Instituto Tecnológico y de Estudios Superiores de Monterrey

Ingeniería en Tecnologías Computacionales

Data Structures

Final Project

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The problem to be solved in this project is the loss of money that is generated within the pharmacy by oncological patients, who clone the prescriptions, or the same doctors are those who steal the medicines to sell them in the private sector. This tool allows the staff of the pharmacy to add, delete, show data of a specific patient, show different orders to patients, have some administrative tools among other things. Something primordial was to lay the groundwork for what was going to be done since, I could not provide much information, that's why I could only put a medication, because it is the medicine that the patient uses the most or the most stolen, then this does not allow to have control of how many patients can have that same medication. This tool allows entering a unique id of the patient, name of the patient, patient's last name, type of cancer and the medication. It was a difficult task since everything had to be by calls, messages or video calls, because I was not in the city to which this tool is going to serve, that's why it was difficult to know what they wanted and what they wanted. that I wanted to do, but in the end, it came to good communication.

Once idealized everything started working on what would take me more time than it would be the graphic form, at first I had doubts about how to do the interface and looking for ideas I came across one that was perfect, but when implementing it I realized that it was not what they were and what could be difficult, so I gave myself the task of creating a similar menu but that was more functional for its use.

The first problem I came up against was reading the data, since, throughout the semester I struggled with that, but in the end, I was able to achieve it and I realized that it was not as difficult as I thought, I searched several sites of Internet, in books and asking former teachers who knew about this language. making tests of what he was researching found a way to read and write files.

The most important thing about this tool is how it was developed, since we were asked to use an AVL Tree, at first I thought it would be a difficult task, but thinking and passing on the idea was how I could solve my doubts and how I was going to implement this tree, for me the easiest way to implement it was with the unique IDs of each patient, since they are data that cannot be repeated, apart from that they make it easier for me to make the Tree swing. The nodes of the trees apart from saving the ID, also kept the information of the patients. To carry out several of the functions, I also implemented a LinkedList and a queue, which helped me to process some things and show them in the tool.

It was very fun, but at the same time it was difficult some developed methods, because at the beginning they did not go out or show things that did not, but afterwards little by little everything was going on until things were achieved, it was a very good project, that I feel that brings much of my knowledge even though I feel that it is not quite right for what it should be, since I feel that my language limits me a lot, but I think of redoing the project in another language which is graphically more user-friendly.

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