**National University of Computer & Emerging Sciences, Karachi**

**Fall 2022**

**Project Proposal**

|  |  |
| --- | --- |
| **Group Leader and ID:** | **Sohaib Shamsi 21K-3278** |
| **Member 1 and ID:** | **Haris Kabir 21K-3291** |

# Project Description: Phone Book

This phone book is very useful nowadays to store contact information under a contact number. The software also has options for removing and changing the contact number entered.

# Project Features:

# Feature 1: Create

# Explanation:

create and add a new contact card which contains the unique phone number. The phone number will be used to generate the unique key using the hashing algorithm. This key will be used as a location to store the phone number. Moreover, this key will make the searching of the contact faster.

# Feature 2: Search Contact

# Explanation:

The unique hash key generated through hashing algorithm stores the contact card in unique addresses. Then at the time of searching same hashing algorithm is used to generate the hash key which points to the location where the contacts are saved. This allows the searching of the contacts faster and the time complexity of the algorithm is O(1) unless a collision occurs and chaining is applied to resolve the Collison.

# Feature 3: Update and Delete Contacts

# Explanation:

With the help of search function, we can easily modify our records. The time complexity of the algorithm is O(1) unless a collision occurs and chaining is applied to resolve the Collison.