

Phone Applications Exercise 2

Date : 08/06/23

Group Serial Number: 1

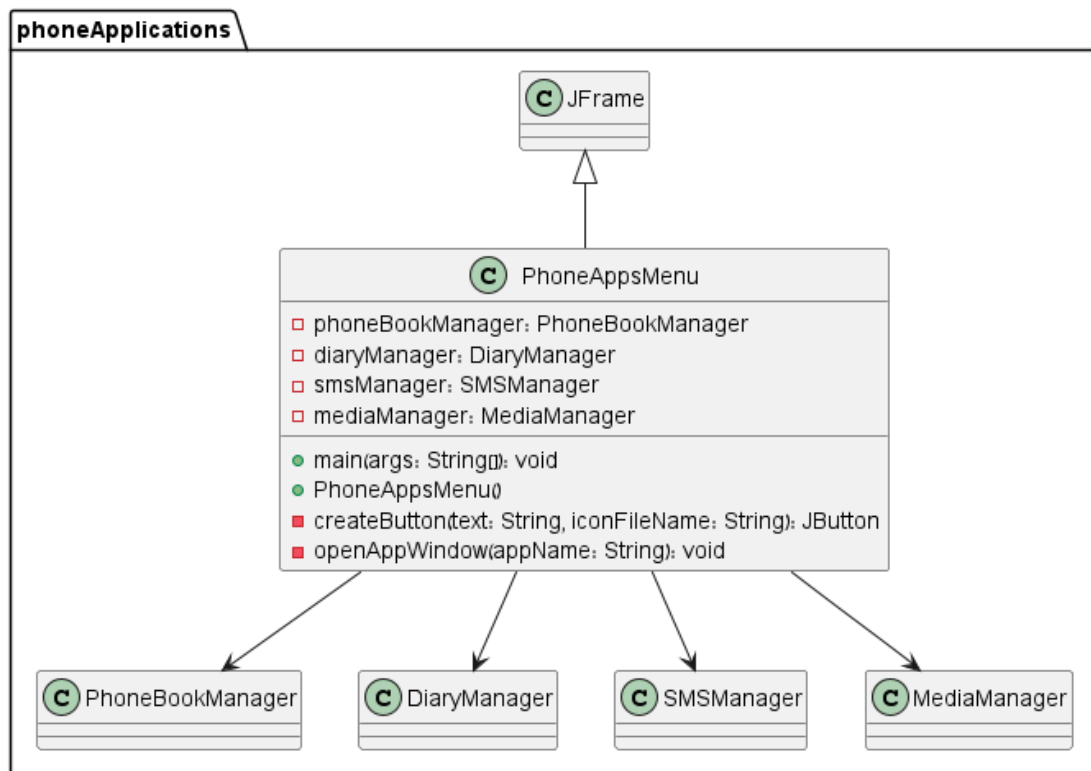
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phoneApplication package :

PhoneAppsMenu: Represents the main menu of phone applications. It has references to various managers, including PhoneBookManager, DiaryManager, SMSManager, and MediaManager.

MediaApp Package:

Media: An abstract class representing media with properties such as name and duration.

Music and Video: Concrete subclasses of Media representing specific types of media.

MediaPlayer: Manages a collection of media objects and provides methods for adding, retrieving, and playing media.

MediaManager: Manages the MediaPlayer instance.

MediaWindow: Manages the MediaManager instance and GUI.



PhoneBookApp Package:

PhoneBookWindow: Represents the window for the phone book application. It has a reference to the PhoneBookManager and handles UI interactions.

PhoneBookManager: Manages a contact list and observers.

It also allows registering and notifying observers when contact-related events occur.

