

# Mikrotonalist Giriřimciler Uluslararası Buluřması (MELM) Microtonalist Entrepreneurs International Meeting (MELM)

Paneler ve “Doęu ve Batı Seslerinin Kucaklařması” Konserleri  
Panels and “Embracing of the Sounds of East & West” Concerts

7 – 14 Aralık (December) 2011  
Iřık Üniversitesi & Bařkent Üniversitesi

## CVs & Abstracts of Participants

Aaron Andrew Hunt – H-Pi Instruments Software/Hardware Demonstrations	
Abstract	CV
<p>Products from H-Pi Instruments will be demonstrated by designer and programmer, Aaron Andrew Hunt. The presentation will include <i>ScalaVista</i>, a free microtonal scale browser for viewing and listening to scales in the Scala file archive; <i>Xentone</i> microtonal ear trainer, for learning all the tones and chords available in the musical spectrum; <i>Custom Scale Editor</i>, for designing tunings for standard MIDI keyboards; <i>Scordatura</i>, a soundfont synthesizer and custom control surface design tool primarily designed for notation software such as Sibelius and Finale; and <i>TPXE</i>, for designing tunings for Tonal Plexus microtonal keyboards. <i>TPXE</i> will be demonstrated using a custom designed 3-octave U-PLEX Tonal Plexus microtonal keyboard commissioned by Dr. Ozan Yarman. All H-Pi products are based on a theoretical paradigm called the H-System, which may also be outlined as part of the presentation.</p>	<p>Aaron Andrew Hunt is an inventor, entrepreneur, composer, and educator who has developed significant theories, instrument designs, and notations for alternative tunings. From 2010 to present, he has been instructor of music theory at Ball State University, where he teaches composition, counterpoint, music analysis, and orchestration. Prior to this, from 2002 to 2007, he was instructor of music at Eastern Illinois University, where he taught ear training, music theory, music analysis, electronic music, counterpoint, and composition. Hunt has also served as guest lecturer in microtonality at Universities in the U.S., the U.K., and Europe, and also serves an advisory member on the board of directors of <i>Untwelve</i>, an organization based in the U.S. which sponsors concerts and contests in microtonal composition. In 2006, Hunt founded H-Pi Instruments, a company dedicated to continuing research and development in microtonality, designing and building instruments, writing software, composing music, and working with musicians around the world in the spirit of the company motto – for the future of music.</p>

Anthony PrechtI – Exploring Microtonal Music with Dynamic Tonality	
Abstract	CV
<p><i>Dynamic Tonality</i> is a technique for organizing synthesized sound that facilitates the exploration of microtonal music. It allows users to easily and smoothly move through a broad continuum of microtonal</p>	<p>EDUCATION</p> <p>M.A., Music, Mind &amp; Technology (2007-2009): University of Jyväskylä, Finland Thesis: “Musically-induced emotional peaks” GPA: 4.5 / 5</p> <p>B.A., Music (2003-2007): Whittier College, California, USA Recognitions: John Greenleaf Whittier Scholar, Magna Cum Laude</p>

<p>scales using a single continuous parameter, and it can "match" the partials of individual notes to the tuning of the underlying scale. Furthermore, notes are spatially arranged in such a way that each interval has the same geometric shape across all keys and tunings in the continuum, which makes <i>Dynamic Tonality</i> not only easy to learn, but also useful as a tool for understanding previously inscrutable musical structures.</p> <p>In this presentation, the author will present several computer programs he has co-developed that feature <i>Dynamic Tonality</i>. The first is <i>Hex</i>, a MIDI sequencer that uses a novel two-dimensional "lattice roll". Hex functions similarly to conventional piano roll MIDI sequencers in commercial digital audio workstations, except that its lattice roll allows composers to easily sequence and accurately visualize microtonal tunings. It was purposely designed so that composers could draw upon existing intuition they may have from working with piano roll sequencers, and apply it to the lattice roll to make microtonal music without a significant learning curve.</p> <p>He will next demonstrate <i>2032</i>, a <i>Dynamic Tonality</i> synthesizer that uses acoustic principles to model pseudo-physical objects. He will use <i>2032</i> to showcase what <i>Dynamic Tonality</i> actually sounds like, focusing not only on its scale tuning capability, but also how it handles spectral tuning. While ordinary pitched sounds consist of partials tuned to integer multiples of the fundamental frequency, <i>2032</i> can instead map the tuning of the partials to the tuning of the underlying scale. The author will show</p>	<p>GPA: 3.82 / 4</p> <p>JOURNAL &amp; CONFERENCE PUBLICATIONS</p> <p>Prechtl, A., Milne, A.J., Holland, S., Laney, R., &amp; Sharp, D.B. (2012 [accepted for publication]). A MIDI sequencer that widens access to the compositional possibilities of novel tunings. <i>Computer Music Journal</i>, 36(1).</p> <p>Milne, A.J., Xambó, A., Laney, R., Sharp, D.B., Prechtl, A., &amp; Holland, S. (2011). Hex Player—a virtual musical controller. In A.R. Jensenius &amp; R.I. Godøy (Eds.), <i>Proceedings of the 2011 International Conference on New Interfaces for Musical Expression (NIME11)</i>, Oslo, Norway.</p> <p>Sethares, W.A., Milne, A.J., Tiedje, S., Prechtl, A., &amp; Plamondon, J. (2009). Spectral tools for Dynamic Tonality and audio morphing. <i>Computer Music Journal</i>, 33(2), 71-84.</p> <p>Milne, A.J., &amp; Prechtl, A. (2008). New tonalities with the Thummer and The Viking. In A. Crossan &amp; T. Kaaresoja (Eds.), <i>Proceedings of the 3rd International Haptic and Auditory Interaction Design Workshop (Vol. 2, pp. 20-22)</i>. Jyväskylä, Finland.</p> <p>POSTERS &amp; DEMOS</p> <p>Milne, A.J., Prechtl, A., Laney, R., Sharp, D.B. (2010). Spectral pitch distance and microtonal melodies. Poster presented at the 11th International Conference on Music Perception and Cognition, University of Washington, Seattle, USA.</p> <p>Milne, A.J., Prechtl, A. (2010). 2032—A physical modelling synthesizer for Dynamic Tonality. Presentation and demo at Digital Music Research Network (DMRN+5). Queen Mary University, London, UK.</p> <p>SOFTWARE</p> <p><i>Hex</i> (2010): a hexagonal lattice-roll MIDI sequencer -Performed all programming and UI design</p> <p><i>2032</i> (2010): a physical modeling synthesizer featuring Dynamic Tonality -Performed all programming and UI design</p> <p><i>The Viking</i> (2008): a VST additive synthesizer featuring Dynamic Tonality -Performed all programming and UI design</p> <p><i>TransFormSynth</i> (2008): an analysis-resynthesizer featuring Dynamic Tonality -Performed UI design</p> <p>SELECTED WORK EXPERIENCE</p> <p>Writer at Demand Media Studios (2010) -Wrote how-to articles for online publication</p> <p>Intern / Payroll Specialist at Resources Global Professionals (2007-2010) -Developed business expense rules, researched tax laws, paid international employees</p> <p>PROFICIENCIES</p>
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<p>how this "matching" can minimize perceived dissonance. He will also briefly demonstrate the other two other <i>Dynamic Tonality</i> synthesizers -- <i>The Viking</i> and <i>TransFormSynth</i> -- and discuss new directions for <i>Dynamic Tonality</i>.</p>	<p>Languages: English (native), Spanish (intermediate)</p> <p>Programming Languages: Max/MSP, MATLAB</p> <p>Instruments: Voice, Guitar, Traditional Flutes, Piano</p> <p>REFERENCES</p> <p>Petri Toivainen: Professor of Music, University of Jyväskylä <a href="mailto:ptoivai@jyu.fi">ptoivai@jyu.fi</a></p> <p>Tuomas Eerola: Professor of Music, University of Jyväskylä <a href="mailto:tuomas.eerola@jyu.fi">tuomas.eerola@jyu.fi</a></p> <p>William Sethares: Associate Professor of Electrical Engineering, University of Wisconsin-Madison <a href="mailto:sethares@ece.wisc.edu">sethares@ece.wisc.edu</a></p>
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<b>Barış Bozkurt – MakamTool Program for Pitch Histogram Based Analysis of Makam Music</b>	
Abstract	CV
<p>The issue of non-conformance between theory and practice in Maqam music is still open to controversy. Additionally, in contrast to the volume of research on Western music, computational studies on Makam music in Turkey is almost non-existent.</p> <p>The <i>MakamTool</i> program designed as a prototype in MATLAB whose demonstration will be given, constitutes the frequency analysis, histogram creation and comparison with theoretical values, as well as automatic tonic and diapason detection functions.</p>	<p>Barış Bozkurt achieved both his Electrical Engineering degree (in 1997) and Master of Science degree in Biomedical Engineering (in 2000) from Boğaziçi University, İstanbul, Turkey. After obtaining his Ph.D. degree in 2005 in the field of speech processing from Faculté Polytechnique De Mons, Mons, Belgium, he worked as a research engineer in Svox AG, Zurich. During this period, he also worked as a visiting scholar in Limsi-CNRS/Orsay for 7 months in 2003. In this first phase of his career, he developed signal processing algorithms for speech analysis and synthesis.</p> <p>Starting from 2006, he began to concentrate on music signal processing topics and conducted research as an Assistant Professor in İzmir Institute of Technology (İYTE) on the subjects of pitch-frequency analysis, automatic diapason and maqam recognition, and automatic score transcription.</p> <p>Elevated to Associate Professorship in 2011 and enrolled presently in Bahçeşehir University (İstanbul) Electrical and Electronics Engineering Department, he continues to pursue research on the development of technologies in pitch analysis and automatic score transcription. He is the associate editor of Journal of Interdisciplinary Music Studies.</p>

