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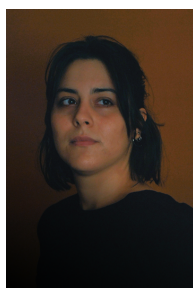
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Music with Plants: Cultivating Bonds Between Grade-Schoolers and Nature through Sound Design

A growing need for environmental awareness requires sensitive strategies to help us rethink the way interactions transform our habitat. This work proposes a musical approach to nourishing the bonds between elementary-school students and nature. Since plants and humans experience life in very different time frames, humans might mistakenly perceive plants as quiet and motionless living-beings. The ability to sense elements of their surroundings to which we are unaware of, makes plants invaluable allies towards a more conscious relationship with the planet we share. This work proposes that music has the potential to intermediate these interactions and provide meaningful experiences to the young participants by bringing to common ground digital technology, music and plants. Using sensors to collect data from the plant's environment we shape musical features over time, encouraging children care of their own plant as it blossoms into its matured "musical form". In addition, sound events might be triggered to reward positive behavior in the classroom. Students split responsibility for the plant assigned to their desk, which stimulates cooperation and companionship. Each individual plant then becomes part of and contributes to its class and school musical.

Keywords: plants, education, music, sonification, ecology

Biographical note



Rita Lêdo: I am a media artist from Porto, born in 1992. I hold a degree in Cinema and Audiovisual from the Higher School of Arts of Porto (ESAP) and I am currently attending the Multimedia Masters (Interactive Music and Sound Design) in the Faculty of Engineering of the University of Porto. Recently, I have been focusing in generative music and interactive installations.



Rui PENHA: Composer, media artist, and performer of electroacoustic music, Rui Penha was born in Porto in 1981. He completed his PhD in Music (Composition) at the University of Aveiro. His music is regularly recorded and played in festivals and concert halls around Europe and North America, by musicians such as Arditti Quartet, Peter Evans, Remix Ensemble, or the Gulbenkian Orchestra. He was a founder and curator of Digitópia (Casa da

Música, Porto) and has a deep interest on the relationship between music and its technology. His recent production includes interfaces for musical expression, sound spatialisation software, interactive installations, musical robots, autonomous improvisers, and educational software. More recently, Rui has focused his attention on the problems of defining and guiding artistic research. He taught at several Portuguese institutions, in both music, art and engineering faculties, and is currently an assistant professor at ESMAE and researcher at INESC TEC.



Filipe Lopes holds a PhD in Digital Media from the University of Porto - FEUP and he is a composer. He has developed work in the areas of electroacoustic music composition, multimedia installation, dance, cinema, theater and video installation. Currently he is Adjunct Professor at the Escola Superior de Media Artes e Design and a researcher at INET-Md | CIPEM and uniMAD.