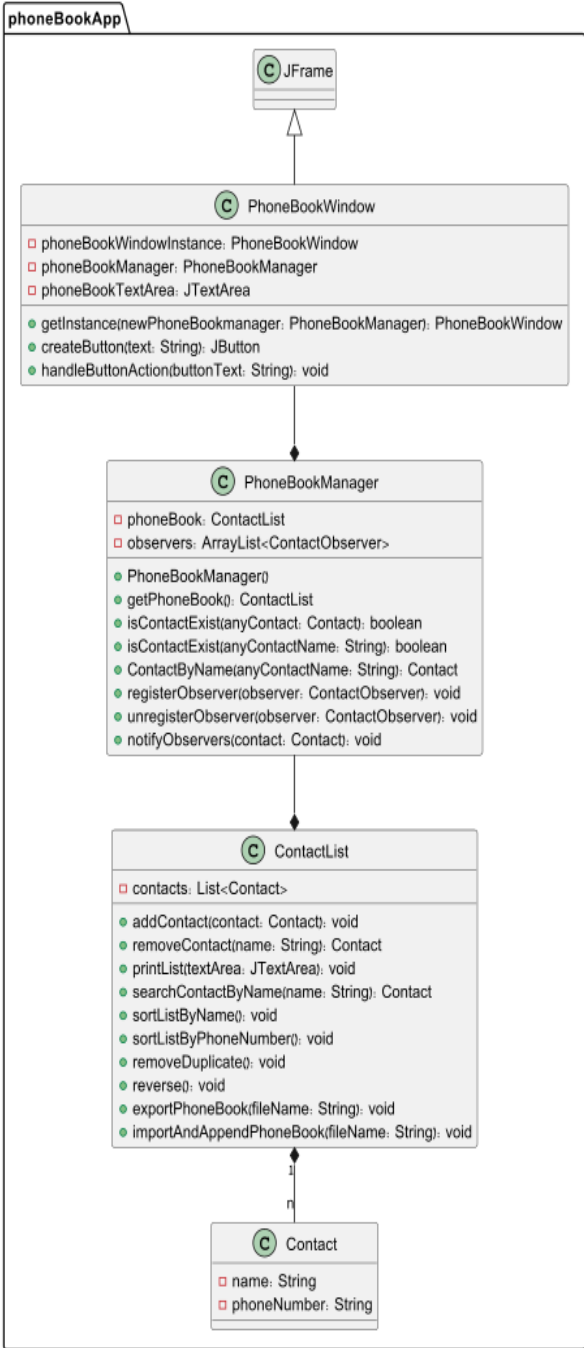
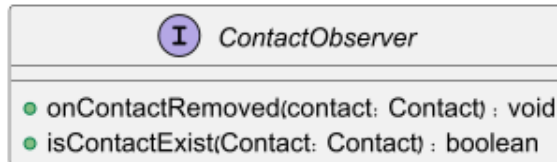
ContactList: Represents a list of contacts and provides various operations on the list.

Contact: Represents a contact with properties like name and phone number.

ContactObserver (Interface): Defines the contract for observing contact-related events.

ContactPhoneComparator: Define compare between phone numbers.

ContactNameComparator: Define compare between names.



DiaryApp Package:

Event: An abstract class representing an event in the diary with properties like date and duration.

GeneralEvent: A subclass of Event representing a general event with an additional description.

