Quilmes, 21 de julio de 1999

VISTO la propuesta de realización del curso de Posgrado, según consta en los anexos 1 y 2 de la presente resolución, y

CONSIDERANDO

Que cuenta con el dictamen favorable de la Comisión de Investigación y Posgrado del Consejo del Departamento de Ciencias Sociales.

Que cuenta, asimismo con la opinión favorable del Director de la Carrera de Composición con medios Electroacústicos, Prof. Oscar Pablo Di Liscia.

Que constituye un aporte relevante a la formación de posgrado en las especialidades involucradas.

Que los antecedentes académicos y profesionales del docente a cargo garantizan calidad y solvencia en el desarrollo de los contenidos especificados.

Que, dado que existe una partida de presupuesto proveniente del FOMEC asignada a "seminarios de perfeccionamiento y actualización del cuerpo docente de la Carrera de Composición con Medios Electroacústicos", y que los aranceles previstos, como así también sus cupos mínimos y máximos garantizan la cobertura del presupuesto requerido.

Por ello,

EL CONSEJO DEPARTAMENTAL
DEL DEPARTAMENTO DE CIENCIAS SOCIALES
RESUELVE:

ARTICULO 1°.- Proponer al Consejo Superior de la UNQ la aprobación del dictado del curso de posgrado, *Programación de software musical interactivo con MAX y MSP*, en el marco de la ejecución del Proyecto FOMEC nº 532, cuyo programa y características generales se detallan en el Anexo 1 de esta resolución.

ARTICULO 2°.- Proponer al Consejo Superior de la UNQ la designación del Profesor Christopher Dobrian, cuyo curriculum vitae se detalla en el Anexo 2 de esta resolución, como Profesor Titular invitado, durante los días 4, 5, 6, 7 y 8 de octubre de 1999, a los efectos del dictado del curso mencionado en el ARTICULO 1° de esta resolución.

ARTICULO 3°.- Proponer al Consejo Superior de la UNQ el establecimiento de un arancel de $150 (ciento cincuenta pesos).

ARTICULO 4°.- Proponer al Consejo Superior de la UNQ la exención del arancel del curso referido en el ARTICULO 1° de esta resolución, para los inscriptos pertenecientes y/o egresados de la UNQ.

ARTICULO 5°.- Proponer al Consejo Superior de la UNQ la aprobación de una erogación de $3.400 (tres mil cuatrocientos pesos), en concepto de: honorarios y viáticos del docente, gastos de pasaje del docente y gastos de software, correspondientes al curso referido en el ARTICULO 1° de esta resolución.

ARTICULO 6°.- Regístrese. Elévese al Consejo Superior. Archívese.

Resolución (C.D.) Nº 025/99

Firmado por: José María Simonetti
Director del Departamento de Ciencias Sociales.

Anexo 1

Título del Curso de Posgrado:

Programación de software musical interactivo con MAX y MSP

Lugar de Realización:

Universidad Nacional de Quilmes

Docente/s a cargo:

Dr. Christopher Dobrian

Cronograma y carga horaria:

4, 5,6, 7 y 8 de octubre, 1999; 10.00-13.00 hs., 14.00-17.00 hs.;
Total: 30 horas.

Destinatarios:

Graduados Universitarios. A pesar de que no existen restricciones referidas a la especialidad, se recomiendan aquellas vinculadas con: Informática, Música, Música Electroacústica, Sonido y Multimedia.

Objetivos:

Capacitar a los participantes en el planteo y la resolución de los problemas relativos al diseño e implementación de programas de computación para composición musical, interpretación interactiva de música, y proceso de audio digital en tiempo real, a través del software MAX-MSP.
Capacitar a los participantes en el planteo y la resolución de los problemas relativos al diseño e implementación de proyectos de investigación en composición musical, interpretación interactiva de música, y proceso de audio digital en tiempo real, a través del software MAX-MSP.

Contenidos y Bibliografía:

1-Introducción a las bases de MAX y MSP. Características generales, instalación, versiones. Gestión, mantenimiento. Requerimentos de Hardware y software. Modo general de operación.

2-Sintesis de audio, muestreo y técnicas de procesamiento en MSP. Síntesis por FM, Waveshaping, muestreo en tiempo real, procesos relacionados con líneas de retardo (feedback, chorus, flange, etc.), filtrado, operaciones de buffer.

