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## Dr. V A Shiva Ayyadurai: The Indian Who Invented E-MAIL

 Guest Author  04/10/2015  Entrepreneurs Talk

A scientist, inventor and entrepreneur from India. But there is more to know about the inventor of EMAIL. Dr VA Shiva Ayyadurai, now living and working in the US, left India as a seven-year-old with his parents and in 1979, as a high school student, he developed an electronic version of an interoffice mail system, which he called "EMAIL" and copyrighted in 1982 against all odds. So he is widely credited as being the inventor of email. The Smithsonian National Museum of American History incorporated the paperwork documenting the creation of his program into their collection.

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— Dr. V\_A\_Shiva

He has since acquired four degrees from MIT, taught there and has several innovations and patents to his name. And it's not only his brilliant credentials that one should look up to, but also there is a lot more for every student or even a budding entrepreneur to learn from him as well as his views on various topics.

*Here is his story:*

## Early Influences

Dr VA Shiva Ayyadurai remembers his early days in India with fondness and awe. He saw India as a juxtaposition of two different worlds. On one hand was Mumbai, where he was born – a cosmopolitan city with multiple ethnicities, cultures and religions. On the other hand was his hometown in **Muhavur, a small village in South India** – with calm peaceful, emerald paddy fields, grazing cows – where the backyard was a jungle.

His grandparents were poor farmers and practised ancient Indian

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BigBasket

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— Dr. Shiva with his parents and sister.

was a healer, she cured people of ailments. She was a healer – she had no degree but used Siddha, India’s oldest system traditional medicine, to heal people and support local villagers. It really motivated him to understand how a simple woman could heal people. It established the line he wanted to progress in.

*They hardly had money but lived a hardworking and honest life. They served their community. It wasn’t about making money, but giving back to people. These aspects left an abiding impression on him – of giving back to the society.*

When he moved to US, with his parents, he realised that there were lots of poor people in US too, but there you have the hidden poor. In India, the poor are visible, in US there is a clear segregation – there is a rich community and there is a poor community. A wealthy person may go around and not see a poor person in US. On moving to US, initially he stayed in Paterson, New Jersey – one of the poorest cities of US, predominantly black African Americans. Over the next seven years they moved to Livingston, New Jersey, which was one of the richest cities with predominantly white, Jewish people. As the rich may never see the poor, you may never have any

traditions. He saw them do some amazing things which people may find magical. They were poor people leading very rich lives. His grandmother

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## Startup Place



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empathy for poor people in US.

## Invention of email

By the time he was 14, [Dr Shiva](#) had completed his Maths course and got accepted in a special programme at New York University. Only 40 students were selected and he was the only Indian Student. In the course he learnt seven computer programming languages making him a pretty well-trained programmer by the age of 14.

His mother, Meenakshi, was working at University of Medicine and Dentistry of New Jersey at Newark. She introduced Dr Shiva to a physicist who worked in that medical college – Dr Leslie Michelson.

The college was in three campuses and had early computers. Dr Shiva was challenged to reduce the office memo to an electronic format. The system of work was formidable and archaic. In the college, they had about a 1000 offices, each with a secretary, a desk with a typewriter and physical metal inbox and outbox, metal cabinets, trash basket and lots of paper on which memos was typed as per a strict format, with a carbon copies. These were then put in envelopes and send to other offices – transported by cars or vans.

*This was an interoffice mail system that connected the various campuses that Dr Les Michelson wanted to convert to an electronic format.*

There were few computers, huge in size (occupied a room or a warehouse) and were used for data processing. A secretary could take dictation, type a draft, get it corrected, retype it, put it in an envelope and mail it – but her using a computer was inconceivable.

Dr Shiva worked and created a code with 50K lines and converted the system of interoffice mail to an electronic format. There were several features – he electronically replicated the Inbox, Outbox, CC, BCC etc. The challenge was that the system had to have all features of physical mail and yet be easy to use – secretaries of the time had never used computers.

