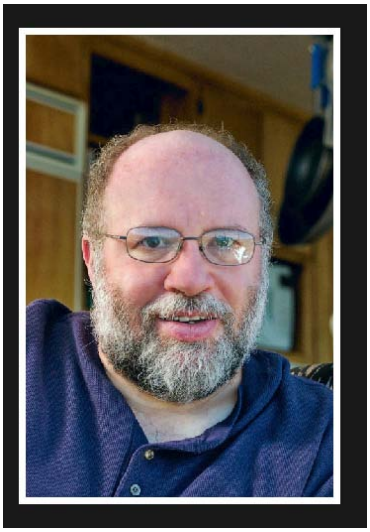


dantimis@mac.com

In Memoriam of my friend Dan Timis (1954-2009)

Morel Koren

I got to know Dan Timis during the summer of 1973 at the *Vacanţe muzicale* annual summer festival for students of classical music in the picturesque city of Piatra Neamt in Moldavia, Romania. Dan, the only son of the famous composer Vasile Timis,[1] had studied at the "Ciprian Porumbescu" Bucharest Music Conservatory (now known as the *National University of Music Bucharest*), whereas I came from the "George Enescu" Iasi Music Conservatory (now called the *University of Arts "George Enescu"* Iasi).

After several days of daily meetings and discussions revolving around music, nature, roots, arts, technology, and after three weeks of musical events, Dan and I became very good friends. We discovered that we had similar preoccupations, interests, and dreams. At the next summer festival we met again in the Piatra Neamt

[1] Vasile Timiş (b. Sighetu Marmaţiei, 20 August 1922). Romanian composer. He began his studies with Nicolae Oancea and Leon Mendelsohn at the Lyra Conservatory in Bucharest (1940–42), but was forced to interrupt them because of the restrictions against Jews at the time. Timiş completed his studies with Leon Klepper (composition), Silvestri (conducting) and Rogalski (orchestration) at the Bucharest Conservatory (1951–56). He was choral director of the Artists' Workshop in Bucharest (1945–52), music consultant at the Electrecord record company (1954–58), and then a symphonic conductor (1958–74); in 1977 he became a teacher at the Popular School of Arts. In his compositions Timiş combines neo-Romantic and post-Impressionistic elements with a melodic vitality. He is committed to the principle of organic thematic growth. In his chamber works, he often demonstrates polymodal, polyrhythmic and aleatory elements. Further details are given in V. Cosma: *Muzicieni români* (Bucharest, 1970).
http://www.oxfordmusiconline.com/subscriber/article/grove/music/45005?q=Vasile+Timis&search=quick&pos=1&_start=1#firsthit , Grove Music Online.

"Musical Vacations" — this time as old friends. In Bucharest, Dan studied music and composition with Anatol Vieru, Stefan Niculescu, Aurel Stroe and many others — all great teachers and composers of the "Ciprian Porumbescu" Music Conservatory. In Iasi I studied music with Anton Zemann, Sabin Pautza, Vasile Spatarelu and others.

Dan's old friend, the cellist, composer, and professor at the National University of Music, Serban Nichifor wrote, of the first two decades of Dan's musical involvement:

> Born on 15 July 1954 in Bucharest, Dan began studying piano at the *School of Music* with the distinguished professor Marta Paladi, then at the *High School of Music* (now High School "Dinu Lipatti" — where I had the privilege of being his classmate) and then at the Music Academy "Ciprian Porumbescu" (the present National University of Music). In parallel with the studies at the Music Academy, he attended courses at the Polytechnic Institute of Bucharest, Faculty of Automation and Computers.

> After graduating from the Conservatory as head of promotion in 1978, he participated in several editions of the summer courses at Darmstadt coordinated by Morton Feldman, Ton de Leeuw, Mauricio Kagel and Brian Ferneyhough, and at the conducting courses at Weimar coordinated by Igor Markevitch. His musical works include the *Cantata on the Texts by Dimitrie Cantemir*, the *String Quartet*, the *Sonata for Clarinet and Piano*, the *Trio for Clarinet, Cello and Piano*, the marvelous *Songs on Poems written by Tudor Arghezi* and music for films designed to young directors.

In 1980, Dan left for Germany and, a short time later, came to Israel for a few days to visit his father's family. Continuing his search for his inner self, he returned to Paris.

