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Areas of Interest

- Video game design and development: Game based art installations, game sound, interaction, art games, virtual spaces.
- Sound art and music: Sound and music based installations, interactive sound objects composition and sound perception.
- Technology and arts.

Education

Fall 2010 – Summer 2013	**Purdue University, West Lafayette, USA** MFA in Electronic and Time-Based Art
Fall 2008 – Spring 2010	**Chalmers University of Technology, Gothenburg, SWEDEN** Integrated Electronic System Design Master Programme MSc in Computer Engineering
Fall 2004 – Spring 2008	**Sabanci University**, **Istanbul, TURKEY** Faculty of Engineering and Natural Sciences, BSc in Electronics Engineering with Minor Degree in Physics

Exhibitions and Performances

Summer 2013	Soundtrack for *MineOpticon* a virtual performance in Minecraft, YouIn3D, Berlin, Germany on July 3.
	Residency in *Ars Virtua Artist-in-Residency*'s Minecraft server, Orwell.
Spring 2013	*Causality*, a solo exhibition of a game-based installation, Patti and Rusty Rueff Galleries, Purdue University, March 4 – 8.
	Gnossienne a la Quiaca: E3 Mix at E3 Series of Improvisation Performance, Foam City, Lafayette, IN, March 2.
Fall 2012	Music for dance piece *Coronal Ring* at Purdue Contemporary Dance Company Winter Works 2012, December 7 – 8.
	I Remember Coconut Skins: AUDO 2013 Mix performed at AUDO 2012, Purdue University, August 24.
Spring 2012	*In Ink*, radio drama aired on WBAA, May 3.

	Sound design for *The Thought* in Nexus Dance Concert 2012, University of Colorado at Boulder, February 15 – 17.
Fall 2011	*Buried Beneath* in soundtrack of Purdue 2011 Cancer Culture Community Colloquium, Purdue University, October 24 – November 3.
Summer 2011	*Ad Infinitum*^{3} in Disk Stories at Prague Quadrennial of Performance Design and Space 2011, Prague, Czech Republic, June 16.
	Ad Infinitum^3 *Redux* at Sound Kitchen in Prague Quadrennial of Performance Design and Space, Prague, Czech Republic, June 21.
Spring 2011	*Im-mir-sion* in Images of Nature, Frontier Building, Lafayette, IN, April 15 – 29.
	Instrument live performance at E3 Series of Improvisation Performance, Lala Galleries, Lafayette, IN, April 8.
	Ad Infinitum^3 *Test* in DancLab, Yue-Kung Pao Hall Dance Studio, Purdue University, February 25.
	The Castle of Asterion in 14^o, Patti and Rusty Rueff Galleries, Purdue University, January 24 – February 4.
Fall 2010	*Algorithmic Composition in MATLAB* in AUDO: Alternative Practices in Sound 2010, Patti and Rusty Rueff Galleries, Purdue University, September 10 – 12.
Fall 2008	*VA329 Exhibition*, FASS Galleries, Sabanci University, October 6.

Selected Projects[1]

Causality	Causality is a game-based installation that presents a unique world, where everything is based on sound. As the audience you must explore the virtual environment by making choices through listening to the sound.
10 Seconds of Relativity	A short FPS game about relativity of time created for the Ludum Dare 27 Jam session.
TreeScape	An FPS game about acoustic ecology created for 7dFPS challange.
Particle Pad	Particle emitter and MIDI-based audiovisual musical instrument application for BlackBerry 10 and BlackBerry PlayBook.
Chaos Matrix	Tone matrix and algorithmic composition application for BlackBerry 10.
12 Months	Sonification and visualization of climate data. Hourly climate data of a month belonging to a city is used to compose music with a visual