**He called the programme – EMAIL** – a term that had never been used before. The language only allowed five characters – and that too contributed to the short name.

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UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER: TX 111-775

REGISTER OF COPYRIGHTS  
United States of America

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET.

**1** TITLE OF THIS WORK: **EMAIL**

REVISED OR ALTERNATIVE TITLES: **Computer Program for Electronic Mail System**

NAME OF AUTHOR: **Mr. Shiva Anandaram**

DATE OF BIRTH AND DEATH: **1963**

NOTE: **Credited and wrote entire text of the computer program.**

- Official US Copyright Notice for "Email" Issued on August 30, 1982, now, in the Smithsonian Institution National Museum of American History (NMAH)

And once it was successful, he got a unique business experience. He was the one man show, the inventor, programmer, customer service person, spokesperson who held seminars, handled questions, the salesperson, and maintenance man all in one.

A lot of people rejected the idea since they thought by using

email they would lose their secretaries. So he learnt how to talk to people, how to handle rejection.

## **Social Responsibility**

Dr Shiva looks at innovation as a step to solve the world's problems. An innovator is one who makes things that did not exist earlier and addresses a problem.

On the net is a picture of Dr Shiva burning a South African flag. He found it appalling that MIT was making money off racism in South Africa. This feeling in his heart of opposing social injustice never ended. He made sure that service workers at MIT were paid better. He made sure more women and minorities, black people got into MIT. He kept up with such efforts even as an undergraduate. When he graduated, US had invaded Iraq. He put up a sign saying 'US Out of Iraq'. Half the audience booed him, but the other half gave him a standing ovation.

Hence it's not about worrying what people think, it's about doing the right thing.

And that's what an innovator and scientist would do. There are many NGOs that do not address the fundamental issue of humanities. Why is there oppression, why do people get abused ? Scientists and innovators need to address these issues.

## **Encouraging Innovation**

Dr Shiva has also founded InnovationCorps.org. It is movement founded to develop innovative thinking and entrepreneurship among high school students in inner cities and villages across the globe, with the support of local philanthropists, professionals and businesses. The foundation is dedicated, not to profit, but to nurture original thought. At InnovationCorps, a programme funded by him

entirely, they select students, help them grow and provide financial assistance.

**He recently wrote two books – ‘The boy who invented email’ and ‘Seven secrets of Innovation’ which were given away for free.** His mantras for innovation are that innovation is in your DNA, find a good mentor – someone who encourages you to do it. Find a real problem that has to be solved. Find a customer, someone to co-create with. The innovation has to be built to scale – for many customers. Protect your creation, copyright it. Also, you must also know how to promote your idea.

## **Healthcare in India- a problem imported from the West**

When Dr Shiva went to the medical school, he thought he would get into medical research. He always thought it would be better if Western medicine could look at the human body holistically. That did happen in Sep 2003, when he came to MIT to do his PhD – a new field called System Biology had come into being. The West had recognised that their system of medicine was not working. They create a drug, do animal tests, take 15 yrs and 5 billion USD and market drugs for ailments such as diabetes. Many of these don't work or work for a small percentage of the population and have a lot of side effects. That's because in the drug, they create a molecule that does not exist in nature. Dr Shiva never thought this makes any sense.

As a parallel study, in System Biology, he studied Indian and Chinese system of medicine. This helped him in understanding the whole human body holistically. Hence he created a new tech called Cyto Solve, which is a breakthrough platform for mathematically modeling the whole cell and complex molecular reactions of the body. Here, they can understand diseases at the molecular level –

Cancer, Diabetes Parkinsons. They have created a drug for pancreatic cancer without testing.

There is an ulterior motive to this project – to validate the Indian traditional sys of medicine. Most of the Western innovations come out of war and death and do not promote prevention, but only cure. Type II Diabetes is not really a disease, but created by eating disorders. Most Indians have a gene that burns fat very slowly and so Indians are not supposed to eat refined carbohydrates. Refined foods and sugars have been imported from the West, but Indians cannot digest such carbohydrates; we are supposed to eat food that is slow to digest – such as our chapattis. We are instead being flooded with refined foods creating the whole problem.

