60 Seconds with… Harold Thimbleby



Prof Harold Thimbleby is See Change Fellow in Digital Health, based at Swansea University, Wales. He is advisor to many organisations such as the Royal College of Physicians and the UK Medicines & Healthcare products Regulatory Agency (MHRA). Harold is a popular speaker, and has been invited to talk in over 30 countries.

He has been an expert witness in NHS criminal cases; his work exposing problems in digital healthcare has stopped nurses going to prison. Harold won the British Computer Society's Wilkes Medal, and his book, *Press On: Principles of Interaction Programming* (MIT Press), won several international awards.

What first attracted you to working in the field of System Safety?

In 2000 one of my students had an accident and ended up in intensive care. I noticed that a syringe driver (a device that uses a motor to operate a syringe to deliver drugs automatically to patients) being used in a hospital had a wide range of bugs. I told the MHRA and they responded that nobody else had mentioned any problems. I then set out to explore why, to try and understand how what I considered should have been routine programming, safety critical programming, could be of such poor quality.

What aspect of your career are you most proud of?

My students. I think it's a great privilege to be a professor and give a lecture course to a hundred students, or to have research students who get PhDs who I see go on to have wonderful careers.

What advice would you give to yourself age 12?

At 12 I was totally engrossed in electronics. Being advised to learn to speak real languages would have been really useful. The best advice I'd give myself at 12: ask for and listen to advice.

What worries you the most about the future of System Safety?

We have millions of programmers who think they are good, and they are often very productive. But being good is not the same as being safe. So I think it's going to be very hard to have a safety qualification that isn't swamped by the 'democratic' wishes that everybody wants to be qualified. Then there's the related more formal problem that any large program contains a mix of safety critical and non-critical code: sorting out the relations between the modules and the required qualifications of individual programmers doing different development jobs in large teams will be hard.

What's your most favourite quote or motto?

I've recently come across Desmond Tutu's insight: "There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they're falling in." In other words, we keep seeing failures in IT, harms and deaths caused by bad software: we've got to go upstream and change regulations and further upstream, change the law. The current desperately sad Horizon case, where over 550 postmasters and mistresses were accused of fraud, but which was caused by bugs and failure to understand computer evidence, is a case in point.

"There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they're falling in."

If you could learn to do anything, what would it be?

All my skills are pretty solitary and some are noisy: I can program, weld, fix a washing machine, or carve a bowl. So I'd like to learn some social skills, play an instrument, sing, dance, tell stories round a camp fire.

If you could be any fictional character, who would you choose?

How about Ponder Stibbons, Head of Inadvisably Applied Magic at the Unseen University in Discworld. He invented the computer Hex, which is made of glass tubes with ants running around inside. Naturally, Hex gleefully satirises real computers and inevitably has a sticker on it: "Anthill Inside."

What's the best piece of advice you've ever been given?

Tony Hoare told me to seek advice from my friends, because even if you don't like it, it's much better than criticism from your enemies after it's too late.

Which book title best sums up your experiences with Covid-19?

My own book is called *Fix IT: How to solve the problems of digital healthcare* (OUP 2021). We need to fix IT! My book has a chapter on COVID, the insights and the new problems. I'm giving a paper at the SCSC conference in 2021 on the software safety problems the pandemic has exposed – and my thoughts on some of their solutions. But a better book title that sums up my experiences with Covid would be Laura Spinney's engrossing *Pale Rider: The Spanish Flu of 1918* and how it changed the world (Vintage, 2017). They didn't know what they were doing then (they didn't even know what a virus was), so very much like today.

More details, including offprints of hundreds of Harold's articles and videos, are available from his website www.harold.thimbleby.net and his twitter handle is @haroldthimbleby