In 1982, Dan attended an MA course in a computer science program at the Pierre & Marie Curie University and worked for several years at IRCAM. In Paris, he met Gérard Assayag, who describes their encounter:

I met him there, in front of an information panel. Why did we talk? Why did we become instant friends? We discovered that we were both gravitating around IRCAM, the big research facility for music and science founded by Pierre Boulez. As a student, I was working on some research projects that would lead, eventually, to the creation of the Music Representation team of which I am still in charge. Dan was working in the systems team. There started a period of wonders and beauty.

We used to work together in the evening and late in the night (yes, Dan was already used to program till 4 in the morning) with that big empty IRCAM building as a playground.

Dan was brilliant: he reinvented computer music with new ideas all the time. The Postscript language was just showing up and he suggested we should extend the language to a full object-oriented one and use it to ease the designing and printing of music notation. We wrote three papers at the ICMC on that topic.

He took Chomsky's theory of formal grammars and automata and found what was missing: a formal language expressing the idea of polyphonic superposition in music. Thus the "superposition grammars", a breakthrough in music theory, and the occasion to meet Marc Chemillier - who came around at that time for his Master's internship and worked with Dan on that topic continue to excite Dan's inventive mind.

This is just a few examples of Dan's creativity. When we were tired of working, we would go downstairs to the grand Steinway piano and Dan would play marvelous interpretations of the classical repertoire. Or we would go to an empty studio and play a CD (it was the beginnings of this technology) in full power on the studio's amps (a Mahler symphony, e.g.).

We were very close and when he left for the US he left a great vacuum. But old Europe was too small for him.

I visited him in Santa Barbara at the time he was in charge of the studio, then later when he was at Opcode.[2] That was the last time I saw him. Strangely I have never stopped thinking about him. Often at IRCAM when a new thing pops up I say: Well, my friend Dan Timis had already envisioned this in the eighties. For example, visual programming of musical processes

[2] Opcode Systems, the leading manufacturer of professional music production software and hardware, announced that the United States Patent Office had granted a patent (U.S. Patent # 5792971) to the company for its ground-breaking Audio-to-MIDI (TM) and MIDI-to-Audio (TM) conversion technology. This advanced digital audio technology is featured in Opcode's popular *Studio Vision Pro* audio and MIDI sequencing software for Macintosh. "This patent represents years of work on the part of our programmers," stated Chris Halaby, President of Opcode Systems. "Our goal has always been to deliver powerful, ground-breaking musical tools without adding complexity, and this is proof we've succeeded." Opcode's patented process allows users to transform any single-line digital audio file (human voice, guitar solo, flute, etc.) into a MIDI track containing the pitch, timing, dynamics and spectral data of the original file. The resulting MIDI track can be extensively edited like any other MIDI track and can then be converted back into digital audio that reflects all the MIDI editing changes. This two-way conversion capability enables users to perform edits and corrections that would otherwise be extremely difficult or impossible. For example, a lead vocal can be turned into a MIDI track, have its timing corrected, be transposed into a different key, have all pitch fluctuations removed, and then be transformed back into digital audio — all in a matter of moments. This patent is testament to the innovation and forward-looking design that has been a characteristic of all Opcode products since the release of *Studio Vision 1.0*, the first sequencer to combine digital audio and MIDI recording. (http://news.harmony-central.com/Product-news/Opcode-Patent.html — accessed in July 2009).

(that became so popular with Max/Msp[3]) was an idea he was already suggesting in 1985/1986, well before it became mainstream.

In 1986, Dan crossed the Atlantic to head the computer music laboratory at the University of California in Santa Barbara, and to work as an audio programmer and DSP (Digital Signal Processing) designer.

For the last twenty years, he worked at *Opcode Systems* as senior programmer for "*Studio Vision*" software (the winner of several distinguished awards), and later for *Euphonix*, *Antares* and *Kind of Loud*. Dan worked as director of Research & Development at *Arboretum Systems* (which produced such multi-award-winning applications as: *Hyperprism, Ray Gun*, and *Ionizer*). In 2001 he became a co-founder of a new music technology company named Muse Research (headquartered at Menlo Park, California) as a major consultant in creating the "Receptor." In 2006, Dan began working at *Apple*, and was involved with *iPod* and *iPhone* development.

