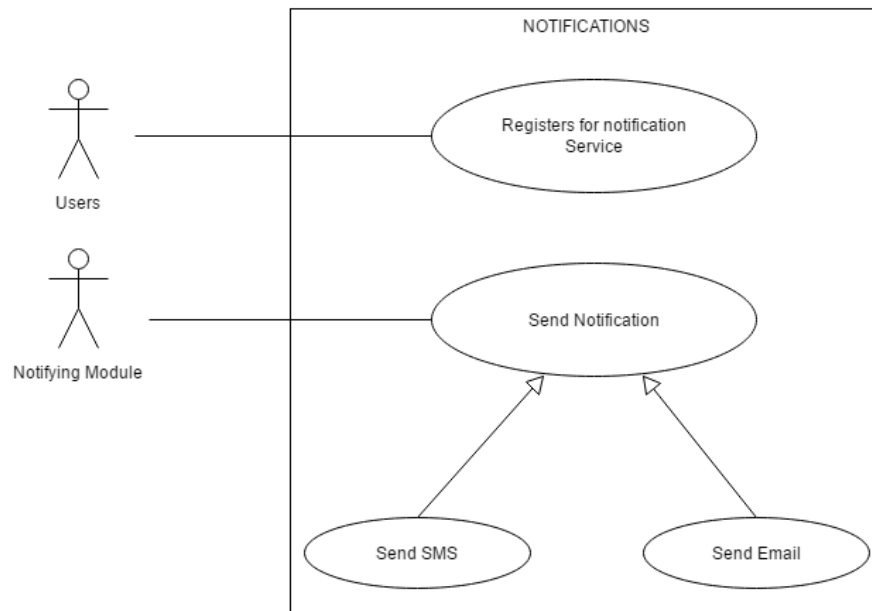# 1 Subsystems

1.1 Notification Subsystem
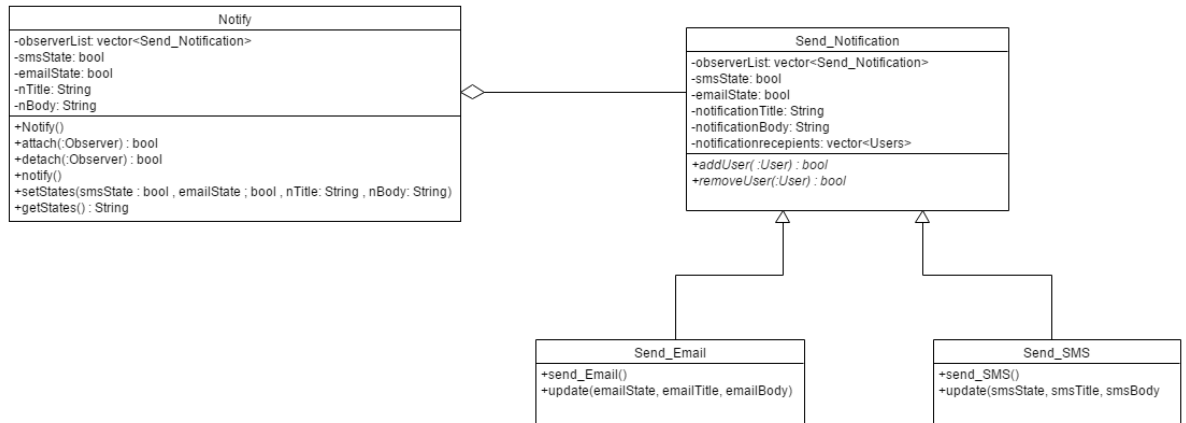
1.1.1 Overview

The notifications module provides notifications to system users regarding particular system updates that a user would like to be notified about through some medium external to the application.