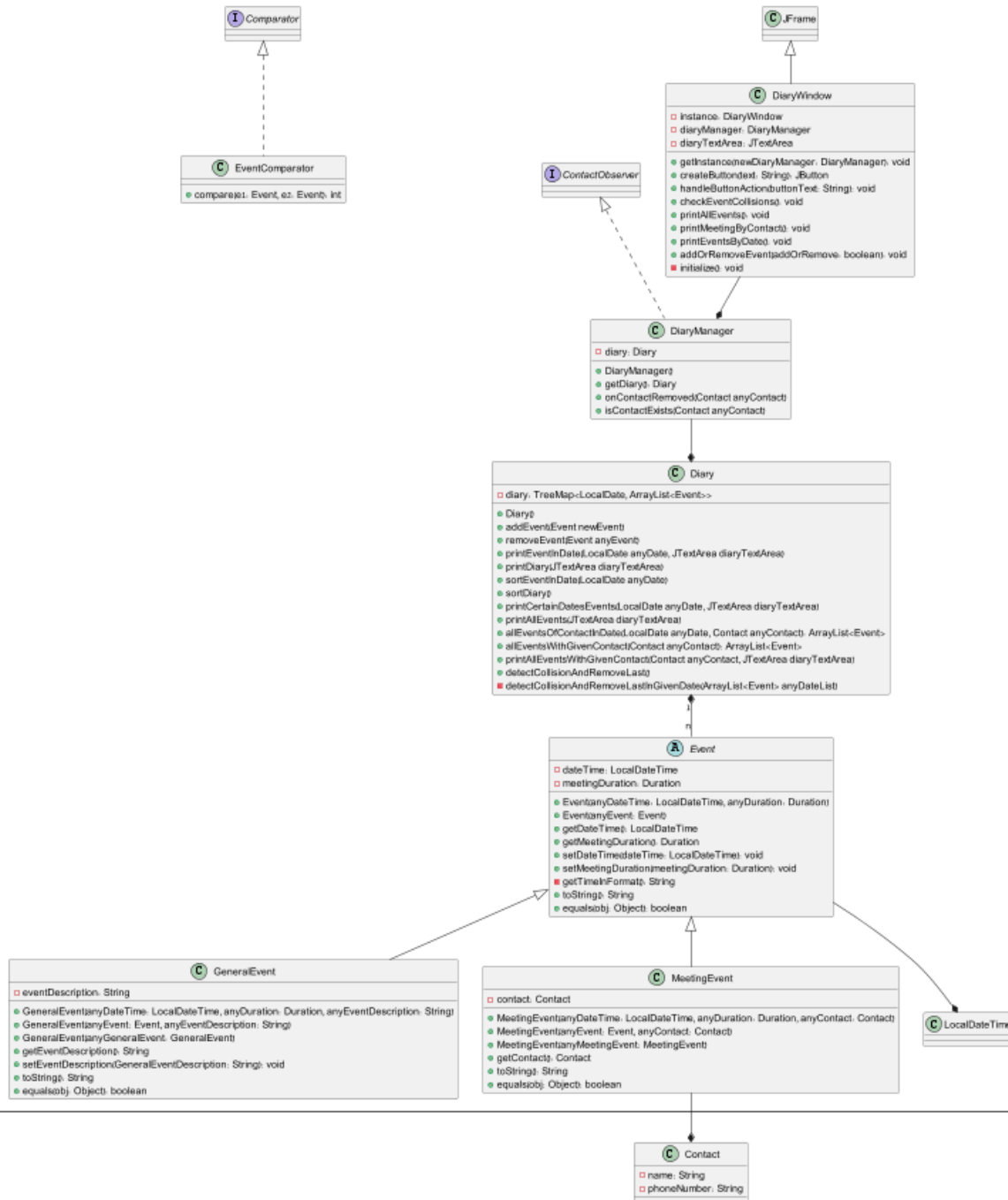
MeetingEvent: A subclass of Event representing a meeting event with an associated contact.

Diary: Manages a diary with a collection of events. It provides methods for adding, removing, sorting, and retrieving events.

DiaryWindow: Represents the window for the diary application. It has a reference to the DiaryManager and handles UI interactions.

DiaryManager: Manages the Diary instance and implements the ContactObserver interface. It provides methods for adding, removing, and searching events in the diary.

EventComparator: Compare between events.



SMSApp Package:

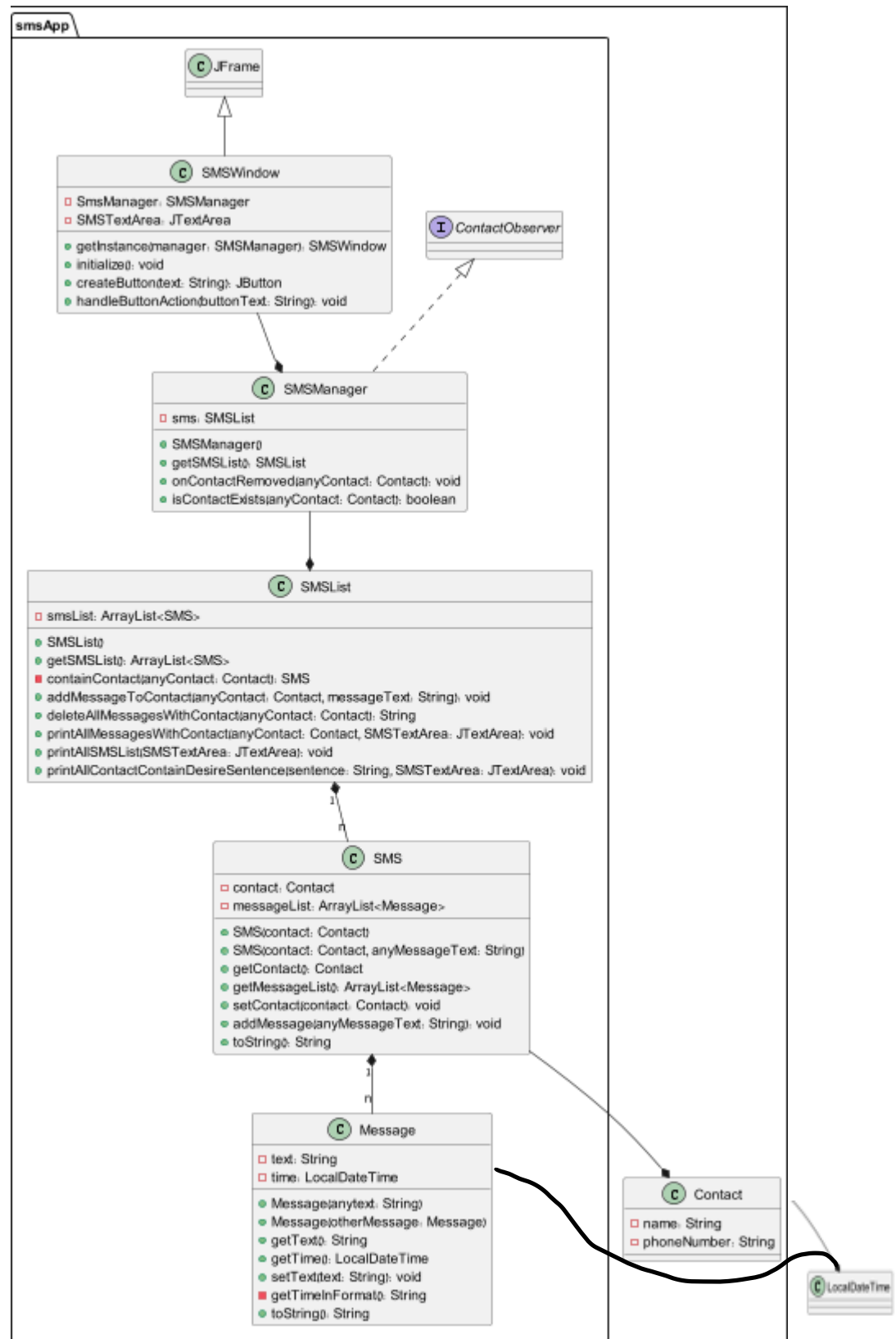
Message: Represents an individual SMS message with text and time properties.

SMS: Represents a collection of messages associated with a contact.

SMSList: Manages a list of SMS objects and provides methods for adding, deleting, and retrieving messages.

SMSManager: Manages the SMSList instance and implements the ContactObserver interface. It provides methods for adding, removing, and searching SMS messages.

SMSWindow: Represents the window for the SMS application. It has a reference to the SMSManager and handles UI interactions.



Relationships:

PhoneAppsMenu has associations with various manager classes (PhoneBookManager, DiaryManager, SMSManager, and MediaManager).

Media is an abstract class extended by concrete classes Music and Video.

MediaPlayer has an aggregation relationship with multiple Media objects.

MediaManager has an association with MediaPlayer.

MediaWindow has a composition relationship with MediaManager.

PhoneBookWindow has an association with PhoneBookManager.

PhoneBookManager has an association with ContactList and a composition relationship with ContactObserver.

ContactList has an association with Contact.

DiaryWindow has an association with DiaryManager.

DiaryManager has an association with Diary and a composition relationship with ContactObserver.

Diary has an aggregation relationship with multiple Event objects.

SMSWindow has an association with SMSManager.

SMSManager has an association with SMSList and a composition relationship with ContactObserver.

SMSList has an association with SMS and Contact.

SMS has an aggregation relationship with multiple Message objects.

Observer Pattern: The observer pattern is utilized in the code through the ContactObserver interface. Classes DiaryManager, and SMSManager implement this interface, allowing them to observe contact-related events. The PhoneAppsMenu class indirectly interacts with the observers through its associations with the respective managers.

Singleton Pattern: Windows are singleton for preserve the current window.

Strategy Pattern: The usage of comparators (ContactNameComparator , ContactPhoneComparator EventComparator) defines custom sorting behavior.