3-Implementación de algoritmos compositivos con MAX: procesos de automatización, fórmulas matemáticas, asignación de datos, probabilidad, tratamiento temporal complejo.

4-Vinculación de datos de audio y MIDI, combinación de MIDI pre-grabado e improvisado y audio, posibilidades de gráfica y multimedia.

5-Diseño de aplicaciones completas, performances, instalaciones, etc.

6-Adición y creación de módulos propios en MAX - MSP.

Bibliografía: la bibliografía básica es la documentación "on line" del software (Getting Started with Max, Max Reference, Max 3.5 Addendum, and MSP: The Documentation.). Dado que el curso está centrado en el manejo de software, no se requiere bibliografía adicional, pero serán sugeridas lecturas de bibliografía complementaria.

Metodología:

Clases teórico-prácticas, con apoyo multimedia

Requisitos de asistencia:

Asistencia mínima: 80% (24 hs.)

Evaluación:

A partir de la finalización del curso, los participantes tendrán un plazo de 180 días corridos para remitir su trabajo final al Profesor para su evaluación. Cumplido este plazo, el profesor dispondrá de 60 días corridos para remitir al Vicerectorado de Posgrado el resultado de la evaluación.

Certificación:

La UNQ otorgará certificados de aprobación del curso a quienes hayan cumplimentado la asistencia mínima y hayan aprobado el trabajo de evaluación.

Cupo mínimo y máximo:

Mínimo: 5   participantes
Máximo: 30   participantes

Arancel:

Graduados y docentes de la UNQ: sin cargo
Graduados de otras Universidades :   150$

N.B. : siendo que este curso se subvenciona con una partida de dinero adjudicada por el FOMEC para "seminarios de capacitación del cuerpo docente", se considera razonable no arancelarlo para los docentes y egresados de la UNQ.

Presupuesto:

Honorarios docente/s	1000 $
Pasaje/s	1350 $
Viáticos y alojamiento docente/s	600 $
Software	250 $
TOTAL	3200 $

Requerimientos:

La Carrera de Música Electroacústica proveerá los elementos necesarios y el espacio para la realización del curso.

Christopher Dobrian

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University of California
Irvine, CA 92697-2775
Email: dobrian@uci.edu
(949) 824-7288
Web: http://www.arts.uci.edu/dobrian

Curriculum Vitae

Current Employment

Assistant Professor of Music, School of the Arts, University of California, Irvine.

> Director of the Gassmann Electronic Music Studio, Producer-Director of the Gassmann Electronic Music Series, and teacher of courses in composition, theory, and computer music.

Education

Ph.D. in Music Composition; University of California, San Diego (UCSD); 1994

> Doctoral dissertation was Poems of Passage, a composition for orchestra employing conglomerate orchestral textures. Ph.D. studies specialized in orchestral texture with **Joji Yuasa**, music pedagogy and epistemology with **Edwin Harkins**, and computer algorithms for cognition and composition with **George Lewis**. Primary teachers of composition were **Robert Erickson** and **Joji Yuasa**; also studied composition with **Morton Feldman** (1987), **Vinko Globokar** (1986), and in seminar with **Roger Reynolds** (1985). Studied classical guitar with the Spanish masters **Cel'n and Pepe Romero**.

Master of Arts in Music Composition; UCSD; 1985

> Primary teacher of composition was **Bernard Rands**; also studied composition with **Joji Yuasa** and **Will Ogdon**. Studied computer music with **F. Richard Moore** and **Mark Dolson**, classical guitar with **Cel'n and Pepe Romero**, and conducting with

Thomas Nee.

Bachelor of Arts in Music, with emphasis in Composition and Classical Guitar; University of California, Santa Cruz (UCSC); 1982

> Awarded Highest Honors in the Major by the Board of Studies in Music. Studied composition with **David Cope**, electronic music with **Gordon Mumma**, orchestration with **Sherwood Dudley**, and classical guitar with **Richard Stover**.

Compositions

Talk to Me (1998), with designer Douglas-Scott Goheen and animator Daniel Beck, an audio-visual interactive computer installation; premiered at Arts Week '98, Irvine, California, November 1998.

There's Just One Thing You Need To Know (1998), for computer piano and interactive computer system; premiered by Daniel Koppelman in Irvine, California, April 1998.

Alter Egos (1997), for digitally processed contrabass, synthesizer, and interactive computer system; premiered by Bertram Turtetzky and Daniel Koppelman at the UMKC Conservatory of Music, Kansas City, Missouri, April 1997.

