“Flow” in computer programming has long been known to be a key increaser of productivity [1]. Also many developers listen to music while programming. This has been shown to increase productivity [2]. There have also been tests on the effectiveness of debugging programs by sonification [3] and creating audio-enabled development interfaces [4]. There are now low cost high accuracy motion detectors for computer input such as Leap Motion, and there are multiple attempts to define core gesture sets for such a gesture UI [5]. It is also commonly known that music encourages and eases motion when it is synchronized to its rhythms. This paper proposes a programming language MIMED (Musically-backed Input Movements for Expressive Development) whose instruction set is made up of gesture inputs via motion detection. The development environment incorporates a generative soundtrack based on gestures detected in real-time, aiding the user in gesture rhythm and programming Flow. The music also represents information about code syntactical and structural elements. This language is based on a prototype programming language SIGN, originally designed for the deaf. Visual commands equivalent to Print, Repeat, Input and conditional structures are assigned their nearest American Sign Language (ASL) equivalent. Thus it also provides a potential interface for deaf people familiar with ASL to learn programming.

[1] Csikszentmihalyi, M. “Creativity, fulfillment and flow” on YouTube; presentation, TED 2004