<b>Joseph L. Monzo – Presenting Tonescape Microtonal Music Software</b>	
Abstract	CV
<p><i>Tonescape</i> is:</p> <p>* a music composition application which allows the user to create any imaginable</p>	<p>WORK EXPERIENCE</p> <p>Tonalsoft: Reno, NV June 2005 - present</p> <p>Chief Executive Musician who designed, planned and implemented the</p>

<p>tunings and compose music using those tunings;</p> <p>* a valuable analytical tool which aids in the understanding of tuning theory and the various qualities of different types of musical tunings;</p> <p>* a fun and easy-to-use application offering hands-on exploration of historical issues with which music-theorists have been concerned, thus facilitating a deeper understanding of music history.</p> <p><i>Tonescape's</i> most distinctive feature is the Lattice View: a way to see a rotatable 3-dimensional geometrical model of the mathematics of your tuning. (<i>Tonescape</i> tunings may actually have up to 7 dimensions, but of course for systems with more than 3 dimensions, they can only be projected into 3 dimensions.)</p> <p><i>Tonescape's</i> other main window is the Pitch-Height View, a simple graph of pitch (vertical or y-axis) vs. time (horizontal or x-axis). This is similar to the "piano-roll" view found in typical MIDI-sequencer programs, except that the pitch-axis can be equally or unequally-spaced and divided into whatever number of divisions is appropriate for the tuning.</p> <p>There are three native types of files used by <i>Tonescape</i> : musical</p>	<p>creation of "<i>Tonescape</i> microtonal music software". Co-created and maintained the Tonalsoft website. Created the "Tonalsoft Encyclopedia of Microtonal Music-Theory".</p> <p>Music Teacher: San Diego, CA May 2001 - present</p> <p>Private music instruction in the student's home. Self-employed and independent contractor.</p> <p>Sonic Arts: San Diego, CA October 1998 - present</p> <p>Webmaster - <a href="http://www.ixpres.com/interval">http://www.ixpres.com/interval</a>. Created and maintained Sonic Arts website using raw HTML coding.</p> <p>EDUCATION</p> <p>San Diego City College / Mesa College: San Diego, CA Fall 2004, Fall 2006, Spring 2007, Spring 2008</p> <ul style="list-style-type: none"> <li>- Algebra II</li> <li>- Trigonometry</li> <li>- C/C++ Computer Programming</li> <li>- Precalculus</li> <li>- English Literature and Composition</li> </ul> <p>CorporateU software developer training company: Philadelphia, PA April - May 1996, Fall 1994</p> <ul style="list-style-type: none"> <li>- Introductory Visual Basic programming (3.0 and 4.0)</li> </ul> <p>Gloucester Community College: Sewell, NJ September 1985 - February 1986</p> <ul style="list-style-type: none"> <li>- Real Estate Sales (received NJ certification)</li> <li>- Business Law</li> <li>- Criminal Justice Procedure</li> </ul> <p>Casino Career Institute: Atlantic City, NJ January - March 1985</p> <ul style="list-style-type: none"> <li>- Craps Dealer (received diploma and NJ license)</li> </ul> <p>Brooklyn College of CUNY: Brooklyn, NY September - December 1984</p> <ul style="list-style-type: none"> <li>- Computer Music (Charles Dodge)</li> </ul> <p>NBS Broadcasting School: New York, NY September - December 1980</p> <ul style="list-style-type: none"> <li>- Radio Announcer Training (received certificate)</li> <li>- weekly radio show</li> </ul> <p>Manhattan School of Music: New York, NY September 1979 - May 1981</p>
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pieces (.tonescape), tunings (.tuning), and tonespaces (.space). *Tonescape* comes bundled with several examples of each type of file, so that you may simply open them and jump right in to start learning your way around. Tutorials are available on the Tonalsoft website ([tonalsoft.com](http://tonalsoft.com)) showing how to open, view, and listen to a sample file. Once familiar with these basic operations, the user can learn how to edit the sample files, and finally, how to create his own original files.

Playing a composition in *Tonescape's* native Musical Piece format (the .tonescape file) allows the user to hear the music and simultaneously see the notes highlighted in real-time on both the Pitch-Height score and on the Lattice View. The current alpha version of *Tonescape* offers Pitch-Height notation; future releases are planned to offer traditional staff-notation, as well as both non-traditional modifications of staff-notation and many other types of musical notations.

For the purposes of sharing compositions with people who do not have *Tonescape*, in addition to the native format, the user can also export .tonescape files to MIDI (.mid) or Csound (.csd - unified .orc and .sco file).

- Music Composition [major] (Elias Tanenbaum)
- Harmony / Counterpoint (Ludmila Ulehla)
- Form and Analysis (Ursula Mamlok)
- Orchestration (Giampolo Bracali)
- Social and Political Theory (James Allen)
- Piano

Ocean City High School: Ocean City, NJ  
September 1977 - June 1979

- Academic curriculum (received H.S. diploma)

Lamberton High School: Philadelphia, PA  
September 1975 - June 1977

- Academic curriculum (transferred to Ocean City)

#### COMPUTER EXPERIENCE:

operating systems:

- Linux 2.6.x and associated GNU/Linux distributions
- Microsoft Windows Vista, Windows XP, Windows'95
- MS-DOS (3.0 to 6.21)

programming languages:

- Python 2.x
- C
- C++
- Microsoft QBasic, GWBASIC

music software:

- *Tonescape* (creator)
- MuseScore 1.x music notation software
- Finale 2000 music notation software
- Cakewalk music sequencer software (2.0 to 9.0)
- Texture music sequencer software by Magnetic Music (3.11 and 4.0)

office software:

- HTML
- Microsoft Excel (5.0 to 7.0)
- Microsoft Visual Basic (3.0 and 4.0)
- Microsoft Access (7.0)
- Microsoft Word (5.0 to 7.0)
- Lotus 1-2-3 (2.0 to 4.0)
- Quattro-Pro
- WordPerfect (6.0)
- iPhoto Plus (1.2) graphics software
- Microsoft Schedule+ (7.0) and Outlook
- Program Director radio program scheduling software

#### MUSICAL ACCOMPLISHMENTS

Commissions & MIDI Sequences:

This presentation will demonstrate the use of *Tonescape* to create various tunings directly from generators, to create a just-intonation tonespace and then generate a tempered tuning from it, and to create a simple example of a musical piece. Then some examples of famous compositions including those from Turkish Art music will be presented, showing how the Lattice View can be used to analyze the mathematics which underlie the music-theory employed in the composition.