The Walls Have Ears (1996), with Damian Catera, audio installation; premiered at the 1996 International Conference of Computer Music, Hong Kong University of Science and Technology, Hong Kong, August 1996.

Metallurgy (1996), for digitally processed violoncello and six brass instruments; premiered by David Gibson at Rensselaer Polytechnic Institute, Troy, New York, March 1996

Automatic Forms II (1996), for computer-controlled synthesizers; premiered in the concert Essays & Burial, Rensselaer Polytechnic Institute, Troy, New York, March 1996

Unnatural Selection (1996) for guitar-controlled-computer-controlled synthesizer; premiered by the composer in the concert Essays & Burial, Rensselaer Polytechnic Institute, Troy, New York, March 1996

I, Alone (1995), for violoncello; composed for and premiered by David Gibson at Rensselaer Polytechnic Institute

Poems of Passage (1994), for orchestra

2-way Dream (1994), with Robert Willey, for synthesizers and interactive software; premiered at the Society of Composers, Inc. regional conference, Albuquerque, New Mexico, April 1994

3-way Dream (1992), with Keith Johnson and Bob Willey, for synthesizers and

interactive software; premiered at the MOO presentation, CRCA, UCSD, March 1992

Sancocho (1992), with Cesar Potes, Rafael Linean, Greg Main, and Bob Willey, for five instruments and five tapes; premiered at the MOO presentation, CRCA, UCSD, March 1992

Falsetas Móviles (1991) for solo guitar; premiered in the UCSD Guitars recital, Mandeville Recital Hall, UCSD, December 1991

Entropy (1991) for Yamaha Disklavier (computer controlled piano) and computer graphics; premiered in the Disklavier Discovery concert series, CRCA, UCSD, September 1991

Line/Phase Minutiae (1991) for Yamaha Disklavier; premiered in the Disklavier Discovery concert series, CRCA, UCSD, May 1991

Music for Video (1987-1989), incidental music for video clips, Paris and New York

Parable (1987) for bass flute, bass oboe, and bass clarinet; premiered in the Unpopular Music concert series, CME, UCSD, May 1987

ETC (1986) for harp and computer-generated tape; premiered in the Atomicafr concert series, Mandeville Recital Hall, UCSD, October 1986

Nonyx (1986) for nine instruments; premiered in the Pacific Ring Festival, San Diego, April 1986

Deguedoudeloupe (1985) for computer-generated tape; premiered in the Atomicafr concert series, Mandeville Recital Hall, UCSD, November 1985

Nine Haiku (1985) for mezzo-soprano, flute, and guitar; premiered in Erickson Hall, UCSD, April 1986

Three-thirty-three (1984), for percussion, tape, and dancers; premiered in the Public Theatre, San Diego, December 1984

Now and Then (1984) for flute, viola, guitar, and percussion; premiered by SONOR, Mandeville Auditorium, UCSD, November 1984

Crepuscule (1983) for mezzo-soprano and six instruments; premiered in the Atomicafr concert series, Mandeville Recital Hall, UCSD, May 1984

In Icy Darkness (1983) for percussion solo; premiered in Erickson Hall, UCSD, December 1983

Sonatina (1981) for clarinet and prepared piano; premiered in the Performing Arts Recital Hall, UC Santa Cruz, November 1981

String Quartet No. 1 (1981); premiered at the University of Iowa Music School, April

1981

Performances

Talk to Me (1998), with designer Douglas-Scott Goheen and animator Daniel Beck, an audio-visual interactive computer installation; premiered at Arts Week '98, Irvine, California, November 1998.

International Association of Philosophy and Literature annual conference. Performance of Unnatural Selection and Entropy. University of California, Irvine, May 1998.

International Modern Music Festival. Performance of Unnatural Selection. Xebec Concert Hall, Kobe, Japan, November 1997.

International Modern Music Festival. Performance of Toward the Sea for guitar and alto flute by Toru Takemitsu, with Xavier Chabot, Xebec Concert Hall, Kobe, Japan, November 1997.

The Walls Have Ears. Audio installation at the 1996 International Conference of Computer Music, Hong Kong University of Science and Technology, Hong Kong, August 1996.

Essays & Burial. Performance of the premieres of Unnatural Selection and Metallurgy. RPI Chapel and Cultural Center, Troy, NY, March 1996.

