Gordon Lightfoot
Canadian folk singer-songwriter celebrates his 50th year as a touring musician. Nov. 12, 8 p.m., Troy Savings Bank Music Hall, 30 Second St., Troy. Tickets: $44 and $57. Information: 273-9038 or troymusichall.org.

A, B, A, B, Up, Up, Up!

Video game audio has evolved from blips and beeps into an art form appreciated by fans and players within a multi-billion dollar industry.

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From a second floor auditorium in Rensselaer's West Hall, programming students listened to one of the most accomplished gaming audio engineers in the Western Hemisphere.

On a campus built on the reputation of engineering leaders who built America's space program, Leonard Paul looked more Greenwich Village in trendy black boots, black pants, black tie and a newsboy cap, as he spoke of McGarry,Assigned,sprites and kilobytes.

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Paul is at arro's length from a MacBook containing a digital presentation that juxtaposed the wooden and plaster surroundings of an auditorium built when Ulysses S. Grant sat in the Oval Office.

Paul is the principal instructor for the School of Video Game Audio in Toronto and has been in the industry since 1994. He has worked on games you've likely played - award-winning titles such as "NBA Jam 2010," "NFL 11." "Need for Speed: Hot Pursuit 2," "NBA Live '95." He's responsible for composing, sound design and audio coding on more than twenty major game titles that have sold in aggregate of 6.4 million units.

The initial shock associated with the thought an RPI student, who faces a price tag of $48,100 a year for an education, was whittled away when Paul revealed video gaming revenues rate in as many billions of dollars as that of Hollywood films — $91.5 billion in revenue earned, in gaming, to $88.3 billion earned in film. Perhaps the latest jerk reaction towards gaming would be due to parents, who are unfamiliar with today's games, remembering the blips and whistles of old gaming consoles.

"In a somewhat odd way, you can see film as a subset of video games, where the visuals and the sound don't respond to the player," said Paul. "Many films have a lot of CGI in them and the real-time graphics possibilities for games is so high these days that they can be seen as merging on a technical level in terms of graphics. This is also true for audio as well."

Paul's experience in gaming spans across a pioneering era within the industry. A child of the '80s, he started synthesizing music on his family's Commodore 64. "My love for music definitely came before coding," said Paul. "I remember being very young and enjoying making music for fun with my classmates in preschool. Coding was a great way for me to learn the details of how computers work and has given me a lot of confidence with having job security." Gaming audio hardly evolved beyond the 64 kilobytes of the Commodore by the time he started his career in 1994. At that point, Nintendo Entertainment System's Super Nintendo (SNES) and Sega Genesis game consoles dominated retail sales. Both consoles still utilized cartridges with limited capacity for programming. The original 8-Bit Nintendo's hardware from 1983 had less than a half dozen channels available for sound allowing little beyond blips, bass, treble and limited amounts of sampled sounds. Thirty years later, when Sony released its PlayStation 4 console, utilizing software housed on Blu-Ray disc, it boasted over 512 channels broadcast through HDMI 7.1 audio capabilities.

"When you think of game audio — the quartz audio back in the day — it's not so much that they were interested in producing something that was plain," said Paul. "They were really struggling to get something that sounded musical.

Paul is as much a student of the industry as he is a teacher. He's currently involved with the production of a film documentary titled "Deep Music" (http://DeepMovie.com) covering the history of the audio programming. He said he had the opportunity of interviewing Japanese gaming composer Nobuo Uematsu (Final Fantasy series). "Nobuo, as with Koji Kondo (Super Mario Bros), is revered as a classical composer. His orchestral pieces are no longer appreciated by teens sitting in front of televisions. The same keys he had programmed on a cartridge have played in grand music halls upon the stages of symphonic orchestras. "For the songs that were really successful, they've whitewashed the text of time," said Paul.

Demand from gaming aficionados has created a market to address the need to hear the nostalgic sounds of Mario, Zelda and Final Fantasy from their childhood. Soundtracks and sheet music from Kondo's games, and more, can easily be found on Amazon.com and similar internet storefronts. But, the demand is not limited to games of the past. Modern-day talents like Trent Reznor of Nine Inch Nails and Paul McCartney of the Beatles, have lent their skills to games in recent years.

"I believe that music is a very powerful tool that sets the emotional context and overall vibe of a game," said Paul. "I believe music is more effective when it supports and adds to the overall design and experience of a game. Music has the capacity to reach our hearts in a way that is quite unique from other art forms... I think that each medium has its strengths but I feel that I'm personally able to express myself more creatively within games. With my school I want to help encourage a more diverse group of people to become involved in making games so that the game will continue to reflect a more diverse set of cultures and viewpoints. Silicon Valley is not just games of the past, I feel that the games of the future will help define what it is to be human."