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ROLE OF REQUIREMENTS ENGINEERING IN SOFTWARE ENGINEERING

With the passage of time, technological advances have been presented, which in turn has increased the demand in the software development market, as well as the complexity of the projects, which is why concepts such as requirements engineering come into play, which plays a fundamental role in the development of each project, no matter how small it may be. Requirements engineering takes its place in each stage of the software development life cycle. To begin with, requirements engineering refers to all the process and tasks related to identify, analyze, and verify the needs or conditions of a software, based on the requirements established by each of the interested parties [1].

Now, in requirements engineering it must be taken into account that it is essential to deliver to the customer what he is asking for, which is why it is vital, according to Pressman [2], to carry out the requirements analysis process, which is composed of the following stages: problem recognition, where the system specifications are studied and a plan is drawn to carry out the software project, after this, follows the evaluation and synthesis stage, at this stage the software analyst must define and determine everything that is

necessary to meet the functional and non-functional needs of the project, once this stage is completed, it should continue with the modeling, where after the evaluation and development of the solution, scenarios that will help to understand with greater depth and ease the design to be executed, based on the above, is the specification where each of the tasks related to the system specifications must be related, as this in addition to facilitating the understanding of the software, favors the development, and finally there is the review, it is here where you must establish the acceptance criteria to have a successful software project.

Once understood the concept of requirements engineering and understanding the requirements analysis process proposed by Roger Pressman [2], it is essential to understand the importance of this concept in software development, considering each of the stages mentioned above, an analyst or software engineer must be able to understand, analyze, process and execute the customer's needs, in order to perform what the customer is expecting, but why is the analyst so important in this process? Well, this is who in a few words is the intermediary between the customer who will be the end user of the developed system and the team of developers, that is why he will be in charge of the project objectives are carried out as planned and that they are also fulfilled, this also favors the project planning, This also favors the planning of the project, since it is possible to keep track of the times, of the tasks performed, pending or completed, which leads to

have the least amount of errors possible during the process, avoiding problems that may occur throughout the development time, it is also important because it would help to prioritize the different requirements which will allow the team to organize the times.

But then, what can be done so that the requirements gathering process is carried out in the best way and that the analyst can identify each of the customer's needs, for this, the analyst could make use of the agile methodology Scrum, where he must organize the project by Sprints, which are short periods of time of one or two weeks, where you must work a project needs, It is also recommended that the engineer holds periodic meetings with the client to present progress and verify that the client agrees with what has been developed, this goes hand in hand with the realization of the backlog, which is the roadmap of the project, composed of each of the user stories agreed for each of the different Sprints. This must be accompanied by a Kanban board, which, being an agile tool, favors the visualization of the work, as well as helps to visualize and delimit each of the pending, in process and completed tasks, which provides greater efficiency and dynamism to the project.

As a conclusion, it is possible to determine that software engineering is fundamental and useful for development projects, since it helps the development team to have greater clarity of the project, by having a good delimitation of its objectives, and therefore, greater organization, but it also

helps the customer, since it supports the entire process, where he can find new system requirements suggested by the team of developers or clarify those needs to make them a reality. This is why requirements engineering is essential, since it seeks to maintain a good relationship between the engineers and the customer, where each of the project stakeholders benefits by obtaining the expected final result, since it allows to understand the customer's expectations and, in turn, that the customer understands what is going to be developed.

Bibliography

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[2] R. S. Pressman, *Ingeniería de Software un enfoque práctico*, vol. 53, no. 9. 2013.