**Integrative Task#1 Computation and Discrete Structures 1**

**By: Juan Pablo Parra, Stick Martinez and Daniel Gonzalez**

**Specification of requirements:**

**SOFTWARE ENGINEERING PROBLEM SPECIFICATION TABLE**

|  |  |
| --- | --- |
| CLIENT | Owner of the task and reminder system |
| USER | Any person using the system |
| FUNCTIONAL REQUIREMENTS | **RF1**: Store tasks and reminders  **RF2:** Add tasks  **RF3:** Add reminders  **RF4:** Modify tasks  **RF5:** Modify reminders  **RF6:** Delete tasks  **RF7:** Delete reminders  **RF8:** Manage task priorities |
| CONTEXT OF THE PROBLEM | Creating a task and reminder management system entails three core functions: task and reminder addition, organization, and management. To effectively capture and store both elements, we must also incorporate a system for prioritization, classifying tasks into two main categories: "Priority" and "Non-priority." Priority tasks should be registered in the task queue with higher visibility, ensuring that the most critical tasks are displayed prominently. Meanwhile, non-priority tasks are managed on a first-come, first-served basis. Additionally, it is crucial to implement an action logging feature to enable users to undo any actions they've taken, whether it involves adding, modifying, or deleting tasks or reminders. |
| NON-FUNCTIONAL REQUIREMENTS | RNF : Interfaz de usuario concreta fácil de comprender |

| **Name or identifier** | **RF1**: Store tasks and reminders | | |
| --- | --- | --- | --- |
| **Summary** | The program must be able to store tasks and reminders using a key that in our case is a unique identifier and the value is the information that is associated with the object we are storing (title, description, deadline, priority). | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| Key | String | Must be unique |
| Value | String | Title, description, deadline, priority |
| **Result or postcondition** | The task or reminder is stored by using an identifier | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
| ItStore | boolean | if true it was stored correctly, if false it was not stored correctly |

| **Name or identifier** | **RF2:** Add tasks | | | |
| --- | --- | --- | --- | --- |
| **Summary** | The program must be able to create a task which requires the following: register a title, description, deadline and its priority. | | | |
| **Entries** | Input name |  | Data type | Selection or repetition condition |
| Title |  | String | no more than 30 characters |
| Description |  | String | no more the 300 characters |
| Deadline |  | Calendar | Calendar type or Date |
| Priority |  | Enum | EnumPriority.PRIORITY  EnumPriorty.NOT\_PRIORITY |
| **Result or postcondition** | Adds task to hash table | | | |
| **Outputs** | Output name |  | Data type | Selection or repetition condition |
| taskAdded |  | boolean | if true it was stored correctly, if false it was not stored correctly |

| **Name or identifier** | **RF3:** Add reminders | | |
| --- | --- | --- | --- |
| **Summary** | The program must correctly add reminders. In order to add a reminder you need to register its title, description, deadline and priority. | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| Title | String | no more than 30 characters |
| Description | String | Less than 300 characters |
| DeadLine | Calendar | Calendar type or Date |
| **Result or postcondition** | Adds reminder to hash table | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
| reminderAdded | boolean | if true it was register correctly, if false it was not register correctly |

| **Name or identifier** | **RF4:** Modify tasks | | |
| --- | --- | --- | --- |
| **Summary** | The program must allow the user to modify all of the attributes stored in the task. | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| Title | String | no more than 30 characters |
| Description | String | Less than 300 characters |
| DeadLine | Calendar | Calendar type or Date |
| Priority | Enum | EnumPriority.PRIORITY  EnumPriorty.NOT\_PRIORITY |
| **Result or postcondition** | Add the final changes to the task at hand | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
| taskModified | boolean | if true it was modified correctly, if false it was not modified correctly |

| **Name or identifier** | **RF5:** Modify reminders | | |
| --- | --- | --- | --- |
| **Summary** | The program must be able to modify reminders based on its 3 elements. Which are title, description and deadline. | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| Title | String | no more than 30 characters |
| Description | String | Less than 300 characters |
| DeadLine | Calendar | Calendar type or Date |
| **Result or postcondition** | The reminder was modified ( add the final changes to the task at hand ) | | |
| **Outputs** | reminderModification | boolean | if true it was modified correctly, if false it was not modified correctly |

| **Name or identifier** | **RF6:** Delete tasks | | |
| --- | --- | --- | --- |
| **Summary** | The program must allow the user to delete a task. Deleting a task must remove it from the storage. | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| WhichTask | Int | Can only receive integers. |
| **Result or postcondition** |  | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
| deleteTask | boolean | if true it was deleted correctly, if false it was not deleted correctly |

| **Name or identifier** | **RF7:** Delete reminders | | |
| --- | --- | --- | --- |
| **Summary** | The program must be able to delete a reminder. Deleting a reminder removes it from the storage. | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
| whichReminder | Int | Can only receive Intergers |
| **Result or postcondition** | The reminder is removed from the hash table in hand. | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
| deleteReminder | boolean | if true it was deleted correctly, if false it was not deleted correctly |

| **Name or identifier** | **RF8:** Manage task priorities | | |
| --- | --- | --- | --- |
| **Summary** | The program should be able to classify tasks into two major classifications which are priority and non priority | | |
| **Entries** | Input name | Data type | Selection or repetition condition |
|  |  |  |
| **Result or postcondition** | The tasks are divided between priority and not priority, continuing the order in which it was inserted. | | |
| **Outputs** | Output name | Data type | Selection or repetition condition |
|  |  |  |