ENGINEERING DESIGN METHOD

PHASE 1: PROBLEM IDENTIFICATION

Client	ICESI University
User	User
Problem context	*A task and reminder management system is needed that allows users to add, organize and manage their to-dos and reminders.* *The system must contain specific components and functionalities for:* - *Store tasks and reminders in a hash table.* - *Allow users to add, modify and delete tasks and reminders through a user interface.* - *Manage task priorities using priority queues and queues.* - *Undo actions performed by the user in the system using a stack that allows tracking of these actions.*
Functional requirements	The system must allow users to add **RF1.** Add a task or reminder. **RF2.** Modify task or reminder. **RF3.** Delete task or reminder. **RF4.** View tasks and reminders. **RF5.** Undo last action performed.
Non-functional requirements	- The user interface should be intuitive and easy to use.

Identifier and name	*RF1. Add a task or reminder.*		
Summary	*The system should allow the user to add a task or a reminder by entering the following information:* - *Title* - *Description* - *Date* - *Time* *Additionally, the user must specify whether it is a task or a reminder. In the case of a task, they will be asked to indicate whether it is prioritized or not, and if it is prioritized, they should specify its priority level: HIGH, MEDIUM, or LOW.* *All tasks and reminders should be stored in a hash data structure. Furthermore, prioritized tasks should be stored in priority queues, and non-prioritized tasks in regular queues.*		
Inputs	**Input Name**	**Data Type**	**Valid Value Condition**
	title	String	*Maximum 70 characters allowed.*
	description	String	*Maximum 600 characters allowed.*

	date	Calendar	*Date must be equal to or later than the current date.*
	dayTime	Calendar	*Time must be later than the current time.*
	isTask	Boolean	*True if it's a task.* *False if it's a reminder.*
	isPriority	Boolean	*Only entered when it's a task.* *True if it's a priority task.* *False if it's not.*
	levelPriority	Priority	*Only entered when it's a task and isPriority is true.* *Priority levels: HIGH, MEDIUM, LOW.*
Result or Postcondition	The system validates that the inputs meet the conditions. If they do, it adds the task or reminder to the hash table. If it's a task, it stores it in a priority queue if it's prioritized or in a regular queue if it's not. Finally, the system informs the user that the task or reminder has been added successfully and provides them with the key. On the other hand, if the inputs do not meet the conditions, the system displays an alert message to the user.		
Outputs	**Output Name**	**Data Type**	**Format**
	message	String	*“The task/reminder has been successfully added. its key is: XXXXX”*
	error	String	*“Error: …”*

Identifier and Name	*RF2. Modify Task or Reminder*		
Summary	*The system should allow the user to modify a specific task or reminder, given a key and the name of the task or reminder. The user must enter which data they want to change and the new value to be assigned.*		
Inputs	**Input Name**	**Data Type**	**Valid Value Condition**
	key	String	*Numbers or letters can be entered.*
	name	String	Numbers, letters, or special characters can be entered.
	data	String	Puedes ingresar las palabras "title," "description," "date,"

			"time of day," "if it's a task," "if it's prioritized," and "priority level."
	value	String	Numbers, letters, or special characters can be entered.
Result or Postcondition	The system has located the task or reminder and has modified the selected feature as chosen by the user with the provided new value.		
Outputs	**Output Name**	**Data Type**	**Format**
	alert	String	*The system informs whether the object could be modified or not in the form of an alert or message.*

Identifier and Name	*RF3. Delete Task or Reminder*		
Summary	*The system allows the user to delete a specific task or reminder, given a key and the name of the task or reminder.*		
Inputs	**Input Name**	**Data Type**	**Valid Value Condition**
	key	String	*Numbers or letters can be entered.*
	name	String	Numbers, letters, or special characters can be entered.
Result or Postcondition	The system found the task or reminder and deleted the associated object.		
	Output Name	**Data Type**	**Format**
Outputs	alert	String	*The system informs whether the object could be deleted or not in the form of an alert or message.*

Identifier and Name	*RF4. View tasks or reminders*		
Summary	*The system will allow the user to view the tasks and reminders that have been added.*		
Inputs	**Input Name**	**Data Type**	**Valid Value Condition**
Result or Postcondition	The system displayed all the tasks and reminders added by the user.		
Outputs	**Output Name**	**Data Type**	**Format**

	alert	String	*The system displays all the added tasks or reminders in the form of an alert or message.*

Identifier and Name	*RF5. Undo last action performed*		
Summary	*The system should allow undoing the last action performed by the user.*		
Inputs	**Input Name**	**Data Type**	**Valid Value Condition**
Result or Postcondition	The system undoes the last action performed by the user and shows the user the state of the program just before executing the undone action.		
Outputs	**Output Name**	**Data Type**	**Format**
	alert	String	*The system displays the state of the program just before executing the undone action in the form of an alert or message to the user.*