



## Damages to Organs Detected in 3-D Holograms



Recently converted in one of the youngest residents of Silicon Valley, California, the high-tech Mexican enterprise Echopixel created software that allows the medical doctor to look and manipulate on their desk third dimension (3-D) holograms of various organs obtained from ultrasound, CT or MRI scans.

Thanks to their computer system called Z-Space, the physician can use a flat screen on their desk and project a 3-D copy of the heart, liver, intestine, pancreas or any other organ that the patient wishes to be diagnosed.

The hologram is individualized and can be manipulated, for example, to enlarge a vein or open it. The solution that Echopixel offers is to take each one of the 500 or thousand images, in the form of slices that are obtained from CT or MRI scans and fuses them in a tridimensional form with the help of a program that translates a flat image in volumetric data.

Sergio Aguirre, graduate from the Tecnológico de Monterrey (ITESM), conceived this idea since 2006 after a previous experience working with 3-D videos. When he observed the great potential in the so called “professional markets” Aguirre decided to jump from 3-D advertising to the elaboration of a medical visualization tool, for that, he decided to seek the help of the Mexico-United States Foundation for Science (FUMEC), which contacted him with academies and American enterprises.

“With the innovation that we provide, the doctors have the possibility to work with body parts, not just images. Currently, diagnosis is made with images from ultrasound, CT or MRI scans from the patient. Between 500 and a thousand images from an organ are delivered to the physician, who must then reconstruct the images mentally to detect an anomaly or tumor. This is a very intense cognitive process but can be inefficient. Our system takes all those images and displays them as a whole organ”, Sergio Aguirre explained.

The structure of our enterprise is not only based in four employees, but an excellence team behind the operators formed by eight medical doctors, engineers, screen experts and business counselors that work in Mexican and American universities or companies. Six of them have a Ph.D. and others a post- doctorate. The incorporation of each counselor required a process of consults and negotiations that took three months.

Today, this Mexican enterprise in one of the Silicon Valley’s Tech-BA program beneficiaries, and expects to

generate annual sales superior to 50 million dollars.

Besides, when a certain growth stage is reached it can be attractive to be bought by bigger companies that could pay up to seven fold the value of their annual sales. (Agencia ID)

Source: [AlphaGalileo](#)

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