Problem identification and requirements analysis

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Study case: ICESI institutional process management

Client	Icesi University
User	1. Applicant 2. Collaborator 3. Administrator
Context of the problem	Icesi University faces a challenge in receiving work requests, which has generated complaints from its clients due to delays in starting projects or lack of response to any case. Which has generated a broad image of inefficiency on the part of the office, which is why they seek to implement a comprehensive solution that optimizes the reception, monitoring and management of all work requests, increasing response efficiency when responding to requests. clients and in the same way improve the internal organization of the area.
Functional requirements	FR0: Register an application. FR1: Change the status of an application. FR2: Register projects of each type. FR3: Finish or close a project. FR4: View project information. FR5: Query detailed information about a project. FR6: Query efficiency. FR7: Query the global work indicators of the Transformation and Process Improvement area. FR8: Generate test objects
Non-functional requirements	RNF0: Optimize the reception, monitoring and management of all work requests RNF1: The system must be intuitive for users

Identifier and name	FR0 - Register an application, register area, register collaborator		
Summary	This requirement will allow the user to register an application but at the same time will allow registration of an area or a collaborator.		
	Input name	**Datatype**	**Condition valid values**
	Registration selection	int	The int value has to be between the following options for doing a

Input			register operation: [1] Application, [2] Area, or [3] Collaborator.
	Short description [1] Application	String	This value has not any specific condition but how it should be short, the max amount of characters allowed is 200.
	Name of responsible collaborator [1] Application	String	This String should be according to the registered one of the registered collaborators.
	Application code [1] Application	String	This String value should have just 4 characters.
	Area selection type [2] Area	int	The int value has to be between the following options: [1] Applicant area, [2] Transformation area, or [3] Register a new area.
	Name of responsible collaborator of the area [2] Area -> [1]	String	This String should be according to the registered one of the registered collaborators.
	The office which it belongs [2] Area -> [1]	String	This String has no restriction. Max of characters is 50.
	Area name [2] Area -> [1], [2], [3]	String	This String has no restriction. Max of characters is 50.
	Area internal code [2] Area -> [1], [2], [3]	String	This code must not be registered
	Identification document number [3] Collaborator	String	This String has to have exactly 10 numeric characters. And it can't be registered.
	Full Name [3] Collaborator	String	This String has no restriction. Max of characters is 45.
	Institutional email [3] Collaborator	String	This String should contain the domain of the university which is @icesi.edu.co
	Extension number [3] Collaborator	int	This is optional to impute, the extension number should be valid.

	Link collaborator to area selection [3] Collaborator	int	The int value has to be between the following options: [1] Yes, or [2] Not now.
	Area Internal Code [3] Collaborator	String	This imputed code should be already registered.
Result or Postcondition	If all the imputed values were okay, the system will create an application with the registration date and will link the application to the **requesting area**, or an area, or a collaborator. A message will be returned informing if the process was okay or if it wasn't.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will inform the user if it was created successfully or not.

Identifier and name	FR1 - Change the status of an application		
Summary	This requirement will allow the user to change the current status of an application.		
	Input name	**Datatype**	**Condition valid values**
Input	Application code	String	This String should be according to a registered application
	Application status selection	int	The int value has to be between the following options: [1] Pending, [2] Rejected or [3] Accepted.
Result or Postcondition	If all the imputed values were okay, the system will get the application and will set the status to the chosen one. A message will be returned informing if the process was okay or if it wasn't.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will inform the user if the status was successful or not.

Identifier and name	FR2 - Register projects of each type		
Summary	This requirement will allow the user to register projects directly depending if they are of Knowledge Management or Process Transformation/Improvement.		
	Input name	**Datatype**	**Condition valid values**
	Project Selection	int	The int value has to be between the following options: [1] Knowledge Management, [2]