## **Pride in the Indigenous Indian**

Dr Shiva feels that right since 1757, when the British established their rule after winning the Battle of Plassey, they suppressed our ayurvedic schools of medicine and other indigenous products such as cotton weaving etc. Our innovations were a result of 5000 years of civilization. We had traditional farming methods that did not destroy the soil, kept away pests without pesticides. Now we are importing GMOs (genetically modified organisms) and pesticides. Our system of medicine is preventive; the Western system cures after the problem arises. A good Ayurvedic doctor put three fingers on your navel and knew what was the problem – he did not need an MRI. Today, the wealthiest people in US are following Yoga and eating the Indian style food. And we are being brainwashed that Western, White world is better. As an Indian, Dr Shiva is appalled that we allowed ourselves to be brainwashed. He believes that Indians have been the greatest innovators and it is his greatest mission to stop this brainwashing.

Ours is not truly an IT revolution. Bangalore and Hyderabad have been used for outsourcing, given the cheap labour. A revolution would be when we, as a people, rise up with and develop technology and export that to the world. Merely writing software that is marketed with the label of a US firm is should not be the aim. That is not a revolution. We have to realise that we have a lot of amazing innovations in India and we have to bring those to the world and we have to discover them, repackage them and export them.

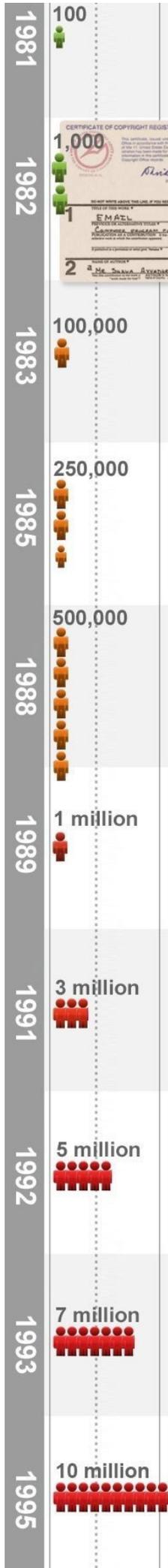
## **Make In India Campaign**

The larger context of this campaign is to make FDI flow into India, which is not a bad thing. The campaign may bring jobs in India but does not enable India to be self-reliant – there is still reliance on foreign countries, on the outside world. 'Made in India' would offer to the world what the Indians have created. The International Yoga Day was a good initiative. Using this, we can export what came out of India. That highlights our indigenous culture and we can export hundreds of innovations around Yoga. A lot of rich people want to learn Yoga and be in India. That would be the Indian Revolution. The existing pattern is merely importing jobs. He does not find that very exciting.

## **Start-up Scene in India**

He finds the start-ups stories extremely inspiring, simply because, a few decades back, Indians were not encouraged to take risks. Parents wanted them to be doctors and engineers. The fact India is having an explosion of innovation is great news. Flipkart and Snapdeal basically show that Indians have the ability to build things as good or even better than Americans. Now is the second step, in which we must have innovations which are original and not replicas or a duplication of an American model. The risk taking by young Indians is awesome. This ability to take





Will be designed to math teacher Irma Greenberg and Stella Weiskin, coordinator of the Independent Study program at Livingston High School.

**Livingston Student Designs Electronic Mail System**

On October 7, Irma learned various computer languages such as Fortran.

email system.

**1981**

**Westinghouse Award**  
Westinghouse Award, also known as the "Baby Nobel's" recognizes Email system for its original innovation.



**Copyright for Email**  
(V.A.) Shiva Ayyadurai receives United States Copyright for Email.  
**August 30, 1982**  
Registration# TXU-111-775

**1982**

**1985**

**Offline Email Readers**  
Development of offline readers allow email users to store email on their own personal computers. Read and compose replies without actually being connected to the network.

**1988**

**EUDORA**  
Steve Dorner develops Eudora. First commercial product to be widely used for reading and sending email on Local Area Networks (LAN).