Virtual Drums/Robot Pianos. Performance in the premiere of The Seven Wonders of the Ancient World, Part I by David Jaffe. Studio A, UCSD, May 1994.

Society of Composers, Inc. Regional Conference. Performance of 2-way Dream with Robert Willey. University of New Mexico, Albuquerque, NM, April 1994.

Trondheim samtidsmusikk festival. Performance of Entropy for Yamaha Disklavier by Christopher Dobrian. Norges Tekniske Higskole, Trondheim, October 1992.

La Mœsica por Computadora en los E.E.U.U. Performance of Entropy for Yamaha Disklavier and computer graphics by Christopher Dobrian. LIPM, Buenos Aires, June 1992.

MOO, a concert of group compositions, with Cesar Potes, Rafael Lieann, Greg Main, Bob Willey, and Keith Johnson. Performances of Walk #4, Sancocho, and 3-way Dream. CRCA, UCSD, March 1992.

UCSD Guitars, with Rafael Lieann. Performance of Entre Dos Aguas by Paco de Lucia, for two guitars. Mandeville Recital Hall, UCSD, March 1992

UCSD Guitars. Performances of Falsetas Móviles by Christopher Dobrian and

Melodies I by Yung Wha Son, for solo guitar. Mandeville Recital Hall, UCSD, December 1991

Disklavier Discovery. Performance of Entropy for Yamaha Disklavier and computer graphics by Christopher Dobrian. CRCA, UCSD, September 1991

Disklavier Discovery. Line/Phase Minutiae for Yamaha Disklavier by Christopher Dobrian. CRCA, UCSD, May 1991

Electric Rags by Alvin Curran, with Alvin Curran and the Rova Saxophone Quartet. Town Hall, New York, March 1990

Miss Behavin' by Alvin Curran, for MIDI grand piano and synthesizers, with Alvin Curran. The Kitchen, New York, February 1990

Spanish Guitar Music, solo recital. MacBride Auditorium, Iowa City, September 1988

Guitare Classique, duo recital with Lisa Smith. Foyer International d'Accueil de Paris, Paris, August 1988

Concert: La Musique de Yung Wha Son. Performance of Melodies I for solo guitar by Yung Wha Son. Cite Internationale des Arts, Paris, May 1988

Fulbright Fellows, a recital of Fulbright musicians in Paris. Premiere performance of Melodies I for solo guitar by Yung Wha Son. American Embassy, Paris, February 1988

Pacific Ring Festival. Nonyx by Christopher Dobrian, conducted by the composer. San Diego, April 1986

Publicafe. Three-thirty-Three by Christopher Dobrian, with Daryl Pratt and Terry Sprague. Public Theatre, San Diego, December 1984

Atomicafr. Crepuscule by Christopher Dobrian, conducted by the composer. Mandeville Recital Hall, UCSD, May 1984

Lectures and Publications

Computer Pitch Techniques in Musical Composition, published in the proceedings of the
First International Symposium on Music and Computers, Corfu, Greece, 1998.

Artistic Experiments in Interactive Computer Music, a lecture-performance demonstrating dance-generated music and the interactive computer audio-visual installation Talk to Me. World Presidents' Organization, Irvine, CA, 1999.

The Latest in Computer Music: Max Signal Processing, a lecture-demonstration of the

realtime digital signal processing programming environment MSP. Annual
conference of the Association for Technology in Music Instruction, San Juan,
Puerto Rico, 1998.

Computer Music: Synthesis, Composition, and Performance, a review of the new
book by Charles Dodge and Thomas A. Jerse, for Notes, the journal of the
Music Librarian's Association, 1998.

Close to the [Cutting] Edge: New Capabilities in Multimedia Performance, lecture-
demonstration of recently developed programming environments for
interactive multimedia performance. Gassmann Electronic Music Series,
University of California, Irvine, 1998.

MSP User's Manual and MSP Tutorial, directions for operation, technical
documentation, and tutorial lessons with sample programs written in MAX
and MSP. Published by l'Institut de Recherche et Cošrdination Acoustique-
Musique, Paris and by Cycling 74, Santa Cruz, CA, 1997.

Computer Composition and Improvisation, lecture-demonstration. Osaka Institute of
Technology, Osaka, Japan, 1997.

The MAX Programming Language, lecture-demonstration analyzing the linguistic
pros and cons of MAX for programming music applications. USENIX
Conference on Domain-Specific Languages, Santa Barbara, CA, 1997.