- "A Noiseless Patient Spider" (1999) for the American Festival of Microtonal Music.
- Incidental Music for "Invisible Haircut" (1993) off-off Broadway play.
- Many MIDI compositions (since 1988) by myself and others, most notably Mahler's 7th Symphony (list furnished on request).

#### Computer software:

- Project leader (since 1988) of "*JustMusic Sequencer*", renamed "*Tonescape*".
- Creator of "*micro.ca*" (1999), a Cakewalk Application Language program for entering just-intonation MIDI data.

#### Books / Articles / Papers / Essays / Webpages:

- "Searching for Schoenberg's Pantonality" (2001-)
- "A Century of New Music in Vienna" (1999-2010)
- "Mahler 7th/1" (1988-2004) - an analytical reduction score, and speculations on the "hidden program" of the first movement of Gustav Mahler's Seventh Symphony; accompanied by a CD created with Cakewalk software
- "JustMusic: A New Harmony" (1987-2000)
- "John Dowland's Lute Fretting" (Sep. 2001), published in the International Symposium on Musical Acoustics Proceedings, p.197-200.
- "Tutorial on Ancient Greek Tetrachord Theory" (2004), published in *Xenharmonikon* nr. 18
- "Philolaus: The Earliest Greek Tuning-Theory" (2004), published in *Xenharmonikon* nr. 18
- Several articles on music, focusing on tuning theory and c. 1900 Viennese music, published on tonalsoft.com website (list furnished on request). (1988-)

#### Lectures:

- "Microtonality in Berlin and Vienna in the early 1900s" (Jan. 2001), Microfest 2001, Pomona College: Claremont, CA
- "Introduction to my JustMusic theory" (Feb. 1997), The Curtis Institute of Music: Philadelphia PA

#### Musical Instrument Design:

- 1984 Rational Guitar
- 1988-1995 JustMusic Keyboard

#### ADDITIONAL PROFESSIONAL ACTIVITIES

Performed (since 1977) on saxophone, clarinet, oboe, recorder, piano, synthesizer, vocals, and as conductor for various ensembles and bands (list furnished on request).

#### LANGUAGES

- Basic fluency in reading/writing French, some ability in speaking.
- Some ability in reading/writing German, Spanish, and Italian.
- Interested (as a hobby) in Russian, Vietnamese, Turkish, Arabic, and many other languages.

**M. Kemal Karaosmanoğlu & Utku Uzmen – Mus2okur: Turkish Music Multimedia Encyclopedia + Mus2: Notation Software for Turkish Maqam Music and Microtonal Works**

Abstract	CVs
<p><i>Mus2okur</i> is a computer software product by Data-Soft aiming to teach almost all aspects and concepts of Turkish Classical and Folk musics. The foremost pupil of the software is also the developer of <i>Mus2-Alpha</i>, which is the very first notation and playback program for Turkish music. Because Turkish music is highly rich in terms of makams, usuls and forms, and due to the fact that its core theoretical concepts are rather old-fashioned in language, this artform used to strike the younger generations as somewhat abstruse and inaccessible.</p> <p><i>Mus2okur</i> made possible the playback of thousands of works based only on aggregations of numerical data through the proper system analysis of all of the above-said abstractions. Given that there are 1500 scores and more than a 100 makam scales, usuls, etc... each in the Encyclopedia, and that all these can be sounded using various ahenks (diapasons), tempos and diverse instrument assignments, etc... an endless cornucopia of possibilities emerge. Additionally, the compendious inclusion of entries pertaining to forms, composers, lyricists, etc... has elevated the program to the level of an important source of knowledge. Moreover, the product's English language installation availability has attracted attention from abroad, to the effect that it now has users from all around the world including Turks and foreigners. Throughout the 3 years following its commercial launch, the program's database has been constantly updated and improved. ---MKK</p> <p>Commercially available score editors are built on the basis of Western music's 12-tone equal temperament and as such cannot sufficiently represent microtonal music and traditional music cultures from around the world like Turkish makam music. Furthermore, musicians and composers find it difficult to express their musical ideas given that these programs are updated with more and more features that are arguably irrelevant to many users and become more complex and bloated as a result.</p> <p><i>Mus2</i> from Data-Soft is a score editing application developed with the aim of notating and accurately playing back works pertaining to current music cultures as well as works employing future tuning systems. Instead of imposing on the user any particular pitch space, it liberates the musician by allowing him to define</p>	<p>M. Kemal Karaosmanoğlu was born in Kayseri on 12 December 1952. He completed his Bachelor's Degree in the Mathematics Department of İstanbul University Faculty of Science, and his Master's Degree in the System Analysis Programme of İstanbul Technical University Graduate School of Science Engineering and Technology. After moving on to the business world in 1984, he founded <i>Plekom Computer</i> company and has engaged therein software development, training, and support tasks. Since the 2003-2004 educational year, he teaches as a part-time lecturer under Audio Design Programme of Department of Music and Performing Arts in Yıldız Technical University Faculty of Art &amp; Design the following computer-assisted music technology courses: <i>Sound Programming, Musical Arithmetics, Physics of Music</i>, and <i>Scale Theory</i>. Between February 2002 – April 2011, Karaosmanoğlu has assumed R&amp;D management and software development project leadership responsibilities in <i>Data-Soft Computer Limited</i>. He served as a board member in the TÜBİTAK funded projects "<i>Automatic Score Transcription of Classical Turkish Music Records</i>" and "<i>Automatic Makam Recognition</i>" conducted throughout 2007-2010 under İzmir High-Technology Institute. At the moment, he is enrolled as a member of the Turkish research team in the EU funded and Universitat Pompeu Fabra (Spain) spearheaded project titled: "<i>Research into World Musics via Computational Models (CompMusic)</i>".</p> <p>Karaosmanoğlu, is the developer of the very first Turkish music score editor and playback program called <i>Mus2</i>. Using the earliest (Alpha) version of this program, he prepared two dozen music score fascicles themed "<i>Fihrist-i Makamat</i>" (<i>Makam Couplet Index</i>) and "<i>Selected Works from Turkish Music</i>" that have been published by Nota Yayıncılık starting from 2007.</p> <p>The market-oriented beginner's level version of <i>Mus2</i> named <i>Mus2okur – Turkish Music Multimedia Encyclopedia</i> was released on October 2008 under the project leadership of Karaosmanoğlu with R&amp;D funding from KOSGEB, and is presently sold locally and abroad.</p> <p>A graduate of Robert College (2002) and Yıldız Technical University's Department of Music and Performing Arts Audio Design Programme in (2010), Uzmen is currently involved in a number of music software development projects and teaches music technology courses under the same Audio</p>

