NCYS Project Proposal

RFID Blocker

Group Member:

- **Ovais Adnan (22K-4677)**
- **Hamza Khan (22K-4722)**
- **Sohaib Jaber (22K-4751)**

It is essential to address possible weaknesses that could be used by attackers in an era where universities are relying more and more on technology for security and access control. Access control systems in educational institutions use Radio-Frequency Identification (RFID) technology, making it a prime target for cyberattacks. As part of our Network & Cyber Security course, we intend to provide an RFID Blocker solution specifically for universities, as detailed in this project proposal.

Our project's main objective is to create and put into practice an RFID Blocker solution in C++ that improves the safety and privacy of faculty, staff, and students at universities. Our goals are as follows:

- creating a reliable and effective C++ program that is simple to connect with the current access control systems used by universities.
- ensuring compatibility with a range of RFID cards and tags, including student IDs and staff identification, which are used for campus access.
- providing in place strong authentication and encryption systems to stop unauthorized access to university facilities.
- putting the RFID Blocker's ability to block unauthorized RFID signals through extensive testing.
- giving university administrators a user-friendly interface to set up and keep an eye on the RFID Blocker settings.
- In addition to the objectives previously described, we also hope to create a secure QR code generation module within our C++ program for access control and identity verification. Students, teachers, and staff can utilize the QR codes this module generates for access and authentication.

Furthermore, we aim for using our theoretical knowledge to solve real-world issues as Network & Cyber Security course participants. We have the perfect chance to gain practical experience creating security solutions through this project. Our goal is to demonstrate our skills in both programming and cybersecurity by creating this solution in C++. In conclusion, we look forward to the opportunity to learn and grow through the practical application of our skills in this project.

Yours Sincerely,

[Ovais Adnan]

[Hamza Khan]

[Sohaib Jaber]