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## 17. *Movement 1 – Pärt*—Alex Ruthmann

*Movement 1 – Pärt* (2010) is an excerpt from a suite of live-coding pieces, *Scratch Etudes*, exploring the live, interactive coding capabilities of the Scratch visual programming environment ([scratch.mit.edu](http://scratch.mit.edu)). Taking inspiration from the musical organization of Arvo Pärt's *Stabat Mater* and a live coding performance by Andrew Sorensen within his Impromptu software, *Movement 1 – Pärt* utilizes live manipulation of visual code chunks, blocks, lists, and variables through mouse and keyboard control in a creative exploration of the Aeolian mode. An additional minor pentatonic solo layer was performed live over the drone using an IchiBoard sensor interface ([bit.ly/ichiboard](http://bit.ly/ichiboard)) developed by Mark Sherman in the Engaging Computing Group at University of Massachusetts, Lowell. The IchiBoard enables melodic and rhythmic performance of the solo line through a button and linear potentiometer with volume controlled by the z-axis of the built-in accelerometer.

*Scratch Etudes* was conceived as a set of live coding examples to share with students enrolled in an undergraduate general education course, "Sound Thinking," offered at the University of Massachusetts, Lowell, and for use in workshops with middle- and high-school students in computational music. Originally developed for use by children by the Lifelong Kindergarten Group at the MIT Media Lab, Scratch has proven useful as a platform for engaging children in creating computational music and live coding in specific.



Figure 21. Alex Ruthmann.

**Alex Ruthmann** (see Figure 21) is Assistant Professor of Music Education at the University of Massachusetts, Lowell, where he teaches coursework at the intersection of music, computing, and learning. After graduating from the Performing Arts Technology program at the University of Michigan, he pursued masters and doctoral work in music education at Oakland University. Currently, he is an active collaborator on a National Science Foundation-funded Performamatics project linking computer science with the fine, design, and performing arts and serves as a development consultant on several music education technology projects with companies and research teams in Australia, Norway, and the USA. His research centers around the design, creation, and study of technologies and environments that promote creative music-making, learning, and teaching.

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# DVD Program Notes

## Part One: Thor Magnusson, Alex McLean, Nick Collins, Curators

### Curators' Note

[Editor's note: The curators attempted to write their Note in a collaborative, improvisatory fashion reminiscent of live coding, and have left the document open for further interaction from readers. See the following URL: <https://docs.google.com/document/d/1ESzQyd9vdBuKgzdukFNhfAAAnGEgLPgLLCe.Mw8zf1Uw/edit?hl=en.GB&authkey=CM7zg90L&pli=1.>]

**Alex McLean** is a researcher in the area of programming languages for the arts, writing his PhD within the Intelligent Sound and Music Systems group at Goldsmiths College, and also working within the OAK group, University of Sheffield. He is one-third of the live-coding ambient-gabba-skiffle band Slub, who have been making people dance to their algorithms across Europe since 2001. Alex is janitor of many organizations including TOPLAP, POTAC, dorkbotshffield, and the placard headphone festival. Further details are found on his Web site ([yaxu.org](http://yaxu.org)).

**Thor Magnusson** is a musician/writer/programmer working in the fields of music and generative art. His PhD from the University of Sussex focused on computer music interfaces from the perspective of philosophy of technology, phenomenology, and cognitive science. He is a senior lecturer in the School of Art and Media at the University of Brighton. Thor is a co-founder and member of the ixi audio collective. With ixi he has written a variety of musical software and given workshops and talks at key institutions across Europe on the design and creation of digital musical instruments and sound installations. Further details are found on his Web site ([www.ixi-audio.net](http://www.ixi-audio.net)).

**Click Nilson** is a Swedish avant garde codisician and code-jockey. He has explored the live coding of human performers since such early self-modifying algorithmic text pieces as *An Instructional Game for One to Many Musicians* (1975). He is now actively involved with Testing the Oxymoronic Potency of Language Articulation Programmes (TOPLAP), after being in the right bar (in Hamburg) at the right time (2 AM, 15 February 2004). He previously curated for *Leonardo Music Journal* and the *Swedish Journal of Berlin Hot Drink Outlets*.