For the class diagram we decided to use the observer design pattern which would be used to notify and update the Send Email and Send SMS classes, included in this is the strategy design pattern, such that Send Email and Send SMS inherit from Send Notification and this class is abstract. There are methods in the Send Email and Send SMS classes that allow users to be added to the user lists for the notifications to either or both of these mediums. There is also provision for more notification mediums to be added in the future and these can be attached to the Notify class. Should a notification medium be unavailable it can be detached from the Notify class until it is available. The Notify class can be called from any other module that would like to request a notification to be sent out to users.
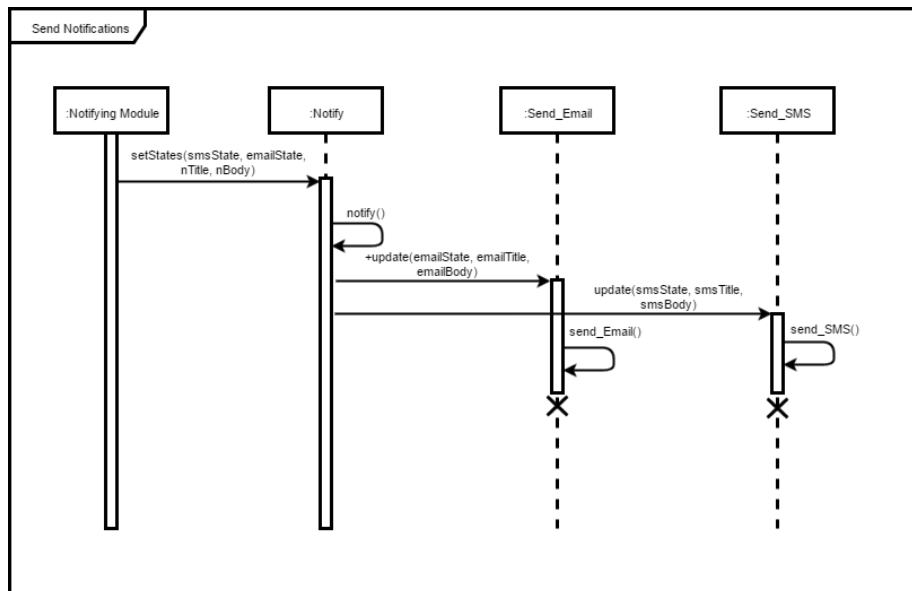
1.1.2 UML Diagrams

Notification Use Case Diagram

Notify

-observerList: vector<Send_Notification>
-smsState: bool
-emailState: bool
-nTitle: String
-nBody: String

+Notify()
+attach(:Observer) : bool
+detach(:Observer) : bool
+notify()
+setStates(smsState : bool , emailState ; bool , nTitle: String , nBody: String)
+getStates() : String

Send_Notification

-observerList: vector<Send_Notification>
-smsState: bool
-emailState: bool
-notificationTitle: String
-notificationBody: String
-notificationrecepients: vector<Users>

+addUser(:User) : bool
+removeUser(:User) : bool

Send_Email

+send_Email()
+update(emailState, emailTitle, emailBody)

Send_SMS

+send_SMS()
+update(smsState, smsTitle, smsBody)

Notification Class Diagram

Send Notifications

:Notifying Module   :Notify   :Send_Email   :Send_SMS

setStates(smsState, emailState, nTitle, nBody)

notify()

+update(emailState, emailTitle, emailBody)

update(smsState, smsTitle, smsBody)

send_Email()

send_SMS()

Navigation Sequence Diagram

Registering for, and Sending a Notification

Users	Event/ Module Administrator	Notification Module
●		
User registers to receive notifications by another external medium.	Notifying module creates a new notification to be sent.	Notification is sent to Users registered to the applicable external notification system.
		◉
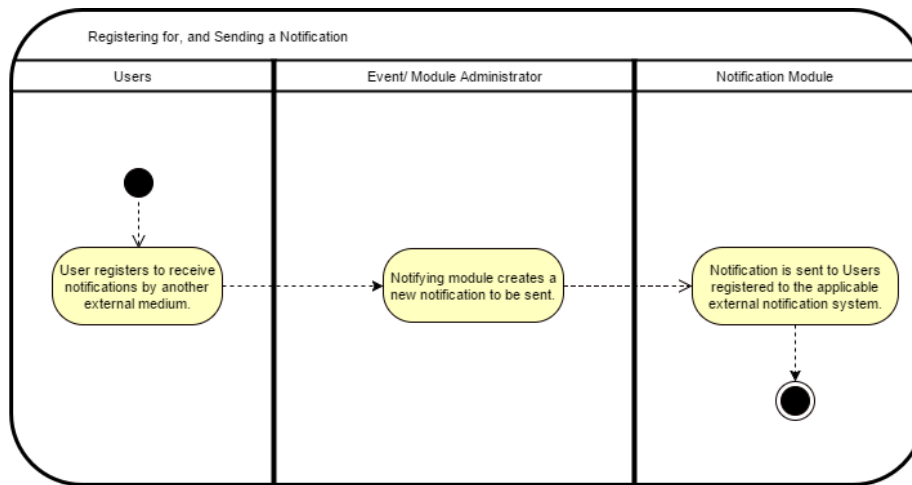
Navigation Activity Diagram

Send Notifications

●

User registers to receive notifications by another external medium/s.

User is registered for external medium/s notifications.

Administrator of notifying module creates a new notification to be sent.

New notification is created.

Notification is sent to Users registered to the applicable external notification system.

Notification is delivered to registered users.

◉

Navigation State Diagram