Opcode Systems, Inc.[4]- circa 1990. Founded in 1985 by Dave Oppenheim (center with beard) in Palo Alto. Far right with beard, Ray Spears, the technical writer.

[3] Max (later named Max/Msp) was first released commercially by Opcode Systems, Inc. in 1990. It was chosen as Software Innovation of the Year by the readers of *Keyboard Magazine* in 1991. Since 1999, it has been published and supported by Cycling '74.

[4] Photos (1985-90) from: http://www.pdbmusic.com/interview_pauldb2.html. Opcode's MIDIMAC sequencer, launched in 1985-86, was the first commercially available MIDI sequencer.

The release of Opcode's *Studio Vision Pro Version 3.0* in 1995, which included the "Audio to MIDI" and "MIDI to Audio" features, was a great success, and the product won several awards:

- Mix magazine TEC award (1995)
- Electronic Musician "Editor's Choice" (1995)
- Keyboard magazine 20th Anniversary Readers Poll Winner (1995)
- MacUser magazine Editors Choice Award, "Eddy" (1995)
- AES Show Pic 1995 (EQ magazine)
- New Media magazine "Editor's Choice" Hyper Award (1996)

Dan was involved in research that led to inventions and patents such as "*Method and system for editing digital audio information with music-like parameters*" (Audio-to-MIDI/MIDI-to-Audio feature, United States Patent 5792971 — 11 August 1998) and "*Using time-stamped event entries to facilitate synchronizing data streams*" (United States Patent 2009/0006488A1 — 1 January 2009).

US005792971A

United States Patent [19]

Timis et al.

[11] **Patent Number: 5,792,971**

[45] **Date of Patent: Aug. 11, 1998**

[54] **METHOD AND SYSTEM FOR EDITING DIGITAL AUDIO INFORMATION WITH MUSIC-LIKE PARAMETERS**

[75] Inventors: **Dan Timis**, Mountain View; **David Gerard Willenbrink**, San Francisco, both of Calif.

[73] Assignee: **Opcode Systems, Inc.**, Palo Alto, Calif.

[21] Appl. No.: **715,529**

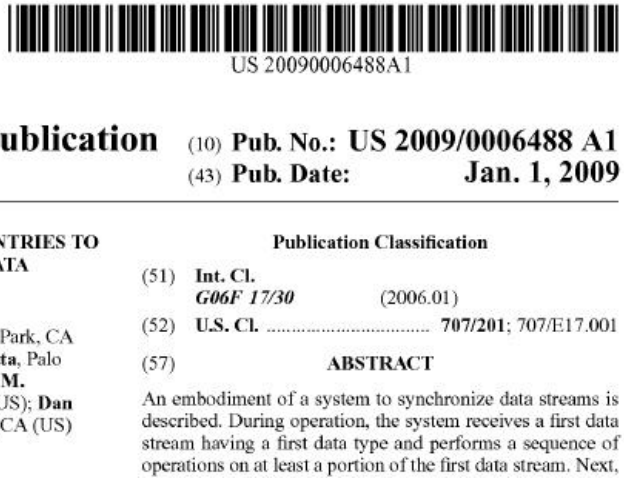
[22] Filed: **Sep. 18, 1996**

5,567,901 10/1996 Gibson et al. 84/603
5,602,356 2/1997 Mohrbacher 84/609

Primary Examiner—William M. Shoop, Jr.
Assistant Examiner—Marlon T. Fletcher
Attorney, Agent, or Firm—Townsend and Townsend and Crew LLP; Kenneth R. Allen

[57] **ABSTRACT**

The present invention provides a method for editing digital audio information, such as musical material. Original musical parameters (**302**) are extracted and/or inputted from recorded original digital audio material (**300**). The original musical parameters (**302**) are then edited. The resulting



US 20090006488A1

(19) **United States**

(12) **Patent Application Publication**

Lindahl et al.