**1989**

**Compuserve & MCI Mail**  
Compuserve and MCI Mail become first formally sanctioned email carriers connected to the internet.

**1991**

**Lotus Notes**  
Ray Ozzie and Mitch Kapur release major version of Lotus Notes (2.0).

**1992**

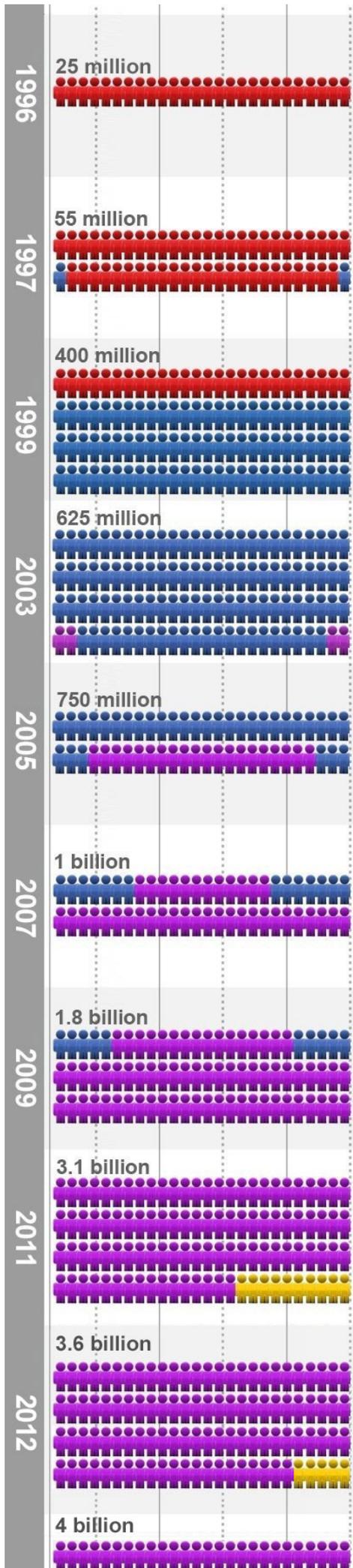
**Microsoft Outlook**  
Microsoft releases its answer to Lotus Notes: MS Outlook

**1993**

**America Online (AOL)**  
AOL offers an easily accessible internet based email system.

**1995**

**EchoMail Launched**  
EchoMail, the first integrated Email Management system to help businesses handle increasing volumes of inbound EMAIL. AT&T first customer.



1996

### HoTMaiL

Sabeer Bhatia and Jack Smith launch HoTMaiL, soon becomes most used internet based email system.



1997

### Yahoo

Yahoo Mail offered as an alternative to HoTMaiL. It too provides web-based access through a browser.



1999



### Blackberry

Blackberry makes accessing email via mobile phones more accessible. **Mobile email** is the new buzzword.

2003

### CAN-SPAM

President George W. Bush signs into law penalties for unsolicited email.



2005

### Email Address Verification

SPF released to validate email addresses to control SPAM. SPF release spawns other validation systems.



2007

### Email at Google

Google launches Gmail on April Fool's Day, after a prolonged four year Beta.



2009

### iPhone 3G

iPhone and other mobile devices make email even more accessible.



2011

### E-MAIL to EMAIL?



Associated Press Stylebook declares the use of **email** without hyphen "-", as the standard unaware of U.S. Copyright for "email"



