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## Requirement Analysis

Case:

<b>Client</b>	ICESI University
<b>User</b>	Students
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>- R1: Add a task and/or reminder</li> <li>- R2: Modify a task and/or reminder</li> <li>- R3: Delete a task and/or reminder</li> <li>- R4: See a list of tasks and reminders</li> <li>- R5: Register actions</li> <li>- R6: Undo actions</li> </ul>
<b>Problem Context</b>	<i>ICESI University needs our software engineering abilities to create a management system of tasks and reminders. This system must allow the user to add, sort, and manage their pending tasks as well as their reminders.</i>
<b>Non Functional requirements</b>	<ul style="list-style-type: none"> <li>- Usage of data structures such as hash, queue and stack.</li> <li>- Test cases implementation to ensure the correct operating of the program.</li> <li>- The program must be sustainable and secure.</li> <li>- The program must be efficient (in run time and space complexity)</li> </ul>

Identifier and Name	R1: Add a task and/or reminder		
Summary	<i>The program must allow to add the tasks and reminders</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	title	String	
	description	String	
	limitDate	Date	<i>dd-mm-yyyy</i>
	priority	Boolean	<i>true or false</i>
Result or Postcondition	The system verifies that the task is added successfully The system verifies that the reminder is added successfully		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>

	message	String	<i>"The task : "title" Has been successfully added</i>
	message	String	<i>"The reminder: "title" Has been successfully added</i>

Identifier and Name	R2: Modify a task and/or reminder		
Summary	<i>The system must allow the user to modify the content of an added task.</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	title	String	<i>Can not be empty</i>
	description	String	<i>Can not be empty</i>
	limitDate	Date	<i>dd-mm-yyyy</i>
	priority	Boolean	<i>Priority or No priority</i>
Result or Postcondition	The system verifies the modifications and updates the information of the task.		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>
	message	String	<i>"The task : "title" Has been successfully modified</i>
	message	String	<i>"The reminder: "title" Has been successfully modified</i>

Identifier and Name	R3: Delete a task and/or reminder		
Summary	<i>The system must allow the user to delete any of the tasks they have created.</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	title	String	<i>Can not be empty</i>
	description	String	<i>Can not be empty</i>
	limitDate	Date	<i>dd-mm-yyyy (A date that hasn't yet passed)</i>

	priority	Boolean	<i>Priority (true) or No priority (false)</i>
Result or Postcondition	The system verifies the deletion of a task/reminder, and updates the list of tasks and reminders..		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>
	message	String	<i>"The task : "title" Has been successfully deleted</i>
	message	String	<i>"The reminder: "title" Has been successfully deleted</i>

Identifier and Name	<i>R4: See a list of tasks and reminders</i>		
Summary	<i>The system must allow the user to see their list of tasks and reminders whenever they want. It should show them like a list.</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	n/a	n/a	n/a
Result or Postcondition	<i>The user will be able to see their list of tasks and reminders</i>		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>
	Tasks	Task	<i>List</i>

Identifier and Name	<i>R5: Register actions</i>		
Summary	<i>The system must allow the user to register their actions within the system, including adding, modifying, and deleting tasks and reminders. This registration is essential for implementing the undo functionality (R6).</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	action	String	<i>Must be one of the following: "Add Task," "Modify Task," "Delete Task," "Add Reminder," "Modify Reminder," "Delete Reminder"</i>
	actionDetails	String	<i>Details of the specific action performed,</i>

			<i>including task/reminder title or description</i>
Result or Postcondition	The system records the user's actions, including the type of action and relevant details, for later use in the undo functionality (R6).		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>
	message	String	<i>"The action: "action" has been successfully registered."</i>

Identifier and Name	<i>R6: Undo actions</i>		
Summary	<i>The system must allow the user to undo their last action within the system. This undo functionality should revert the last action performed, whether it was adding, modifying, or deleting a task or reminder.</i>		
Input	<b>Input name</b>	<b>Data type</b>	<b>Valid condition</b>
	n/a	n/a	n/a
Result or Postcondition	The system reverts the last action performed by the user, restoring the previous state of the task and reminder list.		
Output	<b>Output name</b>	<b>Data type</b>	<b>Format</b>
	message	String	<i>"The last action has been successfully undone."</i>