[1] More information available on my personal webpage

	legend. The city's musical culture defines the algorithm and the instrumentation for the music.
Alternative Mixes	Alternative Mixes is an ongoing set of mixing performances that uses music that is not created for DJing in order to experiment with the sonic aesthetics.
Breezes Of…	Breezes Of… is a game-based installation that discusses escapism within the context of video games by presenting a unique interaction. The presented virtual environment is a tropical island in which the virtual breeze is transferred to the real world with a motor-controlled pinwheel.
The Thought	The Thought is an improvisational dance piece that also incorporates improvised sound which is created in conjunction with the dancer's breath as well as the live sound design concept.
Ear Trainer	Pitch, interval and chord recognition application for BlackBerry PlayBook and BlackBerry 10.
Additive Synthesizer	Additive synthesizer application for BlackBerry PlayBook and BlackBerry 10 (not released yet).
StarCraft II: Form, Space and Order	The project is a set of maps created in StarCraft II Map Editor according to Francis D.K. Chings' categorization of 'spatial organizations'. The project takes the architectural concepts and superposes them onto the dynamics of real-time strategy game. Individual project.
Ad Infinitum[3]	Interactive theatre piece created via online videogaming through smart phones. The collaborative piece was performed in Prague Quadrennial of Performance and Space 2011. Main responsibilities: Game design, scene/level design, avatars, visuals and parts of game engine.
Experience Accelerator	Flash-based, multiplayer educational game aimed for training professional systems engineers. Main responsibilities: Development.
The Castle of Asterion	Videogame-based sound installation. Virtual sonic-maze created in Unity3D. Individual project.
VEAE	Virtual Experimental Audio Environment: Virtual environment that investigates between buildings and their sounds. Created in Unity3D. Individual project.
Instrument	Audio-visual musical instrument for enhanced expression and performance. Created in Unity3D and Max/MSP/Jitter. Individual project.
Videogame as Medium and Art	Videogame that discusses the relation between videogame and art in a videogame medium. Created in Unity3D. Individual project.
Im-mir-sion	Mixed-reality installation about nature. Created in Unity3D, Max/MSP/Jitter, mirrors and camera. Responsibilities: Concept and development.

Algorithmic Composition	A musical-composition algorithm based on genetic programming is developed and implemented in Matlab (using VHDL) and on FPGA with virtual instruments. Master's thesis project. Individual project.
Hearing Aid Design	Analog front-end circuitry for hearing aid application. Done in STM 90nm technology using Cadence via EKV model for sub-threshold operation. Individual project.
Third Triad	Music project, where the aim is experimenting with the vast variety of sounds of virtual instruments and composing music for them. Individual project.
Image Analysis	Classification of Western Paintings via Haralick Features in Matlab. Individual project.
Real-Time Decoder	Implementation of a BPSK and QPSK real-time decoder in Matlab. Team leader of four, chosen to be presented in Ericsson.
Ball that Makes You Sad	Definition and design of sounds: rolling ball, sad rolling ball, rolling ball that makes you said.
ADC for Laser Distance Measurement	Analog-to-digital converter designed in AMS 0.35µ technology using Cadence. Team leader of five for half of the duration.
Second Order Sigma/Delta ADC	System design of 2^{nd} order sigma/delta analog-to-digital converter with interleaving scheme in Matlab and Simulink.
Multirate Down-Sampler	Implementation of multirate down-sampler (from 40 KHz to 30 KHz) for audio in FPGA using VHDL. Individual project.
Photography and Expression	Documentation of suburbs of Istanbul, Stop Motion Video: Cooking, Found Story: Video from random photographs from pawn shops. Individual project.
Multiband Power Amplifier	Design of multiband operating - WLAN (2.4GHz – 5.4GHz) and WiMAX (3.6GHz) RFIC power amplifier in AMS 0.35 µ technology using Cadence. Undergraduate graduation project. Individual project.
Neuron Cell Simulation	Simulation of Hodgkin-Huxley Equations for cell action potentials and propagation in Matlab.
ECG Design	Design and implementation of electrocardiogram using discrete components. Individual project.
Microwave Receiver	Design and implementation of 1-3 GHz front-end receiver using ADS and discrete components.
Automation of Measuring Lab	Automation of Sensor and Catalyst Measuring Station and sensor signal improvement in German Aerospace Center via LabView. Undergraduate internship.
Chat Program	Chat program between two computers over RS-232 in assembly language.
Edge Detection	Implementation of Sobel edge detection algorithm on FPGA using Verilog HDL.

