zSpace And The Future Of Efficient Healthcare

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zSpace is a leading-edge technology provider that enables natural interaction with virtual-holographic 3D imagery through its flagship product, zSpace zSpace's partners include EchoPixel, Inc., who is using zSpace to enable clinicians to search through the reconstruction for clinically relevant structures such as polyps, immediately understand their position relative to the surrounding anatomy and interactively dissect the reconstruction for detailed evaluation. Other medical partners include Touro College of Medicine, Olin College, University of Southern California and Stanford University, who have already implemented zSpace into their clinical teachings in laboratory and pre-med classrooms.

Q. What is zSpace?

A. zSpace is a desktop system. It sits on a desk and the user sits in front of it and wears these really light glasses, these polarized glasses. And then volumetric data appears up in open space and the user can interact with it. And by volumetric data I mean things, I mean virtual objects. Users can bring the object closer, push it away, take it apart and put it back together. Users can also rotate the object or move their head around the object to see and visualize details from every angle, giving the "look around capability" identical to that of a real hologram.

Q. How do you envision zSpace impacting the future of efficient healthcare?

A. zSpace really applies in medicine in CT and MR data because it's volumetric in nature to begin with, and when people are equipped with this visual/ spatial capability it allows us to interact with really complex volumetric data. It's a huge step from a 2D display to this immersive, comfortable, interactive 3d system that we've built. It's something like virtual reality too. So, what you get looking at CT and MR data is the ability for your brain to process it the way we've been designed, without trying to interpolate from a 2D display and put all these slices together. Because it's all there. All the volume is all there. You can do a bunch of virtual things to it. You can look inside it, you can have a cutting plane, and you can look at it in different colors or over time. 3D visualization tools, like zSpace, have opened the door to virtual procedures, such as non-invasive virtual colonoscopy and breast-imaging scanning to optimize clinical efficacy and workflow while leading the way for a paradigm shift in medical diagnostics.

Q. What are people's reactions when you tell them about zSpace?

A. Until people sit down and finally see it, they don't believe in the system's true potential. And that's because it touches on really fundamental abilities we have as humans to view spatial environments. We've showed it to thousands of people. And many of them have been in the medical field, and the reaction when they see it is almost universal. The reaction is "wow, this is just incredible." And particularly in the medical field, because the data just lends itself to those kinds of interactions. So compared to looking at, say, 2D radiological data up on a white board, this is like sitting down in front of it and just being immersed in it. And it's very comfortable, and it's designed to be shared. That is, with multiple systems. Multiple clinicians could look at the same data and they could have an interaction: like, "what do you think about this area here," or "this is something of concern." That type of thing. And it also allows the patient to be involved. Because the patient experience can be very different, as they are exposed more to what's happening.

Q. How will changes occurring in the next 15 years contribute to efficiency and safety?

A. From my perspective it's around information. It's clearly presenting information, clearly evaluating it, and being able to do it in a repeatable way—documenting it, sharing information among systems. And I feel like zSpace can play a really significant role there because it allows people to be immersed and to comfortably evaluate data in a way where their intuition can come into play. And so that's all in support of the direction of sharing and presenting and documenting information. zSpace allows for procedures to be repeated. This makes pre-med education more effective by offering a way to duplicate experiments and trainings without wasting costly resources.