**Secure Campus Mini Lab Project Report**

### Submitted By

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**MINI LAB PROJECT REPORT**

This Report Presented in Partial Fulfillment of the course **CSE314: Computer Networks Lab in the Computer Science and Engineering Department**



### DAFFODIL INTERNATIONAL UNIVERSITY

**Dhaka, Bangladesh**

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**SecuCampus – A** Smart Campus Network Design and Implementation

### Project Short Description

Our project is dedicated to designing and implementing a secure, scalable, and efficient campus network that addresses the diverse needs of academic and administrative functions. The network spans multiple buildings, each allocated to specific departmental requirements, such as Departments, Lab, and Branch Campus. Using VLANs, the network ensures logical segmentation and enhanced security by isolating traffic across different buildings. Each building is allocated a unique IP subnet to streamline traffic management and improve address organization. Dynamic IP assignment is facilitated by DHCP servers, ensuring ease of configuration and adaptability for various devices.

Routing within the network is managed through RIPv2, which enables seamless communication between different departments and buildings. For external connectivity, static routing was employed to ensure reliable communication with resources like a cloud-hosted email server. The integration of advanced security measures and VLAN configurations further enhances data protection while ensuring smooth traffic flow. Additionally, the network design provides scalable design principles, making it adaptable to future expansions and technological upgrades.

Besides, our project not only provides a unique framework for campus-wide connectivity but also sets the foundation for modernizing educational and administrative workplaces. By ensuring efficient resource sharing, secure communication, and adaptability to future demands, the proposed network design supports the institution's mission of fostering a collaborative and technologically advanced learning environment