Achievements and Awards

- Ars Virtua Artist-in-Residence (Summer 2013)
- Various BlackBerry developer awards in the form of money, tablets and a prototype phone.
- Recipient of Adlerbertska Hospitiefonden Scholarship (Spring 2009)
- Recipient of Erasmus Internship Grant (Summer 2007)
- Recipient of the Certificates of Honour for 4 terms and Certificate of High Honour for 3 term
- Recipient of Sabanci University Merit Scholarship (Fall 2004 – Spring 2008)

Research and Work Experience

Summer 2012 – Spring 2013	Purdue Libraries Digital Initiatives: Graduate assistant responsible for metadata entry and quality control.
Fall 2011 – Spring 2013	Purdue Life Sciences Library: Graduate assistant responsible web design and development.
Fall 2010 – Fall 2011	Purdue Serious Games Center: Research Assistant responsible for developing a multiplayer Flash-based educational simulation.
Summer 2007	German Aerospace Center (DLR) – Cologne: Summer intern responsible for measuring lab automation via LabView.
Summer 2006	Sabanci University Optoelectronics Lab: Undergraduate research assistant for 3 months.

Teaching Experience

Fall 2013	*Merging Physical and Virtual: A Workshop on Connecting Arduino and Unity3D:* This will be a workshop given to an interdisciplinary group of students about connecting Unity3D with physical computing as a part of a 400-level game design/development class at Purdue University.
Summer 2013	*Physical Computing:* This is a series of nine workshops in physical computing using Processing and Arduino. The workshops begin from the fundamentals of programming and electrics and include sensors, LEGO machines, email control and seven-segment displays among others.
Spring 2013	*Vision to Sound using Max/MSP/Jitter:* This is a Max/MSP/Jitter workshop primarily aimed for first-time users (a mixture of undergraduates and graduates from ETB and Engineering) within the context of the ETB graduate seminar that focuses on creating sonic artifacts that are triggered through camera.
Summer 2012	*Introduction to Algorithmic Composition and Pure Data* workshop in SPIRIT 2012: A workshop with four sessions given within the context of the outreach event SPIRIT to high school students. The workshop investigated basics of music theory, generative art, algorithmic composition and Pure Data.
Fall 2011	*Unity3D – Max/MSP/Jitter Workshop* in AD 417 Computer Games, Purdue University, October 26: Guest lecture within the context of AD 417 Computer Games. The workshop investigated using Max to expand Unity3D. The examples were using sound as a input to Unity3D, using video and motion as a input to Unity3D and using websites as an output from Unity3D

	Serious Games: Short seminar given within the context of ENG 620 Classroom Communication for International Graduate Students to undergraduate students. This was an introductory class about serious games with the aim of showing the different types of educational games as well as encouraging the students to find educational sides from the games that they already know and play.
	Finite State Machine: Short seminar given within the context of ENG 620 Classroom Communication for International Graduate Students to undergraduate students. The concept of finite state machine was introduced and simple finite state machines were designed.
Fall 2004 – Spring 2005	*Civic Involvement Project*: Teaching various topics including mathematics and language to elementary school students with insufficient funds.

Skills

Languages:	Turkish (native), English (GRE: v=490, q =800, a=3.5. TOEFL IBT=108), German (basic) and Swedish (basic)
Coding Skills:	MATLAB, JavaScript, ActionScript 3, Max/MSP/Jitter, Pure Data, Java, C++, Processing, Arduino, HTML, Turbo Assembler (TASM), Computer Assembly Language, LabView, SimuLink, C#, PHP
Sound Design and Composition:	Cubase, Pro Tools, Finale, Guitar Pro, Adobe Audition, Native Instrument products, guitar, keyboard, flute, hand drums, FMOD
Videogame:	Unity3D, Adobe Flash, 3ds Max, StarCraft II Map Editor, Google SketchUp, Bethesda G.E.C.K., Blender
Circuit Design Environments:	Cadence, Verilog HDL, VHDL, Xilinx/Modelsim, ADS, Momentum, OrCad Pspice
Other Software Experience:	Adobe Master Collection (including Photoshop, Illustrator, Premiere), Windows, MS Office, MS-DOS, Unix, Mac OS X, Subversion, Trac
Working Skills:	Capable of carrying out projects both individually or within a team either as the leader or as a member.