2012

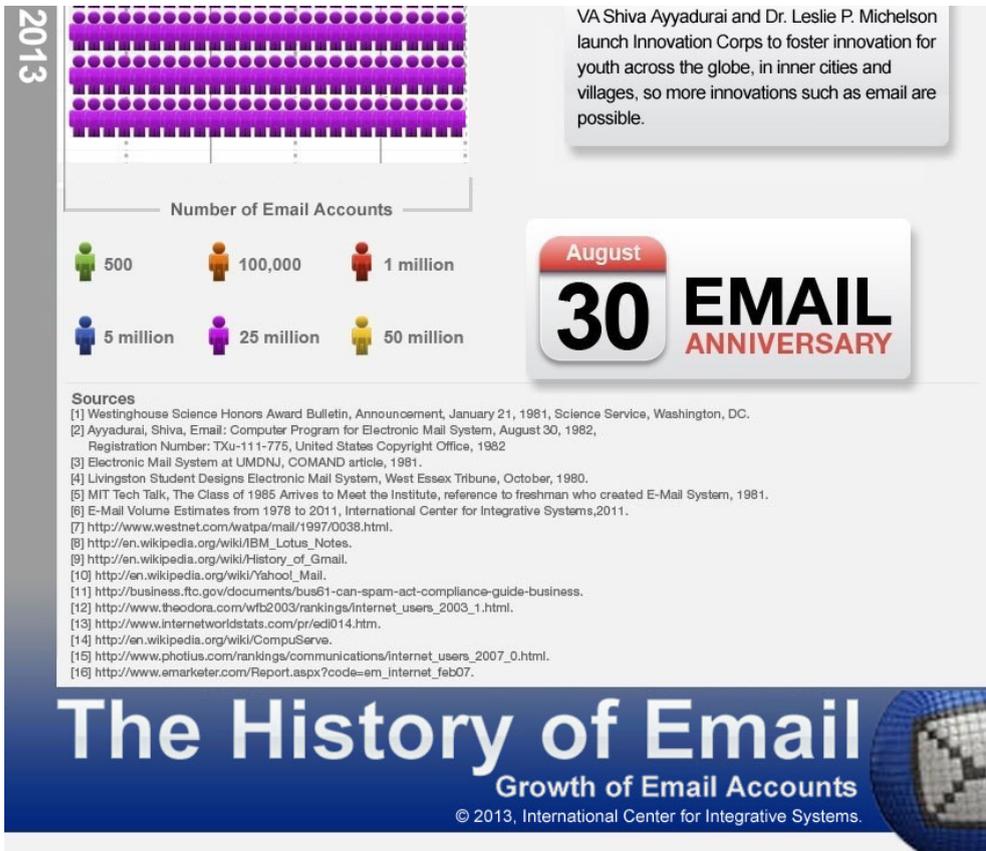
### Smithsonian Honors Email

Papers, computer code, and artifacts documenting the invention of email by VA Shiva Ayyadurai are accepted into the permanent archives of the Smithsonian's National Museum of American History.



2013

### Innovation Corps Launches



Email would, however, need to evolve. Today, it had made the boss his own secretary, spending a third of his or her time on email. Email of the future would have to be more automated, with dictation taking abilities, voice commands, auto filters, forwarding and filing, so that the boss can go back to being the boss. The email would become the secretary.

## Importance of a Degree, a Label

The current system of education is not good. Rich children would make it due to better resources and intelligent poor kids would be left out. In US the factor is seven – meaning a poor kid has 1/7 the opportunity of a rich kid. Also, the system overworks you to get grades in a highly typified process. The university has a brand and they select the crème de la crème.

This system creates classes and labels people. When he

hires, Dr Shiva looks not at MIT but lesser known Universities. These students work harder, are punctual and do not have an attitude. It is also worth noting that 95% of CEOs are not from the Ivy League. Hard work and innovation is what works. We must reduce the stress laid upon the grade system and work to raise the overall standards of education.

Innovation has nothing to do to which University you went to; it is about solving problems and not about just taking exams. Innovation makes you a Human, exams make you a robot.

***Innovation makes you a human being, just preparing for exams makes you a robot.***

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## **About Author:**



Lively, talented, strong willed Arian, Arushi loves to experiment and innovate. A budding marketer – HR enthusiast – DIY artist – music lover – having more layers to her personality than hyphenated definitions can

accommodate. Currently, she's wrapping up her grad at DU and looking at the future with wonder and expectation. A keen explorer who has traveled extensively in India and aims to soak up the rest of the world soon!