



The internet at 40

Pioneers: Ray Tomlinson

Email is something we all take for granted, but in the 1960s it was only possible to leave a message to be picked up later by another user of the same computer. There were no protocols in place to allow mail to pass from one machine to another. That all changed when internet pioneer Ray Tomlinson came onto the scene. In the late 1990s Ray gave a short interview for the Open University series *The Web Story.com*, about how the first true e-mail came about.

Well back in the early Seventies I sent the first email message using a programme I'd written for that purpose over the ARPA net. I was working on a mail programme for sending mail between users on a single machine and I also happened to be working on a new test and experimental programme for sending files over the ARPA net and it seemed like an interesting idea to put them together and not send the message to the users on the same machine but send it through this file transfer programme to another machine. I was just testing at the time and so I typed whatever came to mind on – the moment I was typing it I may have dragged my fingers across the keyboard and sent QWERTYOP or maybe I sent testing, one two three. The first message that actually went to somebody other than myself was a message about how to send mail to users on other computers on the network. And so in a sense what the first real message was was an announcement of the existence of email and how to use it and so on.

One of Ray's colleagues at the time remembers him saying 'Don't tell anyone, this isn't what we're supposed to be working on!'

At the time all I could do was send mail to my cohorts in the same building, the same office, the offices right down the hall. And it wasn't much point in doing that because I could just walk out the office and do it just as well. But soon within a month or two we released another version of the operating system we were writing at the time and we sent this to about half a dozen other sites who were running the same operating system and we included with it the 'send a message' programme. So that expanded our horizons. We could now send mail among all the users of this particular operating system and that was useful because we had lots of things to say to each other because we all had the common problems and we were there to fix those problems so it quickly got a lot of use.

It started out mostly with just technical stuff you know. What do I do when my programme does this kinds of things? But it pretty quickly caught on as a convenient way of rounding up a meeting, one of the programme managers in the ARPA office quickly discovered that this was the only way to do his business and he started basically stopped answering the telephone and had all of the people who he was managing send him email instead. So it quickly caught on and became used for everything, meetings, scheduling trips to the beach, whatever was going on.

Ray is also famous for choosing what has become one of the icons of the wired world.

I chose the @ sign to separate the name of the person, the log in name of the user from the computer that he was logging in to. It seemed like a fairly obvious choice at the time. I sort had a fairly limited set of characters I could choose from. We were using Cal type Model 33 Printers and they had only about a dozen punctuation marks anyway and the only one that really made sense was the @ sign since that meant this user was @ that computer. I also chose it because it didn't appear in anybody's name. It wasn't difficult to decide if the @ sign was something within the name as opposed to separating it. Of course that's no longer true.

There's lots of brands and service signs and logos and all kinds of things that include in that sign as part of their name and they must have difficulty these days using that.

Looking back, how did Ray view his pioneering contributions to the history of the internet?

The programme I wrote only lasted probably six to eight months and it was replaced by some real email programmes, I wrote one, half a dozen other people wrote others and they could all send mail to each other.

On the other hand when I was doing it I said this is kind of neat. I kind of like this idea and in some sense the only reason it took as long as it did to catch on – it's been what – twenty six years - twenty seven years it's just that there were not that many computers around and it wasn't until within the last five to ten years that we've really seen an explosion in the existence of computers and their use in general.