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ENHANCING HEARING  
AIDS WITH SMARTPHONES

# BREAKING THE BARRIER OF HEARING LOSS FOR SENIORS

CHEARS - WEN ZHI HUI WILL

## APPLYING KNOWLEDGE TO HELP PEOPLE FACING SIMILAR PROBLEMS

Will was brought up by his hearing-impaired grandfather. When they had conversations, they often had to repeat multiple times because they could not hear each other. Unfortunately, traditional hearing aids were expensive and could not filter out background noises. Therefore, his grandfather was unwilling to get one. As a result, it affected his whole family's quality of life and emotional stability.

When studying Electronic and Information Engineering at university, Will learnt about processing audio files on smartphones and noise cancellation. He wanted to do something for his grandfather, and successfully developed a replacement for traditional hearing aids with a mobile app and earphones, which enhanced the audio clarity. The first person to try it out was, of course, his grandfather. "He talked and talked the first time he put it on!" It was greatly encouraging to Will, so he joined different competitions and founded a company in hopes of launching

his product to help more people with hearing impairment and elderly people suffering from hearing loss. Users can adjust the tone setting manually between high, middle, and low, as well as the left/right sound balance and the audio setting for different environments such as indoor, outdoor, and open space. The product was well-received during the trial stage, but Will said that he knew nothing apart from the design of the product — he had no clue about the legal and corporate procedures of starting a company. "To most people, those are tough challenges, but I had no choice but to face them head-on. There's no one else who'd do it." He did it all by himself, for he knew that for start-ups, founders must come up with solutions themselves.

Having started a company and developed the technology to reduce audio latency, Will encountered difficulties in choosing the right hardware. The mobile app must be used with suitable Bluetooth

earphones that contain a specialised chip, so the cost is high — around six times that of an ordinary pair of earphones. He visited various organisations to introduce his project and look for manufacturers who were willing to work with him. However, “Everyone was practical. They thought the product wasn’t complete and the order was too small, and users wouldn’t be willing to pay.” Earphones are produced in thousands for each order, so Will have not been able to find a manufacturer to make the product prototype. “It’s difficult to find hardware manufacturers in Hong Kong. You either go to Shenzhen or Taiwan for that.” This, in turn, engenders new problems due to a change in business environment and the need for remote management.

5% of the world population are hearing impaired, which means that 360 million people need hearing aids.



**“We’re a small company, so there are bound to be imperfections. That’s the give-and-take.”**

Will was ambitious at the beginning. He wanted to launch a free version of the app along with a paid professional version, as well as providing a one-stop service for tailor-making Bluetooth earphones for users. But now, he has compromised with reality and slowed down a bit. According to the World Health Organization, around

**““H-E-A-R” — that is how we learnt to spell the word “hear” when we were kids. What makes up most of the word is “E-A-R”. However, as ageing makes our bodies deteriorate, it gradually becomes difficult to hear clearly with our ears.**

**Will had seen first-hand how his grandfather’s hearing impairment impacted the quality of life, so he founded Chears Technology Company Limited. He developed an innovative smartphone hearing aid app that is different from traditional hearing aids to help seniors with hearing loss from grassroot backgrounds; it reduces environmental noise greatly by 70%, and can be downloaded for free and used with earphones.**

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There are 200 thousand of them in Hong Kong alone — is the market really that small? “No matter how high we’re aiming, we have to be down-to-earth sometimes. A lot of people are enthusiastic and willing to join us, but we can’t provide reasonable remuneration. I don’t want to make it difficult for them. After all, they, too, have to make ends meet.” The company has decided to spend half of its time on real business, and the other half on enhancing its mobile app and the quality of the earphones. It will wait for enough funds to invest in hardware manufacturing, or for a large company to develop low audio latency earphones. Speaking of business transformation, Will mentioned that the company had not generated any income for a year already and had been relying on funding alone. He is always thinking about how to generate gains, and at times, he wants to give up. “It’s quite difficult to earn a living with this project. A lot of people are willing to try it out, but they’re not so willing to pay for it. We’re hoping to educate the public. Luckily, my family has been supportive towards my attempts.”

Compared to being an employee, there is much more to take up when you have your own business. Meeting with clients, building a social network, improving yourself constantly — you have to do it all on your own. To expand the customer base

and the source of income, Will is going to incorporate a hearing test in the app to see how users react to different frequencies. He also hopes to get certification and gain recognition.

**“I’ve been talking a lot with my partner, but we must have the right mindset. We can work on projects while developing the product. We were more ambitious in the past; but a plan is just a plan, and it can be changed.”**

He told us frankly that what he had accomplished in his final-year project was only 30% of the whole project. The real challenge was what came after. “That one year wasn’t enough.” He declared that he would not set a deadline for himself. After all, what he is not able to achieve now may be achieved in 30, or 40 years. Time is only one of many considerations.

