**Tasks and reminders management system**

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| Client | Computer Science and Discrete Structures 1 Teachers |
| User | Course monitors and users. |
| Functional requirements | RF0: Create tasks and reminders.  RF1: Check tasks and reminders.  RF2: Modify tasks and reminders.  RF3: Delete tasks and reminders.  RF4: Priority management  RF5: Undo the last user action. |
| Context of the problem | A Task and Reminder Management System needs to be developed to help users organize their daily activities, set reminders, and effectively track their pending tasks. The system must be easy to use, accessible from different devices and provide an intuitive and efficient user interface. |
| Non-functional requirements | The code must be written in Java, structures seen in class must be used (such as stacks, queues, or hash tables). |

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| Identifier and name | *[RF0-*Create tasks and reminders*]* | | | |
| Summary | The system must allow the user to create tasks and reminders with the following data: title, description, deadline, priority, etc.  It must be stored in a hash table and must generate a unique identifier. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
| title | String | | *It must have at least two characters and be unique.* |
| limitDate | Calendar | | *The date must be later than the current date and no more than 5 years.* |
| description | String | | *Must be at least 10 characters* |
| priority | int | | *non-negative numbers* |
| Result or Postcondition | The reminder or task will be saved in the system | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
| created | | String | *"Created"* |
|  | notCreated | | String | *“Could not be created, title already exists”* |

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| Identifier and name | *[*RF1: Check tasks and reminders*]* | | | |
| Summary | The system must be able to show the user their pending tasks and reminders. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
| id | int | |  |
| Result or Postcondition | The system will search and display the search result (whether it was found or not). | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
| found | | String | *title + “, priority: “ + priority + “ “ + id+\n”*  *+description + ”\ndate: ” limitDate* |
| not found | | String | *“No reminders or tasks found”* |

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| Identifier and name | *[*RF2: Modify tasks and reminders*]* | | | |
| Summary | The system must allow the user to modify any reminder or task. You can modify each of the aspects except the id (title, description, date, priority) or you can leave them as they were.  The user chooses according to the unique identifier of each task or reminder. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
| id | String | |  |
| newLimitDate | Calendar | | *The date must be later than the current one and no more than 5 years.* |
| newTitle | String | | *must be at least two characters* |
| newDescription | String | | *Must be at least 10 characters* |
| newPriority | int | | *non-negative numbers* |
| Result or Postcondition | The system will replace the information | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
| valid | | String | *“modified”* |
| inValid | | String | *“id not found”* |

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| Identifier and name | *[*RF3: Delete tasks and reminders*]* | | | |
| Summary | The system must allow the user to delete tasks or reminders.  If it is a priority task, the highest priority must be eliminated; if it is not a priority task, the oldest task (the one that entered first) is eliminated. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
| option | int | | *1 if the task is a priority task, 2 if it is not a priority task* |
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| Result or Postcondition | Delete the task or reminder given the identifier | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
| eliminated | | String | *“Successfully removed”* |
| notEliminated | | String | *“Could not delete, the id does not exist”* |

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| Identifier and name | *[*RF4: Priority management*]* | | | |
| Summary | The system must manage a priority system, the highest priority tasks will always be carried out before the lowest priority ones in all cases. If the task has the same priority as another or the priority is null, then the one that was created before in the task queue will be performed first. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
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| Result or Postcondition | The system is responsible for managing priorities when adding or modifying a task. | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
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| Identifier and name | *[*RF5: undo the last user action.*]* | | | |
| Summary | The system must allow the user to return their last action, such as adding, deleting or modifying a task. | | | |
| Appetizer | **Entry name** | **Datatype** | | **Condition valid values** |
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| Result or Postcondition | The system will return to the previous system state. | | | |
| Departures | **Output name** | | **Datatype** | **Format** |
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