MAKING WAVES

AS TOLD TO **VIVIEN SHIAO**

Imagine waving a hand to dispense a product from a vending machine. Or a surgeon in an operating theatre gesturing to zoom in on a patient's scan results. These ideas may sound futuristic, but it is only a matter of time before such technology becomes the norm. Local startup XYZ Wave has the bold vision to craft cutting-edge yet intuitive experiences for consumers through the use of gesture-based interactive solutions as its founder Ho Chee Yue (above, seated) tells us.

HOW DID THE COMPANY'S JOURNEY START?

Mr Ho: Inspired by Tom Cruise in *Minority Report* and the popularity of video game console Wii, we started to do research on motion sensing and intuitive gesture-based interaction technologies since 2008 for a more natural way to interact with computers and machines simply by waving our hand or moving our body.

Playing games is one fun application of motion-sensing technologies. A more serious application of such technology to save lives would be in the field of medicine, where a surgeon in the operating theatre could wave his hand (with his gloves on) to flip, zoom in and enlarge a patient's CT scan results.

In October 2009, we felt that we were ready to push our technological innovation into the market and the company was finally established. After a highly competitive process in which the company presented the idea to a panel of experts in early 2010, XYZ Wave was awarded the Proof-of-Value grant under the Technology Enterprise Commercialisation Scheme (TECS) administered by Spring Singapore and IDA (Infocomm Development Authority of Singapore).

The approval came as validation and was a confidence booster for us as it was no longer just our opinion that we were heading in the right direction.

WHO ARE THE FOUNDERS AND WHAT ARE THEIR BACKGROUNDS?

I started my career in the advertising industry helping the likes of Singapore Tourism Board, Singtel, Citibank and Standard Chartered to build their brand and business.

I switched over to the digital side of marketing with AKQA in the early 2000s to be their Asia lead for global clients such as Unilever, Nike, Microsoft Xbox and Coca-Cola. I also acted as the alliance director for AKQA's partnership with Accenture in Asia.

After the successful completion of the 2008 Beijing Olympics, I went on to start XYZ Wave to pursue my passion for emerging trends and technologies to design cool experiences for users in the digital and physical world.

WHY THE NAME XYZ WAVE?

The company name, XYZ Wave, was inspired by the three axes used in computer vision – the science in which technological products extract information to perform a task. We used "wave" as a substitute for the word "gesture".

HOW MANY STAFF DO YOU HAVE?

We are a very lean team with less than 10 people. However, we are fortunate to tap into the talent pool of our partners at research institutes, institutes of higher learning and technology companies. Together with our partners, we are a stronger team.

WHAT HAVE BEEN SOME OF YOUR BIGGEST ACHIEVEMENTS?

Frankly speaking, I do not think we have achieved much. However, there are a few things that we are proud of in the early phase of development at XYZ Wave. This includes being awarded the TECS Proof-of-Value grant in 2010 and signing a research collaboration agreement with A*Star Institute for Infocomm Research to develop gesture interaction technology.

We were also commissioned by a global company based in Tokyo to design and prototype a vending machine that allows you to buy and dispense the product by waving at the machine.

Our product GGGoal is very well liked by Singaporeans and was showcased at the Youth Olympic Games 2010. It is a penalty shoot-out game with our motion sensing technologies that tracks the real-time leg movement of the player as he delivers a kick (with a virtual football) against a computer-generated goal keeper who is projected on a screen.

HOW DOES YOUR COMPANY STAND OUT FROM THE COMPETITION?

We play in a niche space, and I believe there are strong competitors around. Being small and due to the nature of what we are doing, we must stay focused to keep pressing on with technological innovation, if not we become commoditised very easily in this VUCA (volatile, uncertain, complex, ambiguous) environment.

WHAT ARE SOME OF YOUR BIGGEST CHALLENGES TO DATE?

Technological innovation is like the famous saying from Thomas Edison: "Genius is one per cent inspiration, 99 per cent perspiration." Having the idea is the easy part but execution is the challenging portion.

We are excited and motivated as we believe there's light at the end of the tunnel but the challenge is getting through the tunnel. I always joke with my team mates and partners that I am not worried that we will create a Frankenstein's monster, but I am concerned if we get stuck in the tunnel and run short of resources in the pitch darkness.

Execution is all about getting through the tunnel – which requires a good mix of planning, teamwork, resource management and making hard decisions to validate our concept and idea before we commit more resources and time to scale.

Monetising technological innovation is even more challenging. Coming up with new technologies may not necessarily equate to revenue growth or cost savings. While cool stuff may spark the interests of potential clients, it is important to translate the technological innovation into benefits for them.

WHAT ARE SOME FUTURE PLANS FOR YOUR BUSINESS?

I am an optimist by nature. Moving forward in the Internet of Things era – or some may say, The Internet of Everything – I believe the future is bright: the future is human-computer (or machine) interaction. There is immense opportunity in the business of interacting with machines to leverage and unleash their technological power to help us in our daily life.

At XYZ Wave, we strive at improving human-computer interaction. We are hopeful about the potential of virtual reality (VR) as it fits nicely into what we have been doing in the area of computer vision. However, it may take a while for VR to become mainstream – probably when we have access to 5G in 2020 with more user friendly versions of the Oculus Rift, other eye wearables and headsets by then. Hence we need to pace ourselves cautiously.

Computer vision and machine learning are like cousins. We have a good handle in making the computer see; next, we wish to enable the computer to learn – or what the scientists term as deep learning. This can be our low-hanging fruit for our next technological innovation.

We will press on with our technological innovation efforts by strengthening our collaboration with research institutes, institutes of higher learning, technology companies and like-minded partners.

WHAT ARE SOME OF YOUR BIGGEST LESSONS LEARNT?

One should not be restrained by the word small in SME (small and medium-sized enterprises). Instead, SMEs should leverage on the strengths of being small to tackle bigger problems and opportunities.

I am a strong believer of: "Start small. Think big. Move fast." Scale still matters. However, bold thinking and fast action by SMEs can make a real difference in today's VUCA environment. ■