(10) **Pub. No.: US 2009/0006488 A1**

(43) **Pub. Date: Jan. 1, 2009**

(54) **USING TIME-STAMPED EVENT ENTRIES TO FACILITATE SYNCHRONIZING DATA STREAMS**

(76) Inventors: **Aram Lindahl**, Menlo Park, CA (US); **Anthony J. Guetta**, Palo Alto, CA (US); **Joseph M. Williams**, Dallas, TX (US); **Dan Timis**, Mountain View, CA (US)

Correspondence Address:

Publication Classification

(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.** **707/201**; 707/E17.001

(57) **ABSTRACT**

An embodiment of a system to synchronize data streams is described. During operation, the system receives a first data stream having a first data type and performs a sequence of operations on at least a portion of the first data stream. Next,

From 1997, I was in regular e-mail contact with Dan, and we met in California between 1999 and 2002 at CCRMA-Stanford, CNMAT-Berkeley, Mountain View, Palo Alto, and San Francisco. In 1999, during a visit to New York (at my friend Prof. Dr. Father Theodor Damian's house), Dan invited me to visit him that weekend at Mountain View, California. I accepted his invitation instantly. On the first day of my stay in California, he took me to the *Opcode Building* to see where *EZ Music*, *Musicshop*, and *Studio Vision* software were being developed. On the following day he asked Prof. Jonathan Berger from CCRMA for his permission for me to visit Stanford University's Center for Computer Research in Music and Acoustics. Prof. Berger kindly welcomed us and presented some of CCRMA's activities, works in progress, and successes. Further, Dan took me to visit the Golden Gate Bridge and the Musée Mécanique, *The Zelinsky Collection* of coin-operated mechanical musical instruments and antique arcade machines — which still fascinated us both.

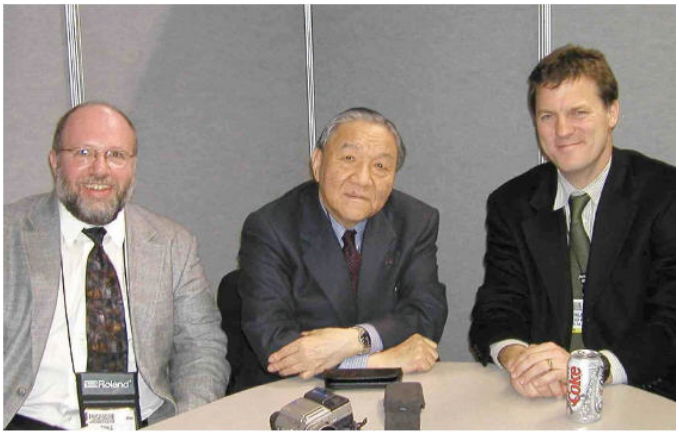
In July 2002, when I was in California, participating in summer courses at CCRMA, Dan organized a visit to his wife, Anne's relatives who own a horse farm. It was marvelous: the country, the holiday atmosphere, the barbeque and, most importantly, the lovely people. We celebrated the Fourth of July together; and also, a little early, Dan's 48th birthday — which would fall on 15 July.

In March 2005, at the AES conference in San Francisco, Keith Borman and Dan Timis from *Muse Research* presented their latest product "*Receptor* — the next generation music-computer."

The new *Receptor-2* in 2009 http://www.museresearch.com/

The Meeting Announcement presented Dan as follows:

His career has included work as Senior Programmer for Opcode Systems where he was one of the primary design engineers for the award winning *Studio Vision* product. While at Opcode, Dan developed the Audio-to-MIDI/MIDI-to-Audio feature for which the company received a Patent. Following his employment at Opcode, Dan served as Director of Research and Development at Arboretum Systems, a developer of DSP plug-ins and audio applications.[5] Prior to Muse Research, Dan has worked as an independent consultant for a number of companies in the audio market including *Euphonix*, *Zoom*, *Antares*, *Kind of Loud*, and *TuneTo.com*.



From left to right: Dan Timis, Ikutaro Kakehashi, founder of the Roland Corporation, and Chris Halaby (past president of Opcode Systems), now MuseResearch President & CEO

At the 2008 Audio Engineering Society convention, the *Studio Vision* program was inducted into the The MIX Foundation's TEC Hall of Fame.

[5] About *Arboretum*'s application, "Hyperprism" software, the father of "ambient music," Brian Eno has said: "Hyperprism is a wonderful invention."

