**SOFTWARE ENGINEERING PROBLEM SPECIFICATION TABLE**

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| **CUSTOMER** | GreenSQA |
| **USER** | Project Managers, Employees |
| **FUNCTIONAL REQUIREMENTS** | FR1: Project creation.  FR2: Completion of stages.  FR3: Capsule registration.  FR4: Capsule approval.  FR5: Publication of capsules.  FR6: Show number of capsules registered.  FR7: Show lessons learned.  FR8: Show the project with more capsules.  FR9: Verify capsule registration per employee.  FR10: Show lessons learned by search. |
| **CONTEXT OF THE PROBLEM** | GreenSQA requires capturing and retaining employee knowledge in information capsules. The goal is to prevent the leakage of knowledge that impacts the quality of software in IT companies. The software will allow the management of: projects, stages of projects and capsules. Each project is managed by a managing user, who in turn manages the stages that are within the project and approves the capsules within the stages, generated by the collaborators.  The knowledge capsules will be classified into four types: technical, management, mastery and experiences. In addition, hashtags must be included in each capsule to relate keywords to a capsule feature.  On the other hand, reports should be included that allow users to obtain statistics on the knowledge capsules, such as the number of capsules registered by type, list of lessons learned corresponding to the capsules registered in the projects for a particular stage, name of the project with the most registered capsules, if a collaborator has registered capsules in any project, and situations and lessons learned from approved and published capsules, based on a user-given search string. |
| **NON-FUNCTIONAL REQUIREMENTS** | NFR1: The system must be able to handle scalability.  NFR2: The system should be user-friendly.  NFR3: The system must be optimized to give quick responses.  NFR4: The system must be adaptable to further updates.  NFR5: maximum 50 CAPSULES and 10 projects |

**Functional requirements analysis** **table**

| Name or identifier | FR1: PROJECT CREATION | | |
| --- | --- | --- | --- |
| Summary | The system must allow the creation of projects (Maximum 10), as well as the registration of project information, such as project name, planned start and end dates, project budget and individuals related to the project (Managers and client) | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| projectName | String | Valid characters, required |
| durationInMonthsPerStage | Int array | Required, only positive integers, size 6. |
| Budget | Double | Numbers only |
| projectManagers | Manager | Managers already registered in the system |
| clientData | Array String | Obligatory. |
| Result or postcondition | The new project is added to the system with its attributes and its 6 automatically created stages, in addition to calculating and assigning the planned dates per month. (Analysis, design, execution, closure and monitoring and control of the project. ). | | |
| Outputs | Output name | Data type | Format |
| Confirmation | String | Message |

| Name or identifier | FR2: COMPLETION OF STAGES | | |
| --- | --- | --- | --- |
| Summary | The system must allow the stages to be completed, going from an active to an inactive state by recording the actual closing date, and consequently activating the next stage with the actual start date. The system receives the project position and makes the stage change. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| Project | String | Existing project |
| Result or postcondition | The inputs are validated and the system proceeds to inactivate the capsule with the current closing date. | | |
| Outputs | Output name | Data type | Format |
| Confirmation | String | Message |

| Name or identifier | FR3: CAPSULE REGISTRATION | | |
| --- | --- | --- | --- |
| Summary | The system must allow the user to generate knowledge capsules, the user chooses which project and collaborator assigns to the capsule and enters description, type and lesson learned. And obligatorily the capsule must contain keywords between '#' and then register them in the system, and then go to review state where it will be available for the manager's review. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| projectPosition | Int | Existing project |
| collaboratorPosition | Int | Existing collaborator |
| Description | String | Valid characters, Required |
| type | String | [technical, management, domain or experiences] |
| lesson | String | Valid characters, Required |
| Result or postcondition | The system adds the new registered capsule with a unique id and collaborator information. The keywords are then assigned and put into a review state. | | |
| Outputs | Output name | Data type | Format |
| Confirmation | String | Message |

| Name or identifier | FR4: CAPSULE APPROVAL | | |
| --- | --- | --- | --- |
| Summary | The managing user chooses a project and has a list of the pending capsules for review ordered and classified where he chooses which capsules to approve, enters the option and the system updates the status of the capsule. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| projectPosition | Int | Valid option |
| optionCapsule | Int | Valid option |
| Result or postcondition | The system updates the status of the capsule to approved or not approved along with the date of the action. | | |
| Outputs | Output name | Data type | Format |
| Confirmation | String | Message |

| Name or identifier | FR5: CAPSULE PUBLICATION | | |
| --- | --- | --- | --- |
| Summary | The system provides the manager with the option to publish the approved capsules of organizational interest in HTML format depending on the project he chooses, and then gives him a URL of the intranet of the Organization where they are published. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| projectPosition | Int | Valid option |
| Result or postcondition | The system publishes the capsule in HTML format and returns to the user a URL of its location | | |
| Outputs | Output name | Data type | Format |
| URL | String | Message |

| Name or identifier | FR6: SHOW NUMBER OF CAPSULES REGISTERED | | |
| --- | --- | --- | --- |
| Summary | The system must present to the managing user the number of capsules that there are for each type. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| N/A | N/A | N/A |
| Result or postcondition | The system shows on screen the quantities ordered by each type of capsule | | |
| Outputs | Output name | Data type | Format |
| capsulesAmount | Int | Message |

| Name or identifier | FR7: SHOW LESSONS LEARNED | | |
| --- | --- | --- | --- |
| Summary | The system should present the user with a list of lessons learned from the registered capsules of all projects, but at a particular stage chosen by him. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| stageLessons | String | Existing stage |
| Result or postcondition | The system displays on screen the lessons learned from the specific stage of all projects | | |
| Outputs | Output name | Data type | Format |
| lessonsInStage | String | Message, list |

| Name or identifier | FR8: SHOW THE PROJECT WITH MORE CAPSULES | | |
| --- | --- | --- | --- |
| Summary | The system must identify the project with more capsules within the system and then display the name to the user. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| N/A | N/A | N/A |
| Result or postcondition | The system displays the name of the project with the most capsules. | | |
| Outputs | Output name | Data type | Format |
| fullerProject | String | Message |

| Name or identifier | FR9: VERIFY CAPSULE REGISTRATION PER EMPLOYEE | | |
| --- | --- | --- | --- |
| Summary | The system must allow a search by the managing user of any collaborating user, and show if he has registered capsules in any project. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| employeeName | String | Existing name |
| Result or postcondition | The system displays a 'Yes' or a 'No' depending on whether the customer has registered capsules or not. | | |
| Outputs | Output name | Data type | Format |
| Confirmation | String | Message |

| Name or identifier | FR10: SHOW LESSONS LEARNED BY SEARCH | | |
| --- | --- | --- | --- |
| Summary | The system should make it possible to display on screen the lessons learnedfrom approved and published capsules by searching for the wordsor hashtags | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| Search | String | Obligatory |
| Result or postcondition | The system displays on the screen all lessons that meet the conditions or the message that the lesson was not found. | | |
| Outputs | Output name | Data type | Format |
| lesson | String | Message, list |
|  | searchFailed | String | Message |