S.t Mary's University

Programming fundamentals 2

Project phase 1

Class diagram of structures and functions design for Bus Routing System

GROUP MEMBERS.   ID

1 Debra Behaylu.   RCD/3263/2013

2 Wubtsega Sitotaw   RCD/0160/2014

3 Fitsum Abrham   RCD/0553/2015

4 Atnatewos Bekele   RCD/0535/2015

COMPONENETS

--Login

--Bus driver

--Bus route and

--Bus

**Are the structures for the code that will be done with nested structure

**Are the classes for the code that will be done with class by applying inheritance and polymorphism concept.

=>There are total of 12 functions included on the class diagram all having void return type.

=>Each classes have their own attributes stated with their data type.

=> The order of the structs will remain the same with the class diagram in terms of order.

=> The order of the class in contrast will change as the base class is "bus" and the derived classes are Bus route and bus driver as it is stated by the direction of the arrow.

=> The red and yellow arrows represent the removal and modification of an instance.

~While the red corresponds to delete.

~The yellow corresponds edit.

Structure and Function Design

LogIn
user_name: string
password: string

BusDriver
driverName: string
driverID: int
phoneNo: int
email: string

BusRoute
routeNo: int
arrTime: string
departTime: string
source: string
destination: string
distace: float

Bus
busID: int
busName: string
br: BusRoute
bd: BusDriver

---

view_bus(Bus*&, int): void

Display Route's Detail
Displays Bus's details

---

view_busD(Bus*&, int): void

Displays Driver's details

---

search_records(Bus*&, int): void

Accepts Bus number
Displays Bus detail
Display Route detail

---

exit(): void

Displays Termination Mesasge

---

welcome_message(): void

Displays welcome message
Calls menu()

---

menu(): void

Displays Menu options
Accepts User choice
Based on choice Calls -
- add_bus()
- add_busD()
- edit_bus()
- edit_busD()
- delete_bus()
- delcte_busD()
- view_bus()
- view_busD()
- search_records()

---

add_bus(Bus*&, int): void

Accepts bus ID
Accepts bus name
Accepts route number
Accepts arrival time
Accepts departure time
Accepts source
Accepts destination
Accepts distance

---

add_busD(Bus*&, int): void

Accepts driver ID
Accepts driver name
Accepts driver phone no.
Accepts driver address
Accepts driver email

---

edit_bus(Bus*&, int): void

Accepts Bus number
Edits Bus information
Edit Route information

---

edit_busD(Bus*&, int): void

Accepts Driver ID
Edits Driver information

---

delete_bus(Bus*&, int): void

Accepts Bus number
Deletes Bus information
Delete Route information

---

delete_busD(Bus*&, int): void

Accepts Driver ID
Deletes Driver information