<p>custom pitches and accidentals to be assigned to notes. In addition, Mus2 tries to make the musician's engraving chores easier by emphasizing simplicity of the interface.</p> <p>Already having amassed users from all around the world and boasting new features such as MIDI recording and MusicXML support that are planned for a release within the next year, it is hoped that Mus2 will become an indispensable tool in every musician's arsenal. ---Uzmen</p>	<p>Design Programme. Among the software projects he is engaged in are <i>Mus2</i>: notation software for Turkish maqam music &amp; microtonal works, as well as other software for the production and performance of electronic music through novel interfaces such as <i>Manipulant</i> and <i>Waveshaper</i>. Recently Uzmen has joined the CompMusic project (lead by Universitat Pompeu Fabra, Barcelona) for conducting research on the analysis of symbolic data in Turkish music.</p>
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<p align="center"><b>Mehmet Güntekin &amp; Aytaç Ergen – Türk Müzik Kültürünün Hafızası Projesi</b></p>	
<p>Özet</p>	<p>CVs</p>
<p>For many centuries, İstanbul stood at the cross-roads of the local music-scape with its 'folk', 'classical', 'military' and 'liturgical-mystic' branches. The transcribed and preserved repertory of Turkish Music belonging to these main branches had not been collected in a single repository accessible by the general public till 2010 came to pass. As the source of a major inconvenience facing music circles not just restricted to Turkey, but also the science and art circles studying Turkish Music from abroad, this significant shortcoming constituted a serious problem.</p> <p>An important milestone was achieved in the resolution of said issue upon the realization of the "<i>Memory of Turkish Music Culture</i>" Project under the management of İstanbul 2010 European Capital of Culture Agency's Classical Turkish Music Directorate. Close to a total of 70 thousand works consisting of about 62,500 classical, liturgical-mystic, mehter, and near 7,500 folk music pieces with every known version brought together from various collections and as voluminous as 250 thousand</p>	<p>Mehmet Güntekin was born in Bafra in 1963. He became the pupil of Süheylâ Altınışdört and Fatih Salgar in the University Choir during his high education years and also served as assistant to the conductor.</p> <p>He published several encyclopaedic, periodical and newspaper articles. He won the Turkey Writer's Association 1998 TV-Music Award with his "Yine Bir Gülnihâl" TV Broadcast. He hosted with İncilâ Bertuğ the following Programmes under T.R.T. – TV: "Musikiden Müziğe", "Müziğimiz Kültürümüz", and "Seyirnağme".</p> <p>He gave various concerts with the İstanbul Fasil Ensemble that he founded, besides with other groups, in Europe, Africa, Mediterranean and Far East countries as well as at home. He published around 80 CDs such as "Şerif Muhiddin Targan", "Bekir Sıdkı Sezgin", "Alâeddin Yavaşca" and "Ercümend Batanay".</p> <p>He conducted editorial, journalistic and project administrative duties in several press, culture and art organizations. He participated in symposiums and delivered seminars held by science and art institutions. He worked on collaborative publications with Murat Bardakçı, whom he benefited from regarding music history, repertory, archiving and biography subjects. He was employed as columnist, advising board member and redactor in the Hürriyet Tarih periodical. He published articles in the Habertürk Tarih journal. Three anthologies he wrote titled "Üniversite Korosu Kitabı", "İstanbul'un 100 Müziğinası", and "İstanbul'un 100 Şarkısı" have been published. His book "Adalar'ın Musiki Dünyası" and narrative historical account "Türkiye'de Müziğin Yakın Tarihi-1: Nevzad Atlığ'ın Tanıklığında" are awaiting publication.</p> <p>He undertook the art vice-director and orchestra-choir conductor positions in the Rose &amp; Tulip dance and music spectacle that officially represented Turkey in Japan during the Expo-2005 World's Fair. He acted as music advisor to the Museum of Science and Technology in Islam. He is the general secretary of Turkish Music Foundation, executive committee member of Cultural Council Society, vice-president of Heybeliada İlm-i Musiki Society and a member of Turkey Touring and Automobile Club.</p> <p>In 2006, he was appointed to the principality and art committee membership posts of İstanbul State Classical Turkish Music Choir that</p>

