Steve Mann was recognized as “The Father of the Wearable Computer” (IEEE ISSCC 2000), and the Founder of the Wearable Technologies field: specifically, Nicholas Negroponte, Director of the MIT Media Lab, stated: “Steve Mann is the perfect example of someone... who persisted in his vision and ended up founding a new discipline.” - Nicholas Negroponte, Founder, Director, and Chairman, MIT Media Lab, Bangor Daily News - Sep 26, 1997; quote also appeared, Toronto Star, 2001. In describing how Mann founded the MIT Wearable Computing Project, as its first member, Negroponte also stated: “Steve Mann ... brought with him an idea... And when he arrived here a lot of people sort of said wow this is very interesting... I think it’s probably one of the best examples we have of where somebody brought with them an extraordinarily interesting seed, and then ... it grew, and there are many people now, so called cyborgs in the Media Lab and people working on wearable computers all over the place.” - Nicholas Negroponte, CBC TV 1996
Vision system for the blind

**ENGINEERING VISION**

Dmitri Vitaliev visits three Toronto men who have created a functioning camera eye – an invention with far-reaching applications.

the eyeborg man

FIG. 3A = EYE IMPLANT
Fully functional Implantable Camera System, implanted in a visually impaired subject.
Mann’s HDR (High Dynamic Range) imaging invention is used in nearly every commercially manufactured camera, including the Apple iPhone:

“...The first report of digitally combining multiple pictures of the same scene to improve dynamic range appears to be

Mann.3” – M. A. Robertson et al.

Journal of Electronic Imaging / April 2003 / Vol. 12(2) / 219–228

References


United States Patent 5,828,793

Mann

[54] METHOD AND APPARATUS FOR PRODUCING DIGITAL IMAGES HAVING EXTENDED DYNAMIC RANGES


[22] Filed: May 6, 1996

OTHER PUBLICATIONS

Mann, Steve; “Compositing Pictures of the Same Scene,” Massachusetts Institute of Technology, Cambridge, MA 02139.

AR (Augmented Reality) becomes a widespread phenomenon:

AR+HDR to help the blind;
AR+HDR to help the visually challenged (partial sight);
AR as a new industry.
Traditional welding helmets use a sheet of smoked glass for the eyepiece, cutting down on the dangerous glare from the welding process itself, but also reducing overall visibility. The HDRrchitecture system, instead, processes images coming from one or more cameras, rendering a Full HD, 30fps stream with the brighter elements stripped out but the core details retained, all in real-time.
General-Purpose Wearable Computing in everyday life:

World's first wristwatch videophone


Canadian Patents Database
Patent Summary

Patent Details

| (22) Filing Date: | 1998-06-29 |
| (45) Issued: | 2000-10-24 |
| (41) Open to Public Inspection: | 1999-12-29 |
| (50) Availability of License: | Yes |

ISSCC: "Dick Tracy" watch watchers disagree

By Peter Clarke

EE Times

FREELITE TECH

What will you be wearing tomorrow?

A GNU/Linux Wristwatch Videophone

Jul 01, 2000 By Steve Mann

This fully functioning prototype, designed and built by Steve Mann in 1998, was demonstrated in 1999, and later used to deliver a videconference at ISSCC 2000.

http://www.linuxjournal.com/issue/75

Cite/Reference the above patent and LJ 2000 article:
Mann’s Sensor-camera (Lifeglogging/Lifelogging) invention is now in widespread use:

Wearable Wireless Webcam
1998, Mann

SenseCam
2004, Microsoft

Lifelogging Camera
2012, Memoto

Mann proposed the Veillance Theory and coined the word “Sousveillance” to denote the inverse of “Surveillance” (watching over). Veillance Theory provides new insight into the relationship between surveillance (e.g. cameras attached to property) and sousveillance (e.g. cameras attached to people).
(12) Patent Application: (11) CA 2280022

(54) English Title: CONTACT LENS FOR THE DISPLAY OF INFORMATION SUCH AS TEXT, GRAPHICS, OR PICTURES

(72) Inventors (Country): MANN, STEVE (Canada)

(22) Filed Date: 1999-07-28

Representative Drawing
Fourteen-year-old Maya Burhanpurkar of Oro-Medonte has come up with a method of measuring the time integral of displacement and developed a project that proves it has a significance.

She will be competing at the Intel International Science and Engineering Fair in Phoenix, Ariz., in May. ROBERTA BELL - THE PACKET & TIMES

For more than 300 years, the base of fundamental physics laid by Isaac Newton has remained more or less unchallenged.

Then Oro-Medonte’s 14-year-old Maya Burhanpurkar looked into it.

Until now, scientists have only really been considering derivatives of distance, as outlined by Newton, said Burhanpurkar, who has come up with a project validating the last fundamentally unknown quantity in his model.

"Distance, velocity, acceleration — those are all things we’re able to measure, but the integral of displacement is something that hasn’t ever been investigated before,"

World's largest hydraulophone is world's first physical embodiment of the time-integral of displacement.

CNIB (Canadian National Institute for the Blind)
Hydraulophone used for rehabilitation of Special Needs children: Developing tactile skills.
Actional Systems Theory: Generalized Kinematics

Action is more fundamental than energy or power! The minimum possible quantity of action is Planck's Constant.

Integration

Differentiation

Actional Systems Lab
Watt seconds² (Joule seconds)

Energy Systems Lab
Watt seconds (Joules)

Power Lab
Watts
Service to the Community:
IEEE International Symposium on Technology and Society, 2013, Steve Mann, General Chair

As a designer, artist, scientist, technologist, engineer, and mathematician, and Renaissance humanist, Mann is interested in ALL aspects of Advancing Technology for Humanity!