			Process Transformation/Improvement, or [3] EXIT
Input	Code of application to transform [1], [2]	String	The application should have the status as accepted for create successfully the project
	Code of area that will be in charge of the project [1], [2]	String	The area must exist to register the project
	Alphanumeric code [1], [2]	String	This String value should have just 4 characters
	Project name [1], [2]	String	The project name selected could not be repeated if there is one registered already
	Project status [1], [2]	String	The int value has to be between the following options: [1] Pending, [2] Rejected, or [3] Accepted
	Project priority selection [1], [2]	int	The int value has to be between the following options: [1] Immediate, [2] High, [3] Medium, or [4] Low
	Collaborator name [1], [2]	String	The collaborator has to be registered already to be able to link it to a project
	Suggested name to management process [1]	String	This String has not any condition
	Impacted community Selection [1]	int	The int value has to be between the following options: [1] Students, [2] Professors, or [3] Administratives
	Project Type Selection [1]	int	The int value has to be between the following options: [1] Standardization, [2] Documentation, or [3] Optimization
	Code of the process to improve [2]	String	This String has not any condition
Result or Postcondition	If all the imputed values were okay, the system will register the selected project. A message will be returned informing if the process was okay or if it wasn't.		

	Output name	Datatype	Format
Output	Message	String	The message hasn't any specific format, it will inform the user if the registration of the project was successful or not.

Identifier and name	FR3 - Finish or close a project	
Summary	This requirement will allow the user to close a project.	
	Input name	**Datatype**	**Condition valid values**
Input	Project alphanumeric code	String	This String value should have just 4 characters and must be registered
Result or Postcondition	If the project was found with the code, the project will be closed and the end date will be registered to the project. A message will be returned informing if the process was okay or if it wasn't.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will inform the user if the process was successful or not.

Identifier and name	FR4 - View project matrix information	
Summary	This requirement will allow the user to view information about some projects in an area in matrix format.	
	Input name	**Datatype**	**Condition valid values**
Input	Area internal code	String	This Area code should be valid (registered) to show the projects that it contains
Result or Postcondition	According to the query date, the 5 latest projects per collaborator will be displayed in the matrix format		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will inform the user if the process was successful or not.

Identifier and name	FR5 - Query detailed information about a project

Summary	This requirement will allow the user to view all the information about a specific project.		
Input	**Input name**	**Datatype**	**Condition valid values**
	Project alphanumeric code	String	This String value should have just 4 characters and must be registered
Result or Postcondition	If the project was found with the code, the project information will be displayed on screen as a returned message. Another message will be returned if the specified project wasn't found.		
Output	**Output name**	**Datatype**	**Format**
	Message	String	If the project was found, the format will be according to the project attributes (toString) but if the project wasn't found the returned message will be informing the occurred.

Identifier and name	FR6 - Query efficiency		
Summary	This requirement will allow the user to query the different types of efficiency.		
Input	**Input name**	**Datatype**	**Condition valid values**
	Query efficiency Selection	int	The int value has to be between the following options: [1] Collaborator in the area of Transformation/Improvement, [2] Project, or [3] Application
	Collaborator ID document [1]	String	This String should be according to an collaborator ID already registered.
	Month selection [1]	int	The int value has to be between the following options: [0] Actual month, or [1-12] An specific month of the year
	Project alphanumeric code [2]	String	This String value should have just 4 characters and should be registered with the project.
	Application code [3]	String	This String should be according to a registered application.

Result or Postcondition	If the identifier was correct, the efficiency will be calculated and returned. Another message will be returned if the identifier wasn't correct.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will show the user the efficiency if the process was successful, otherwise an error message will be returned.

Identifier and name	FR7 - Query the global work indicators of the Transformation/Process Improvement area		
Summary	This requirement will allow the user to query some global indicators.		
	Input name	**Datatype**	**Condition valid values**
Input	Query indicator Selection	int	The int value has to be between the following options: [1] Number of projects for each type and each priority, [2] Number of projects led by each collaborator in the area, or [3] Number of applications received and managed during a given month
Result or Postcondition	If there were any projects registered, the indicators will be returned, if not, a default message will be returned.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will show the user the indicator if the process was successful, otherwise an error message will be returned.

Identifier and name	FR8 - Generate test objects		
Summary	This requirement will allow the user to generate objects with predefined values in the system for each type of entity in the model.		
	Input name	**Datatype**	**Condition valid values**
Input	N/A		

Result or Postcondition	The objects will be created.		
	Output name	**Datatype**	**Format**
Output	Message	String	The message hasn't any specific format, it will inform the user if the process was successful or not.