<p>pages in length were made accessible to the scrutiny of the art-science milieu at home and abroad. With the publicization of this staggering cultural treasure, it was aimed that research and studies on Turkish Music – which holds a weighy place in the international art sphere – would gain momentum and new perspectives.</p> <p>It was also intended that a crucial step forward would be made owing to the proceeds of the Project in not only the expansion of the zone of Turkish culture with respect to the national and international area of culture, art and science, but also the establishment of past/future interrelations through the culture and art life of İstanbul.</p> <p>The “<i>Memory of Turkish Music Culture</i>” undertaking, whose conception and designation belongs to the 2010 European Capital of Culture Agency’s Classical Turkish Music Director Mehmet Güntekin, was turned into a full-scale Project, was deployed and put into commission as a result of the consolidation of Aytaç Ergen’s nearly 30-year long studies on musical compilation and infrastructure with the technical expertise and support of Tamay Yügnük.</p> <p>The presentation comprises the explaining of the stages up to the point when the idea came to life as an enterprise besides giving general information on the “<i>Memory of Turkish Music Culture</i>” Project. Why was this Project deemed necessary and engaged? Did (Is) the Project reach(ing) its desired goals? What are the negative and positive criticisms since the Project was made open to the public. Are there hassles</p>	<p>he has attended since 1986. Güntekin presided as 2010 European Capital of Culture Agency’s Classical Turkish Music Director between 2009-2011 and had conducted 25 projects. He is a graduate from İstanbul University Political Sciences Faculty Public Administration Department.</p> <p>Aytaç Ergen was born in Üsküdar in the year 1957. Due to his father’s profession, he carried out his primary and secondary education in Gölcük. He then completed his high school education in İzmir Atatürk Lycée in 1973. After attending the Buca Architecture &amp; Engineering High School during 1974-75, he moved to İstanbul in 1976 and began his Mechanical Engineering education in Yıldız Technical University (which was back then ‘Academy’).</p> <p>Owing to the fact that his father Saadettin Ergen, as a ney player, and his mother Keriman Ergen, as a chorister, attended since many years amateur choirs and lately Avni Anıl’s chorus in İzmir, the artist’s juvenescence has been in pace with Turkish Music (aside from his elder sister, Aytaç Ergen has two more brothers the first of whom, Levent Ergen, is a vocalist in the Ministry of Culture Mersin State Classical Turkish Music Choir, and the second of whom, Tolga Ergen, is a ballet dancer in the Mersin State Opera and Ballet). Aytaç Ergen, after registering in Üsküdar Music Society in 1977, has decided to drop out of his mechanical engineering engagements by the 3. grade in order to enter Turkish Music State Conservatory; a decision which changed the course of his life. During the same period as the artist completed with honors his İ.T.U. Turkish Music State Conservatory education in 1983, he began his professional artistic career by succeeding in the entrance exam conducted by T.R.T. in the September of 1981. Among the tutors who contributed to the artistic identity of Aytaç Ergen, besides principally his mother and father, are Emin Ongan, Şeref Çakar, İnci Çayırılı, Cahit Atasoy, Fethi Karamahmutoğlu, Belkıs Aran, Bekir Sıtkı Sezgin, Alaeddin Yavaşca and Kani Karaca.</p> <p>Aytaç Ergen, whose musical life was quite vibrant, has taken the stage in Tasavvuf Music and Sema (Mystic Rite) performances across several countries (USA, Australia, England, France, Tunisia, Germany, Italy, Canada, Belgium and Alaska) be it as a kudüm player or vocalist accompanying the “İstanbul Music and Sema Ensemble”. He has carried out his part also at home in Konya (Şeb-i Arus ceremonies) and various other cities.</p> <p>Married and having fathered a son called Eren who is attending the final year of the Bachelor’s Degree in Percussion Instruments Programme of İ.T.U. Turkish Music State Conservatory, the artist has carried out exhaustively comprehensive archival work since he began his music career. With the support of his wife who is a System Analyst and throughout a 2 year period culminating in the printing, in 1995, of “T.R.T. Repertorial Tome of Vocal Compositions” that comprises 16,500 works where he inputted the pertinent computer entries and inventory data by hand, Ergen was instrumental in the publication of the said book. He is currently pursuing his compilation endeavours with the help of qanun player Cüneyt Kosal on the Muallim İsmâil Hakkı Bey Collection composed of 378 handwritten records. In addition, he has, for the first time in the world, achieved the transfer into digital environment of the (Instrumental and Vocal) Repertory of T.R.T. encompassing 25,000 works. He has shared his accomplishment with the authorities in T.R.T. Music Department with the intent that the institution may fully benefit from the labor. After Aytaç Ergen expanded</p>
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<p>and hurdles in the “accessibility” of the Project? What measures are taken to solve these problems?.. These matters shall also be addressed.</p>	<p>this enterprise to 75,000 scores, he passed it over to “2010 European Capital of Culture Agency” and made possible the instant access to and downloading of any score one might want among the admirers and investigators of Turkish Music within Turkey and from all around the world.</p> <p>Aytaç Ergen still continues his obligations as a T.R.T. vocal artist next to T.R.T. Turkish Tasavvuf Music Repertory Committee member and T.R.T. Investigative Committee.</p>
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<p><b>Ozan Yarman – 79-tone Qanun, Yarman-24 Tuned Bowed Tanbur, Ney Pitches Interactive Flash App.</b></p>	
<p>Abstract</p>	<p>CV</p>
<p>First of all, a presentation shall be delivered regarding the facets of the novel 79-tone tuning and a theory trial based on it, which the author implemented on his special qanun constructed by Ejder Güleç – which also constitutes the backbone of his Doctorate Dissertation completed in 2008 whose foundations were laid even before then.</p> <p>After completing his piano education in Brussels Royal Conservatory in 1997 and having returned to Turkey, the author – drawing from his absolute ear and experiments using digital instruments – was astonished by his experience that the execution of certain pitches particular to <i>Uşşak</i>, <i>Hüseyni</i>, <i>Karçığar</i>, <i>Hüzzam</i> and <i>Saba</i> maqams did not conform to the established music theory and notation (contrary to the situation in the West), whereby he began to engage advanced music theory pursuits.</p> <p>With his inquisitiveness piqued on learning ney as well as bowed tanbur and qanun, the author soon comprehended the ney pitches and succeeded more or less in intoning on various <i>Ahenks</i> (sizes or diapasons) of ney; he also increased in proficiency to sound maqam-like melodic procedures by appositely tapping on those frets of his bowed tanbur located astride the norms of the established theory; he moreover started searching to purchase a qanun.</p> <p>Having consigned himself to his study chamber during his Doctorate education, the author engaged in pursuits lasting many months on arduous pitch calculations. During the same period, he began to show his presence in a <i>Yahoogroups</i> internet platform called the <i>Tuning List</i>, where over a thousand <i>maverick</i> musicians, microtonalists, mathematicians and computer programmers subscribed. There, he discussed the</p>	<p>Ozan Yarman was born in İstanbul on 18 April 1978. He has inclined toward music and composition since early years.</p> <p>He has begun his piano education during primary school age in Kadıköy Municipality Conservatory.</p> <p>In 1992, he has gained entrance to Moscow Gnessin State Conservatory.</p> <p>In 1993, he has returned to İstanbul due to developments pertaining to the collapse of the Soviet Union.</p> <p>The same year, he became the student of Ergican Saydam after succeeding in the entrance examination of Mimar Sinan State Conservatory.</p> <p>In 1994, he was accepted under special provisions to the Brussels Royal Conservatory.</p> <p>He continued his piano education in this institution as the student of Yevgeny Moguilevski and his wife Olga Rounshevich. Moreover, he has been directly elevated from the first-year Harmony class of André Wagnain, Director of Tournai Conservatory, to Graduate level.</p> <p>In 1997, having completed a 5-year piano course in 3-years, he has graduated from the said institution with the degree of “<i>First</i></p>

<p>stages of his acquisitions with the prominent names of the group. Even before that, he had already gotten to know Turkish Art/Traditional music researchers and computer programmers M. Sc. M. Kemal Karaosmanoğlu, M. Sc. M. Uğur Keçecioğlu, M. Sc. Ömer Tulgan, and Dr. Can Akkoç in person and established academic associations with them, thus spearheading vigorous internet discussions on the subjects of music theory and technique.</p> <p>Absorbing step by step the terminology and subtleties of the art of musical mathematics, the author began to unravel various Temperaments in history, Just Intonation systems, and the deep-rooted music theory literature specific to the Near East; analyzing/adjusting/improvising on the pitches, intervals and even chords through his computer that he mapped to and played on the keys of his electronic piano; trying especially to identify the scale intervals of the “problematic” maqams such as <i>Uşşak</i>, <i>Hüseyni</i>, <i>Saba</i>, <i>Karcıgar</i>, and <i>Hüzzam</i>, and seeking to investigate tunings and Temperaments that can satisfactorily account for them.</p> <p>Having applied in 2005 his 79-tone tuning on his own qanun in the framework of his Doctorate study, Yarman has achieved a wholesome instrument with dazzling features; particularly after his thesis supervisor qanun-player Prof. Şehvar Beşiroğlu pointed out the need for double-sharp mandals and M. Uğur Keçecioğlu suggested the installation of fine-tuners, which the author soon after implemented.</p> <p>Secondly, he fashioned a low-resolution tuning as an alternative to the <i>Arel-Ezgi-Uzdilek</i> System in effect in 2008 called “Yarman-24” that is based on the same accidentals, which he implemented to his own bowed tanbur.</p> <p>Thirdly, a Flash™ design has been realized in the Autumn of 2005 through the Flash™ programming of Dutch Physicist Dr. Paul de Haas at the behest of Yarman who lead and contributed to the project, that displays as well as sounds the ney pitches and fingerings of Sheik Şeyh Abdülbaki Nasır Dede'nin (1765-1821). In the design spearheaded by the author, it was Yarman who prepared the ney pitches graphic and kız ney sample recordings.</p>	<p><i>Prize</i>”.</p> <p>During the same period, he has succeeded in the Postgraduate entrance examination of Brussels Royal Conservatory.</p> <p>In 1998, he returned to his former Kadıköy Conservatory that has since been enjoined to İstanbul University and attended there the Postgraduate Composition Principal Art Department.</p> <p>In 2001, he graduated from this school with his Master's thesis titled “<i>Turkish Music and Polyphony</i>”.</p> <p>In 2002, he was accepted to the Doctorate programme of the Musicology Principal Science Division of İstanbul Technical University Turkish Music State Conservatory.</p> <p>In 2008, he successfully defended his thesis titled “<i>79-tone Tuning &amp; Theory For Turkish Maqam Music As A Solution To The Non-Conformance Between Current Model And Practice</i>” and achieved his Doctorate degree with the unanimous decision of the Jury.</p> <p>On 28 June 2011, following the unified decision of the Academic Committee evaluating his work in Gazi University, Ankara, he was bestowed the title of Associate Professor in the dual disciplines of Musicology and Music Theories.</p> <p>He has cultivated himself throughout his life in the fields of piano, composition, and music theory. He has performed his own piano works in the various exams of above-mentioned schools. Aside from compositions for piano and with piano accompaniment, he also wrote works for orchestra that have been performed.</p> <p>He is a member of <i>Belgium Writers and Artists Association (SABAM)</i>. He commands an advanced level of English.</p>
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Ömer Tulgan – Following *Nota 2.2* and “*Atelye*”: Interface for Tone and Makam Systems

Abstract

*Nota 2.2* is a computer software system developed especially for makam music. In contrast to Western music software, the accidentals, makam scales and key signatures as well as bars and rhythms pertaining to makam music are central components in *Nota 2.2*.

