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)

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Abdulaziz Alali (443100240)

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).**

- **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()	$6n^2+79n+35$	$O(n^2)$
searchForContact()	$3n^2+36n+31$	$O(n^2)$
deleteContact()	$4n^3+18n^2+48n+12$	$O(n^3)$
scheduleEvent()	$3n^2+42n+43$	$O(n^2)$
printEventDetails()	$3n^2+35n+19$	$O(n^2)$
printContactsByFirstName()	$3n^2+29n+9$	$O(n^2)$
printAllEventsAlphabetically()	$n+1$	$O(n)$