Human and Machine Concepts of Music, lecture-demonstration, including a
performance of the compositions Entropy and Unnatural Selection. UCI Chief
Executive Roundtable Retreat, Santa Barbara, CA, 1997.

MAX Manual Addendum, documentation of features of version 3.5 of the MAX
application for Macintosh, with additional tutorial lessons and sample
programs written in MAX, ©Opcode Systems, Inc., Menlo Park, CA, 1996.

Music Composition Using Computers, lecture-demonstration, including a
performance of the compositions Entropy and Unnatural Selection.
Information and Computer Science Colloquium, McDonnell Douglas
Auditorium, University of California, Irvine, 1996.

Algorithmic Generation of Temporal Form: Hierarchical Organization of Stasis and
Transition, published in the proceedings of the International Computer Music
Conference, ICMA, San Francisco, 1995 and the proceedings of the
International Symposium of Electronic Art, ISEA, Montreal, 1995.

ICMC Studio Report: iEAR Studios, published in the proceedings of the International
Computer Music Conference, ICMA, San Francisco, 1995.

Getting Started With MAX and MAX Reference Manual, directions for operation,
technical documentation, and tutorial lessons with sample programs written in

MAX, ©Opcode Systems, Inc., Menlo Park, CA, 1995.

Entropy for computer-controlled piano, appears on the compact disc recording Intercambio/exchange, published by CRCA, CCRMA, and LIPM, funded by the Rockefeller Foundation, 1994.

Computer-Mediated Improvisation (2-way Dream), lecture-demonstration, including a performance of the composition 2-way Dream. Socitety of Composers. Inc. regional conference, Albuquerque, 1994

Intuition, Taste, and Artificial Intelligence, lecture, Dartmouth College, 1994; University of Virginia, 1993.

Realtime improvising program examples cited in Interactive Music Systems by Robert Rowe. Cambridge, Massachusetts: MIT Press, 1993.

Textural Orchestration, essay, 1993

Music and Language, essay, 1993

Music and Artificial Intelligence, essay, 1993

Aesthetic Decisionmaking with Computers, lecture/demonstration, Art's Exchange, CRCA, UCSD, 1992

Flamenco Guitar Technique and Harmonic Language, lecture/demonstration, UCSD, 1992

Introduction to MAX, lecture/demonstration, UCSD, 1992

The Basics of MIDI, lecture/demonstration, UCSD, 1992

Thoughts on Composition and Improvisation, essay, 1991

MAX User's Manual, directions for operation, technical documentation, and tutorial lessons with sample programs written in MAX, ©Opcode Systems, Inc., Menlo Park, CA, 1990.

Music Programming, essay, 1988

The Use of Pitch Range in Arcana and The Rite of Spring, analysis, 1987

Orchestral Texture in the Music of Debussy and Mahler, analysis, 1986

A New Angle: Algorithmic Composition at UCSD, essay including documentation of the etc music composition program written by the author, 1985

Symmetrical Structures in Bartok's Fourth String Quartet, analysis, 1984

Awards

Erickson Prize, UCSD Department of Music, 1993

> For excellence in research. Awarded for the article Textural Orchestration, analyzing the use of instrumental texture as a primary element in the orchestral music of the 20th century.

San Diego SuperComputer Center Creative Computing Award, San Diego, 1992

> Third prize. For Entropy, a musical/visual composition for Macintosh computer and Yamaha Disklavier computer-controlled piano.

Regents Fellowship, University of California, 1983-84

Highest Honors in the Major, UCSC, 1982

Chancellor's Award for Achievement in the Humanities, UCSC, 1982
> For String Quartet No. 1.

Past Teaching Experience

Assistant Professor of Music, Department of the Arts, Rensselaer Polytechnic Institute. 1994-96.

> Teaching graduate courses in computer music, music programming, interactive arts programming, electronic art theory, music composition, performance, installation, and production.

