tangible contribution to technological progress and societal advancement. The interdisciplinary nature of the research not only provides actionable insights for local stakeholders but also contributes valuable knowledge for researchers worldwide interested in integrating smart technologies into postal services, particularly in emerging economies.

Keywords: *IoT; Postal system; Smart postbox; Real-time alerts; Security*