A score engraved using *Nota 2.2* is displayed, printed out and saved as a special file format; it can also be auditioned using the acoustical resources of the computer and saved as a MIDI file. Here too, the program remains diligently faithful to the pitches particular to makam music.

The *Arel-Ezgi-Uzdilek* tone-system widely in effect today does not sufficiently reflect the practice subtleties of makam music. In *Nota 2.2*, one can utilize other historical tunings next to this tone-system.

On the other hand, “*Atelye*” system was developed as a tool for musicologists in their pursuit of new tunings. Here, it was possible to attribute and playback the pitch values of main tones and accidentals to be employed with 1/10 cent precision.

However, “*Atelye*” was stymied due to the following:

-The pitch values of accidentals to be used were constrained by the main tones and fixed values assigned to the accidental symbols. This in turn impeded the notion of a wholesome tuning independent of these limitations.

-Assignment of graphical representations to the user-defined accidentals were not thought of.

-The tone-systems defined not only the pitches, but also their usage in diverse makams. Yet, this feature was not encompassed by “*Atelye*”.

Be it for the future versions of “*Nota*” software, or (perhaps) as a common language to be used in various makam music score editors, the author plans to develop an interface that defines myriad tone and makam systems. This is done as an XML-file format. Progressively, the following items are defined for each new tone and makam system advanced forth:

-Pitches.

-Accidentals.

-The expression of accidental pitches in terms of main tones + accidentals.

-The tetrachordal, pentachordal, etc... genera to be used in makams.

-Makam descriptions: Principal-scale, finalis, dominant(s), genera flavours (within or without the principal-scale) and their mediant, key signatures.

Herewith, it ought to be possible to express the inflexions of given pitches as pitch value fields (generally/owing to a particular flavour/in a particular makam) instead of fixed pitch values.

Thence, it shall be plausible to:

-utilize a system developed in (a) score editor(s) without trouble,  
-to develop software that can moreover “recognize” the makams and flavours from the score based on this interface.

CV

Born in Konya on January 8th, 1945.

Graduated from Berlin Technical University Electrotechnic Faculty in 1970, and employed as a research engineer in AEG-Telefunken Research Institute, Berlin.

During these years, he participated in the Berlin Workers Choir rehearsals under the direction of Tahsin İncirci.

During 1977-1988, he partook in left-wing political activism in Prague and Turkey.

Since 1988, he works as a translator and public school teacher in Berlin.

By the early 90's, he became familiar with makam music, and by the late 90's, he was acquainted with the mystifying spell of ney.

His book “*Zen ve Ney-Zen / Ney ile Meditasyon*” has been published by Yol Yayınları.

Starting from late 90's, he is engaged in the development of software systems christened *Nota 1.0* up to *Nota 2.3*.

**Robert Walker – Presenting Tune Smithy and Bounce Metronome**

Abstract	CV
<p><i>Tune Smithy</i> is now widely used for microtonal and algorithmic composition. It started as a simple tool for generating a melody based on self similar fractals. Mountains, clouds and coastlines are visual fractals - a coastline for instance looks similar at many levels of magnification. The sound of running water is an audio fractal, as it sounds similar when the recording is played at several times the original speed.</p> <p>To see how it works, let's use 0 1 2 3 for successive scale degrees. Start with a "seed" pattern of notes, say, 0 1 2 0. Add that pattern to each of its notes to get 0 1 2 0 * 1 2 3 1 * 2 3 4 2 * 0 1 2 0. Then add the 0 1 2 0 pattern again to each of the new notes, and repeat the process endlessly.</p> <p>You can make the structure clear by assigning a different instrument to each level of construction. The result is a canon by augmentation. Make the faster lines in the tune quieter and higher in pitch, and you can get a tune which like the running water sounds similar when played several times faster at a higher pitch.</p> <p>To human ears the result sounds similar to composed music,</p>	<p>EDUCATION</p> <p>Oxford University: <i>Research</i> during 1980s – 1990s</p> <p>Research into “seeming infinity and seeming infinitesimals”. It combined techniques from Robinson’s infinitesimals, Vopenka’s “Alternative Set Theory”, mathematical and philosophical ideas of Strict Finitism, and a highly innovative logical deduction system of the author’s own invention.</p> <p>Even though he completed the thesis and did all the revisions required by the examiners, the examiners nevertheless failed the author’s thesis a second time, whereby he was dissuaded from pursuing his doctorate. Advised instead by supervisor to attempt publication of research in academic journals.</p> <p>The author continued research in his own time on the topic of his thesis. Then researched into non periodic sets of tiles, cellular automata, and recreational mathematics (mainly generalizations of peg solitaire). He found several interesting new mathematical results in these areas, but mainly due to many programming commitments, he has not yet published any of the work.</p> <p>York University: <i>MHum (Master of Humanities)</i> in 1978 on Philosophy, Honors: 2.1 (the <i>MHum</i> at York university is essentially an opportunity to take a second undergraduate degree)</p> <p>York University: <i>M.Sc</i> on Maths in 1975, Honors: First Class</p> <p>PUBLISHED MUSIC SOFTWARE</p> <p><i>Tune Smithy</i>, featuring</p> <p>A) <i>Fractal Tunes</i>: canons by augmentation using similar construction to the Koch snowflake.</p> <p>B) <i>Fibonacci rhythms</i> based on David Canright’s “Fibonacci Gamelan Patterns”. Fibonacci Tone Scapes based on an idea of tuning mathematician/patternist Erv Wilson.</p> <p>C) Microtonal retuning of MIDI keyboard and compositions, and MIDI files.</p> <p>D) <i>Tonality Diamond (Lambdoma)</i>.</p> <p>E) <i>Audio Pitch Tracer</i> – detects pitches to very high accuracy even for short notes including bird song – now largely superseded by the Yin algorithm etc.</p> <p>F) <i>Wave Shape Player</i> – generates pitches to extremely high accuracy.</p> <p>G) <i>Chord player</i> – can play microtonal chord progressions</p> <p>H) <i>Automated CSound Orchestra Builder</i></p>