Associate, musical aesthetics and technology, University of California, San Diego (UCSD), 1994

Teaching Assistant, music technology, UCSD, 1994

Teaching Assistant, history and practice of electronic music, UCSD, 1993

Teaching Assistant, acoustics and recording techniques, UCSD, 1993

Tutor, musicianship, counterpoint, harmony, and analysis for graduate students, UCSD, 1992-1993

Teaching Assistant, theory and musicianship for majors, UCSD, 1991-92

Tutor, musicianship for graduate students, UCSD, 1991

Instructor, guitar, Mesa Community College, San Diego, 1991

Instructor, computer music and MIDI, UCSD Extension, 1990-91

Instructor, guitar, private lessons, 1982-91

Associate, music appreciation, theory & musicianship for non-majors, UCSD, 1986

Teaching Assistant, music appreciation, theory & musicianship for non-majors, UCSD, 1985-86

Teaching Assistant, theory and musicianship for majors, UCSD, 1984-85

Tutor, theory, analysis, harmony, and counterpoint for graduate students, UCSD, 1983-84

Teaching Assistant, theory and musicianship for majors, University of California, Santa Cruz (UCSC), 1981-82

> Taught the courses Music and the Macintosh (1990-91), Applied MIDI (1990-91), Introduction to Electronic Music Systems (1990-91), Graduate Advisory Exam Preparation (1983-84, and 1991-92), and Musical Literacy (1986). Taught three full years of university-level basic theory and musicianship for music majors.

Other Work Experience

Technical Writer for Computer Music Software, 1997

> Author of the 269-page documentation for version 1.0 of the MSP signal processing extensions for the MAX music programming environment for Macintosh. Documentation included the MSP User's Manual and the 25-chapter MSP Tutorial with example software.

Technical Writer for Computer Music Software, 1996

> Author of the 130-page documentation for version 3.5 of the MAX music programming environment for Macintosh by Opcode Systems, Inc. Documentation consisted of the MAX Addendum 3.5 and two additional chapters of the MAX Tutorial with example programs on disk.

Director, iEAR Studios (**i**ntegrated **E**lectronic **A**rts at **R**ensselaer), Rensselaer Polytechnic Institute. 1995-1996. Director of the graduate program in the Arts.

> The iEAR Studios is a multi-disciplinary multi-studio center for pedagogy and production in computer music, video, and computer imaging and animation, provinding a Master of Fine Arts degree in integrated electronic arts.

Executive Producer, Electronic Arts Performance Series. 1995-1996.

> The leading presenter of contemporary time-based art in the New York Capital District, featuring leading and emerging artists and theorists in the technological arts.

Technical Writer for Computer Music Software, 1995

> Author of the 680-page documentation for version 3.0 of the MAX music programming environment for Macintosh by Opcode Systems, Inc. Documentation included the MAX Reference Manual and Getting Started with MAX, including a 43-chapter instructional tutorial with example programs on disk.

Consultant, Computer Music Studio, Central Michigan University, 1995

Provided research and advice in establishment of CMU's TIME Studio (Technology in Music Education). Directed final installation of the studio, and demonstrated the finished studio in the official opening for music faculty and campus administrators.

Computer music software tester for Passport Designs, Inc. and Opcode Systems, Inc., 1990-95

Beta tester and consultant in the development of the MAX music programming environment by Opcode Systems, Inc. and the Encore music notation program by Passport Designs, Inc.

Research Associate, Center for Research in Computing and the Arts (CRCA), UCSD, 1990-94

Conducted experiments with the Yamaha Disklavier computer-controlled piano, testing its response to external computer control. This work resulted in documentation of response times, and two pieces composed for the Disklavier: Line/Phase Minutiae (1991) and Entropy (1991). Also conducted experiments in collaborative computer music composition via telecommunication.

Research Assistant / Faculty Studio, UCSD Music Department, 1992-1993

Managed the installation of a music technology studio for faculty research, consisting of networked NeXT and Macintosh computers, MIDI synthesizers and sound processors, and digital recording equipment. In addition to organizing and managing the studio, he assisted in the production of rehearsals, recordings, and concerts held in the studio.

SuperUser (lab supervisor), Macintosh Instructional Lab, Music Department, UCSD, 1991-92

Tutored students in the use of MIDI and all music applications for the Macintosh, and developed educational software in HyperCard.

Technical Writer for Computer Music Software, 1990

Principal author of the 475-page MAX User's Manual for Opcode Systems, Inc.

Computer Music Programmer, 1988-90

Collaborated with composers Alvin Curran and Richard Teitelbaum on computer environments for improvisation. The composers have used the programs in performances worldwide, in such works as Curran's Electric Rags I, Miss Behavin', and Teitelbaum's Concerto Grosso #2 and other works.

Composer/Arranger, 1987-88

Arranged an album of Christmas music for two guitars for Los Romeros. The album is scheduled for recording in 1995. Also composed incidental music for video clips.

