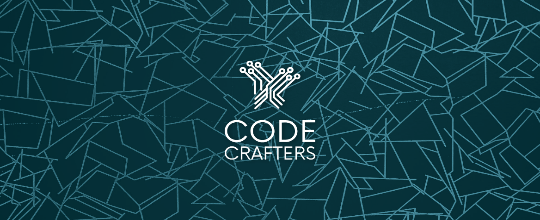
** King Saud University**

**College of Computer and Information Sciences**

**Department of Computer Science**

**Project Title: Linked List Phonebook**

**Phase I**

****

**Group Name**

Code Crafters

**Group Members**

**Abdulaziz Altekhaifi (443100756)**

**Mazen Alkhodairi (443102007)**

**Abdulaziz Alali (443100240)**

**Data Structures (CSC212)**

**First Semester 2023**

**Dr. Mohammed Alzaid**

**Workplan:**

**We started working on 5th of October.**

**Table below shows the work plan that was followed to achieve this application.**

|  |  |
| --- | --- |
| **Class** | **Date** |
| Contact | 7-9 Oct |
| ContactSearchCriteria | 7-9 Oct |
| Event | 7-9 Oct |
| EventSearchCriteria | 7-9 Oct |
| LinkedListADT | 5,6 Oct |
| Node | 5,6 Oct |
| PhoneBook | 10-13 Oct |
| Editing Classes | 14,15 Oct |
| Report and Big-Oh | 16,17 Oct |

**Meetings:**

**Meeting 1 (8/10):** Adding and implementing attributes of contact and events classes.

**Meeting 2 (9/10):** Determining search criteria for contact and events.

**Meeting 3 (10/10):** Short meeting, start working on phonebook and determining its methods.

**Meeting 4 (11/10):** Short meeting, discussing methods to be added to phonebook class.

**Meeting 5 (12/10):** Start of implementing phonebook methods.

**Meeting 6 (13/10):** Finalizing the methods of phonebook class.

**Meeting 7 (14/10):** Make phonebook class shorter by moving some methods to other classes.

**Meeting 8 (15/10):** Exception handling/testing of all classes.

**Meeting 9 (16/10):** Start working on the report.

**Meeting 10 (17/10):** Finish working on the report.

**Distribution of tasks:**

|  |  |  |
| --- | --- | --- |
| **Class** | **Implementer** | **Reviewed by** |
| Contact | Alali | Altekhaifi, Mazen |
| ContactSearchCriteria | Alali | Altekhaifi, Mazen |
| Event | Altekhaifi | Alali, Mazen |
| EventSearchCriteria | Altekhaifi | Alali, Mazen |
| LinkedListADT | Mazen | Alali, Altekhaifi |
| Node | Mazen | Alali, Altekhaifi |
| PhoneBook | Alali, Altekhaifi, Mazen. | All |
| Report and Big-Oh | Alali, Altekhaifi, Mazen. | All |

**Assumptions:**

**- Every contact has its own events linked list (one to many relationship).**

**- We assumed that the name format is “First Last”.**

**- Phone number must be 10 digits.**

**- The email address format must be (**[**example@example.example**](mailto:example@example.example)**).**

**- The birthday must be formatted as (dd/mm/yyyy).**

**- Event time must be formatted as (dd/mm/yyyy HH:mm).**

**Technologies used by group members during project:**

**- WhatsApp for communication and exchanging code files.**

**- Discord for meetings.**

**- Stack Overflow for checking errors.**

**- ChatGPT for errors and comments.**

**- Smashing Logo for the creation of our AI generated logo.**

**- Eclipse IDE as code editor.**

**- W3Schools and Harmash for basic coding concepts.**

**- YouTube for understanding libraries.**

**Time Complexity:**

|  |  |  |
| --- | --- | --- |
| **Method** | **Total T(n)** | **Big - O** |
| addContact() | 6n2+79n+35 | O(n2) |
| searchForContact() | 3n2+36n+31 | O(n2) |
| deleteContact() | 4n3+18n2+48n+12 | O(n3) |
| scheduleEvent() | 3n2+42n+43 | O(n2) |
| printEventDetails() | 3n2+35n+19 | O(n2) |
| printContactsByFirstName() | 3n2+29n+9 | O(n2) |
| printAllEventsAlphabetically() | n+1 | O(n) |