<p>although the composition method is so very different. The author hypothesizes that this is because of a connection with the fractal nature of natural sounds and the fractal features of composition found by many researchers<sup>1</sup>.</p> <p>The numbers work with any tuning. This leads to the use of <i>Tune Smithy</i> for retuning notes played from a music keyboard in real time. The same method can be used for "scordatura scores", composed in standard notation software and retuned with <i>Tune Smithy</i>.</p> <p>The author's newest program is <i>Bounce Metronome</i> which has rhythms such as 3/8 + 3/4 of interest for Turkish music. It also has a harmonic interval trainer with an option to emphasize the beating partials in complex intervals like 27/16, etc. Other features of interest include the virtual rhythmicon and sonified pendulum waves.</p> <p>The author plans a new release of <i>Tune Smithy</i> incorporating these and other new developments.</p>	<p><i>Bounce Metronome</i>, featuring rhythms of all sorts including polyrhythms, odd time signatures, rhythms like 3/8 + 3/4, cycles of polyrhythms,...</p> <p>Its polyrhythms include rare ones which apparently are available nowhere else including the likes of 4/4 : 4/3 – polymeters where each rhythm in the polyrhythm (or polymeter) has a different measure size, and the “golden ratio rhythms” example of a polymeter where the two measures are incommensurable – “the most polyrhythmic rhythm possible” in a mathematical sense.</p> <p>Also includes the harmonic metronomes – harmonic polyrhythms based on the idea of Theremin’s rhythmicon, and a virtual rhythmicon you can play interactively using mouse or PC keyboard.</p> <p><i>Virtual Flower</i> – not a music program as such, but makes interactive “clickable” 3D models of the hexany, and dekany – musical geometries by Erv Wilson with many triads, and tetrads and high degree of symmetry. It uses <i>Tune Smithy</i> to generate the audio clips for them.</p> <p>REVIEWS OF SOFTWARE IN PUBLISHED MAGAZINES</p> <p>Mini Review of <i>Bounce Metronome</i> (2010) in <a href="http://www.soundonsound.com">www.soundonsound.com</a> (Sound on Sound Magazine).</p> <p>Review of <i>Fractal Tune Smithy</i> – in “PC Music Shareware Roundup” by Martin Walker, Sound on Sound Magazine, October 2004 (same website).</p> <p>NEW COMPOSITION TECHNIQUES EXPLORED</p> <p><i>Fractal Tunes</i>: These make musical patterns in fractal fashion from a short musical seed by a method based on the Koch Fractal. Many sample fractal tunes included with <i>Tune Smithy</i>.</p> <p><i>Fibonacci rhythms</i>: Generalizations of David Canright’s Fibonacci Gamelan Patterns to three or more beat sizes. These are highly structured, yet the structure doesn’t repeat at any level, but is more fractal in form – so there is no such thing as a measure in the conventional sense. Samples included in <i>Tune Smithy</i>.</p> <p><i>Fibonacci Tone Scapes</i>: Generalization of an idea by Erv Wilson – adds pitches to the Fibonacci Gamelan patterns. The pitches rise and fall according to the size of the beat and often don’t fit into any finite set of pitches. Samples included in <i>Tune Smithy</i>.</p> <p>Exploration of many tuning systems: Examples of short microtonal compositions and improvisations in various tunings by the author are included with <i>Tune Smithy</i>. Example compositions are downloadable from <a href="http://robertinventor.com/musicandvirtualflowers/tunes/tunes.htm">http://robertinventor.com/musicandvirtualflowers/tunes/tunes.htm</a></p> <p>Includes an example of the use of one of tuning mathematician Gene Ward Smith’s ideas for transformation of a tune into many different just intonation tuning systems with the author’s Hexany Phrase Transformations available at <a href="http://robertinventor.com/musicandvirtualflowers/tunes/tunes.htm#hexany_phrase_transformations">http://robertinventor.com/musicandvirtualflowers/tunes/tunes.htm#hexany_phrase_transformations</a></p>
<p>1) See for instance Larry Solomon's "The Fractal Nature of Music", <a href="http://solomonsmusic.net/fracmus.htm">http://solomonsmusic.net/fracmus.htm</a></p>	<p>PROGRAMMING EXPERIENCE</p> <p>Commercial code (1995 – Present): <i>Tune Smithy</i>, <i>Activity Timer</i>, <i>Lissajous 3D</i>, <i>Text Field Echo</i>, <i>Virtual Flower</i>, and <i>Bounce Metronome</i> using Programming language "Windows C".</p>

	<p>Free source code (1990s – Present) – several code samples and libraries for other programmers to use, including <i>PlayMidiLib</i> - demonstration code for pitch bend retuning.</p> <p>Software for tiling and board games of author's own invention (late 1990s) – and a program to find solutions of peg solitaire. One of the games was accepted for publication by Gibson's games but not published due to technical issues. First experience of user interface code for Windows, using Programming language "Windows C".</p> <p>Cellular automata programs including animations on the Maths department Unix machines (1990s). Author's first experience of animation, multi-tasking, windowing, and programming a GUI using Programming language "C with XWindows".</p> <p>Various small programs the author has written out of interest on the York University's mainframe computer during his maths degree (1972 - 1975), using Programming language "Algol".</p> <p>Programming the main frame computer at the Harwell fusion research laboratory in Culham, Oxford (1971 - 1972) - simulation of fluid motion in a theoretical fusion reactor including generation of colour movies of the results – where the author's part was just routine maintenance of the code, using Programming language "Fortran".</p>
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<b>Tolgahan Çoğulu – Adjustable Microtonal Guitar (“Microtonal Guitar Duo” with Sinan Cem Eroğlu)</b>	
Abstract	CVs
<p>Adjustable microtonal guitar has been designed by Tolgahan Çoğulu in 2008. It was accepted and funded as a scientific research project at Istanbul Technical University Dr. Erol Üçer Center for Advanced Studies in Music under the supervision of Prof. Şehvar Beşiroğlu. It was completed in 2009 by luthier Ekrem Özkarpat.</p> <p>In designing his adjustable microtonal guitar, Tolgahan Çoğulu was inspired by Walter Vogt's <i>Fine-Tunable Precision Fretboard</i> (1985), whose aim was to solve the intonation problems of the guitar. In the adjustable microtonal guitar, all the frets on the fretboard are movable in the channels under each string. Besides, any number of frets can be inserted into or removed</p>	<p>Tolgahan Çoğulu was born in Ankara in the year 1978. He began to learn Classical guitar at the age of 12. He continued his Classical guitar education throughout 1996-2001 in the Boğaziçi University Folklore Club under the tutelage of Ayhan Akkaya, taking part in many concerts of the BUFC Guitar Ensemble. He attended the 16th and 17th Iserlohn Guitar Festival, the 5th Lambesc Classical Guitar Festival, the 16th Estegon Classical Guitar Festival and the 1st Westfalian Guitar Spring, finding the opportunity to study under several guitarists such as Roland Dyens, Carlo Domeniconi, Dale Kavanagh, William Kanensiger, and Jorge Cardoso.</p> <p>He was accepted to the Classical Guitar Master's Programme of Istanbul Technical University Dr. Erol Üçer Music Advanced Research Center (MIAM) in 2001, and continued his studies here under Soner Egesel and Bekir Küçükay. In 2010, he completed his Doctorate Dissertation titled 'Bağlama Tekniklerinin Klasik Gitar İcrasına Uyarlanması' and graduated therefrom. The dissertation has been published in 2011 by VDM Publishing.</p> <p>He founded with Erhan Birol the Classical guitar duo Duoist in 2007. The CD “İki Elin Sesi” they recorded together has been published by Pan Music in 2011. His Chopin Prelude E minor arrangement has been published by Periferia Music also in 2011.</p> <p>He designed the Adjustable Microtonal Guitar in 2008. He founded with Sinan Cem Eroğlu the Microtonal Guitar Duo in 2011.</p> <p>He gave concerts and seminars in the 11th New York Guitar Festival, the</p>