Research Assistant, Center for Music Experiment (CME), UCSD, 1986-87

Performed research in the use of spatial location of sounds as a musical parameter. Wrote software for describing and calculating specific soundpaths of continuously changing velocity, to be correlated with other musical parameters. Also created

database and bibliographic search functions for the CME archive. Co-founded and co-managed the Unpopular Music concert series at CME, and stage-managed CME concerts and other events.

Research Assistant to Professor Sherwood Dudley, UCSC, 1982-83

Mr. Dobrian assisted Dr. Dudley in the research of two French operas from the late 18th century at the Biblioth] que Nationale in Paris. The work included research of secondary sources as well as complete proofreading of the first edition scores, in preparation for re-publication by Pendragon Press.

Software Development

The Walls Have Ears

A fully automated computer-controlled audio/sculptural installation in which sounds of the space are periodically recorded and are subsequently processed, fragmented, reordered, and played back through a multi-channel sound system. The system continues to record while it is playing, thus recursively recording and playing back fragments of its own output as well as the surrounding sonic activity. Written in collaboration with media artist Damian Catera.

Form Designer

An "artificially intelligent" composing program for Macintosh computer. The program composes music for multi-timbral synthesizer (transcribable for orchestra), by designing a formal structure and performing music which realizes that structure.

3-way Dream

A MIDI environment for Macintosh computer in which three musicians are able to alter each other's music in real time; part of an ongoing project in group composition with composers Keith Johnson and Bob Willey.

cloudplayer/curvemaker

A program for composing evolving musical textures and multiple independent parameter curves, for use in a MIDI environment.

SY22 Editor/Librarian

A Macintosh program for designing and cataloguing sounds on the Yamaha SY22 synthesizer. Currently in use at the UCSD Music Department's Macintosh Instruction Lab.

Entropy

A program for composing granular musical textures which describe continuous transformation along a continuum between entropic and negentropic behavior; used by the author to compose the piece Entropy (1991) for Yamaha Disklavier and computer graphics.

Music Q&A

A HyperCard document which teaches the student about different topics of computer musicódigital sound, MIDI, etc.ówith special emphasis on use of the Macintosh computer.

Teitelbaum Performance System

A MIDI program for Macintosh that allows a performer to select a wide variety of musical modificationsódelay, transposition, ornamentation, inversion, limiting, feedback, etc.ówhich the computer will apply in real time in any combination to the music that is played. The program was written according to the specifications of composer/performer Richard Teitelbaum, who uses the system in most of his live performances and in his opera Gollem.

Curran Performance System

A MIDI program for Macintosh that allows a performer to select from among a wide variety of musical behaviors for the computer in real time. The program was written according to the specifications of composer/performer Alvin Curran, who has used the system in many of his live electronic music performances, including Miss Behavin' (1989) for MIDI piano and synthesizers, and Electric Rags (1990) for the Rova Saxophone Quartet and synthesizers.

Soundpath Acceleration Method

A battery of programs written in C for use in a UNIX environment in conjunction with the cmusic sound synthesis program. The programs provide a means for the user to describe a path along which a recorded sound will travel, describe the changes in velocity (acceleration/deceleration) that the trajectory will undergo, correleate these changes in velocity with other musical parameters such as pitch, tempo, and dynamics if desired, and then provide data for cmusic to synthesize the resultant sterophonic or quadrophonic "travelling" sound recording.

etc

A program that provides a syntax describing attributes of a musical phraseótonality, tempo, dynamics, melodic contour and range, etc.óand automatically composes phrases which fulfill those attributes. The output can be used for transcription into standard notation, or to drive a MIDI system, or can be converted (using the adjunct program, output) into data for synthesizing the sound with cmusic. The program was used by the author to compose ETC (1986) for harp and computer-generated tape.

prt

A program that provides a syntax for describing progressions of metric modulations and novel mathematical divisions of the octave, to synthesize musical phrases which change meter and tuning in complex ways. It was used by the author to compose Degueudoudeloupe (1985) for computer-generated tape.

Computer Background

Computer Environments: UNIX (Irix, NeXT Music Kit, cmusic, etc.), Macintosh (all MIDI and audio applications)

Programming Languages: C, Objective C, LISP, HyperTalk, Lingo, MAX

Foreign Languages

French, excellent fluency; Spanish, moderate fluency