2008 — The MIX Foundation's TEC Hall of fame.
From left to right: Paul J. de Benedictis, Dave Oppenheim, Chris Halaby,
Keith Borman, Dan Timis, Ray Spears[6]

In his *Eulogy* for Dan, written in April 2009, his friend Bryan Lanser, VP of Business Development at *Muse Research*, wrote:

> I met Dan several years ago when he was at OpCode (*Opcode*). I remembered him from some musical events — perhaps it was at CCRMA — where I had pegged him as "one of those DSP geniuses" that so often float in and out of the Stanford community.
>
> Through the years I would run into Dan on a regular basis, and I always had two conclusions after speaking with him: "Gosh that guy is smart" followed by "I really like that guy." Little did I know that a few years later it would be my pleasure to start a company with a person I hold in extremely high regard both as an engineer, and also as a person.
>
> I remember the first meeting at *Muse Research* when the founders first came together. He came up with a big hug and told me how happy he was to be working with me, and I answered back that the pleasure was really mine, and I was really looking forward to creating great products with him. I had always admired Dan from afar, now he would be a colleague and I'd see him every day!
>
> Of course the journey at *Muse Research* was challenging for everyone as all startups are, but Dan contributed incredible things to our company, not only of a technical nature, but also personally with his great sense of humor, his easy-going demeanor, and his desire to do great things. And great things he did do, since *Receptor* is now used by most famous musicians all around the world, and each time a musician fires up "that blue box" (like they did at half time of the Super bowl), there is a little bit of Dan in that performance.

[6] Photo from Bryan Lanser's *Eulogy* for Dan, April 2009.

> Just this last December Dan sent me a picture of Tom Jones playing a private concert at Apple, with two *Receptors* on stage making the sounds. He went up to the keyboard player and mentioned to him that he had worked on the *Receptor*, and the player thanked him for making such an amazing instrument, and how happy he was with it. Dan said to me that was one of the proudest moments of his life. I think he took great joy when his efforts were able to be useful to other people, and, in the case of *Receptor*, he has enabled thousands of musicians to make what Dan so dearly loved himself: beautiful music.
>
> Although I was really sad that he left *Muse Research*, but I know he was pursuing a dream he had had for many years: to work at Apple. I think he was extremely excited to work at the company whose products he had used and designed software for over the years. And true to his calling, Dan continued to do great things at Apple as part of the team that created and developed the iPod and the iPhone and completely revolutionized the way people communicate!

I was really happy and proud to hear that Dan worked at Apple, and that he was investing his energy, creativity, intelligence, and time in what he loved so much.

The last message I received from Dan was on 17 January 2009, when he wrote me a joke, a typical and intelligent joke, in his personal "Dan-joke-mode." I responded to him the following day.

That was the last I heard from him. I didn't receive an answer from Dan for three weeks. On 13 February, I got an e-mail from his wife, Anne, who informed me that "after a major heart attack, Dan passed away on February 3, 2009."

On 15 July 2009, Dan would have marked his 55th birthday, celebrating half a century of work, studies, learning, continuous exploration, inspiration, perseverance, insistence on creativity, and ingenuity in unlocking various mysteries of life and/or providing ingenious solutions for some of them. Constantly developing his innate qualities, Dan — the composer and pianist from Bucharest — became an internationally renowned expert programmer, an inventor, an architect in Digital Signal Processing, and an important contributor to products that have become international touchstones of sound and music technology.

Some of you wanted to know what was the secret project I was working on. I can tell you now: it was the pink iPod nano (second from left). Just kidding! Seriously, it was the second generation iPod nano. In particular, I worked on playback of uncompressed audio (WAV, AIFF) and recording.

Like others of his friends, I also received this "Cupertino post card" (at the top) from Dan, informing us of his recent activities and successes at Apple.

He didn't have time to send us a humoristic and informative "Cupertino post card," regaling us with his most recent preoccupations at Apple with iPhone.

... and now, *dantimis@mac.com* no longer responds. We feel a deep sadness, and great sympathies for you, Anne, for Dan's parents Ben and Poli, who continue their sad life in Bucharest, and for all his good friends all over the world.

The least we can do is to read and write reminiscences about Dan Timis (Bucharest, July 15, 1954 – Mountain View, February 3, 2009) at his friend grEGORy simpson site: http://www.ultrasomething.com/photography/2009/02/for-dan/, at Muse site: http://www.museresearch.com/blog/2009/02/tribute-to-dan-timis/ and at Marc Chemillier site: http://ehess.modelisationsavoirs.fr/marc/publi/grammaires/grammars.html.

Goodbye my friend, *Shalom Haver*, שלום חבר, *Adio Prietene*

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