<p>from the fretboard.</p> <p>The objectives of designing the adjustable microtonal guitar are as follows:</p> <p>1) To play maqam-based music with the guitar.</p> <p>2) To play microtonal music of the contemporary classical Western music repertoire.</p> <p>3) To play pieces based on tunings other than the equal temperament system.</p>	<p>19th Iserlohn Guitar Festival, 1st Srajevo Guitar Festival, Mozarteum University, Aveiro University, and the 4th Hawaii Art Conference.</p> <p>Since 2001, he is engaged in the Bosphorus Visual Arts Ensemble. For a period, he performed for the Kardeş Türküler and 45 rpm vinyl Şarkılar projects. The Basic Music Education Manual he wrote with Birgül Serçe has been published in 2010 by BVAE Publishing.</p> <p>Tolgahan Çoğulu, has founded the Classical guitar department in İ.T.U. Turkish Music State Conservatory in 2010, where, at present, he lectures as a Classical Guitar instructor.</p> <hr/> <p>Sinan Cem Eroğlu was born in Ankara in the year 1986. His musical career begun in 1994, when he began playing saz instruments constructed by his father, the saz-maker Kemal EROĞLU, in his workshop.</p> <p>In 1997, he was accepted into the İ.T.U. Turkish Music State Conservatory Instrument Training Division at the secondary education level. He studied reedless kaval under Assist. Prof. Cihan YURTÇU until his graduation.</p> <p>In 2009, he succeeded Turkish Music State Conservatory and İstanbul Technical University with honors. In 2011, he defended his thesis titled "Kopuzdan Altıtelili Kopuza Uzanan Süreçte Fiziksel ve İcra Teknikleri Bakımından Meydana Gelen Değişim ve Gelişmeler" under İ.T.U. Social Sciences Institute Turkish Music Master's Programme and graduated with the highest average.</p> <p>He gave concerts in the 2010 European Capitals of Culture, İstanbul, Ruhr and Pécs under the "Karawane" project spearheaded by Rudiger OPPERMAN. He took administrative part in the İstanbul-Sweden workshop jointly organized by İ.T.U. Turkish Music State Conservatory and Sweden Musik Gavléborg titled "Folk Music Pedagogy". He participated in myriad concerts, albums, cinema films, TV series, and television broadcasts at home or abroad via reedless kaval, Classical guitar, fretless guitar, kopuz, oğur saz and vocal performances. He contributed to diverse albums with his arrangements and role as music manager.</p> <p>He performed together with Erkan OĞUR in the BBC Radio 3 "World Routes", Mezzo TV "Jazz Mix Festival in İstanbul" and the 18th Izmir European Jazz Festival.</p> <p>In 2011, Sinan Cem EROĞLU founded 4tet, and together with guitarist Dr. Tolgahan ÇOĞULU the <i>Microtonal Guitar Duo</i> (Fretless Guitar &amp; Adjustable Microtonal Guitar).</p> <p>Presently, is continued his Doctorate studies under the İ.T.Ü. Social Sciences Institute Musicology and Music Theory Programme. By the end of 2011, he plans to release two albums the first of which is recorded by him alone, the second of which, together with Akın ELDES.</p> <p>Besides being involved among the casting crew of the world-famous "Cirque du Soleil", he pursues his stage work along with Sinan Cem EROĞLU 4tet, Erkan OĞUR "Telvin - Anatolian Jazz", Aynur DOĞAN, Akın ELDES, Yinon MUALLEM, and Nida ATEŞ. He lectures on kaval in the Kocaeli Municipality Conservatory and is enrolled as a Research Assistant in İstanbul Technical University Turkish Music State Conservatory Music Theory Department.</p>
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**Uğur Keçecioğlu – Notist, Usul-Velvele Editor and Virtual Qanun Software for Makam Music**

**Abstract**

1) *Notist* : has been fashioned for the purpose of re-scoring, archiving, analyzing Turkish Art Music and Turkish Folk Music pieces, and transcribing them correctly and speedily via a computer through standart symbols. In order to facilitate the elimination of scribal errors regarding a scored piece, the program has been endowed with quite advanced an audio playback capability. It has been observed that this feature is widely utilized during the composition of new works. Besides its regular function as a score editor, *Notist* also possesses some unconventional specialties:

A. The file size is just 4.5 Mbytes, and is very small compared to software originating in the West;

B. It is user-friendly, not to mention its setup and removal is straightforward.

C. Due to its advanced audio capabilities, it is possible to audition in real-time using several instruments including rhythm and either Western instruments or .wav samples of authentic Turkish instruments. Also, it is viable to assign notes any arbitrary non-theoretical symbol in 7.5 cent precision;

D. It boasts additional resources in the form of pitch-frequency histograms targetting compositional analysis that can be used for theoretical research, and it allows for the testing of transposition over to different keys;

F. It has TB and PÇ features (not explained here due to lack of space, and reserved for the presentation) that assist in minimizing the theory-practice mismatch in playback.

2) *Usul-Velvele Editörü* : Those familiar with Turkish Art Music cannot deny the usefulness of performing works by rhythmic accompaniment and knowing usul (Turkish rhythmic patterns). Despite the fact that the melodies of our compositions can be learned by ear, one cannot say the same for usul casts. While the plain and filled beats of our usuls are represented beautifully in many sources according to their own pertinent notation formula and conforming to certain transcription rules, it is rather difficult to ascertain how they sound by ear without a helping hand.

Hence, *Usul-Velvele Editor* was designed to overcome the aforesaid obstacle. The program can help instrumentalists and vocalists who perform in an ensemble the ability to decipher and play in keeping with the usul and stable rhythm within their own private study rooms facing their computers.

This proficiency ordinarily gained in the tradition by

**CV**

Born in 1948, he is a Textile High Engineer. He completed his primary and secondary education in İzmir, and received high education for his Master's degree in Ege University. He has worked as a high-ranking executive in the public and private textile plants as well as a lecturer in his own field in Ege University and İstanbul Technical University. After retiring in 1994, he has been engaged until 2000 in consultation and business representation activities. Even today, he is developing music software at an amateur level.

During the years when he was engaged in Ege University, he stayed in Germany for one and a half years on a scholarship funded by the German government, and has conducted studies pertaining to his profession in the high school in Mönchengadbach. He frequented CAD-CAM courses given by prominent German and Swiss textile machine manufacturers. After returning to Turkey, he commenced his Doctorate, but had to move to İstanbul without finalizing it.

During the time he was enrolled in İstanbul Technical University, he was invited to Japan by the most distinguished manufacturer of computer-assisted weaving machines where, for a while, he inquired into CAD-CAM.

He became drawn to music as a student, but soon music theory came to dominate. Between 1965-70, he imprinted for a while interviews and scores for the Turkish Music page of the "Demokrat İzmir" newspaper that was being published in İzmir during those years.

Be it during his years as a student or or the period when he was engaged in the university, he participated as a ney or rhythm player in various Turkish Art Music activities in İzmir. He received ney lessons for a long time from the late T.R.T. ney artists Burhaneddin Ökte. In the course of these studies with his master, he prepared a ney instrumental method and entered the instrumental method contest held by T.R.T. in 1970.

Although his interest in programming emerged very early on, he got to tackle it only during

<p>striking the hands on knees under the scrutiny of a training master, has become easier to achieve today using computer technology faculties through both listening and seeing.</p> <p>The second purpose in the preparation of the program is to provide a working environment to musicians who wish to step outside the existing usuls and their myriad filled-beat variants, so that they can notate and hear the casts they envision. The users are thence able to transcribe diverse variants easily as well as listen to, save and print them.</p> <p>3) <i>Virtual Qanun</i>: This software has been prepared as a laboratory environment for general music theory research. Its main function is to visualize and playback the results of what proposed tone-systems yield in different makams and different transpositions, by applying on the qanun divergent scales, divergent tone and mandal configurations – without the bother of building new instruments, rapidly and without any cost.</p> <p>Its usage is constrained to special circumstances and requires the collaboration of the theorist with the programmer. The implementation in conformance to the 79-tone tuning of Dr. Ozan Yarman is a standing example of this. The software ought to be implemented in accordance to other tone-systems.</p> <p>Additionally, it is thought that <i>Virtual Qanun</i> will positively contribute to the improvement of the qanun and also the dialogue between executant and instrument builder.</p>	<p>and after his Master's courses. Throughout the years he was employed as an executive in private firms, he coded integral software that could do product and quality follow-up which he managed to market to some large companies that he acted as a consultant for. He has written a modest-sized game program in order to improve his programming skills.</p> <p>On 16 December 2006, he presented a study to the V. Qanun Circle pertaining to a design for controlling the qanun mandals by a computer.</p> <p>At present, he is actively developing on the one hand his software named <i>Notist</i>, and on the other, conducting studies on Turkish music tone-systems and other microtonal applications. <i>Virtual Qanun</i> and <i>Usul-Velvele Editor</i> are some of these.</p> <p>Among his unchanging goals are the sounding, in digital medium, of Turkish compositions and Turkish instruments without having to lose their timbres or makam flavours.</p> <p>He is married and the father of two daughters. He is versed in German.</p>
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