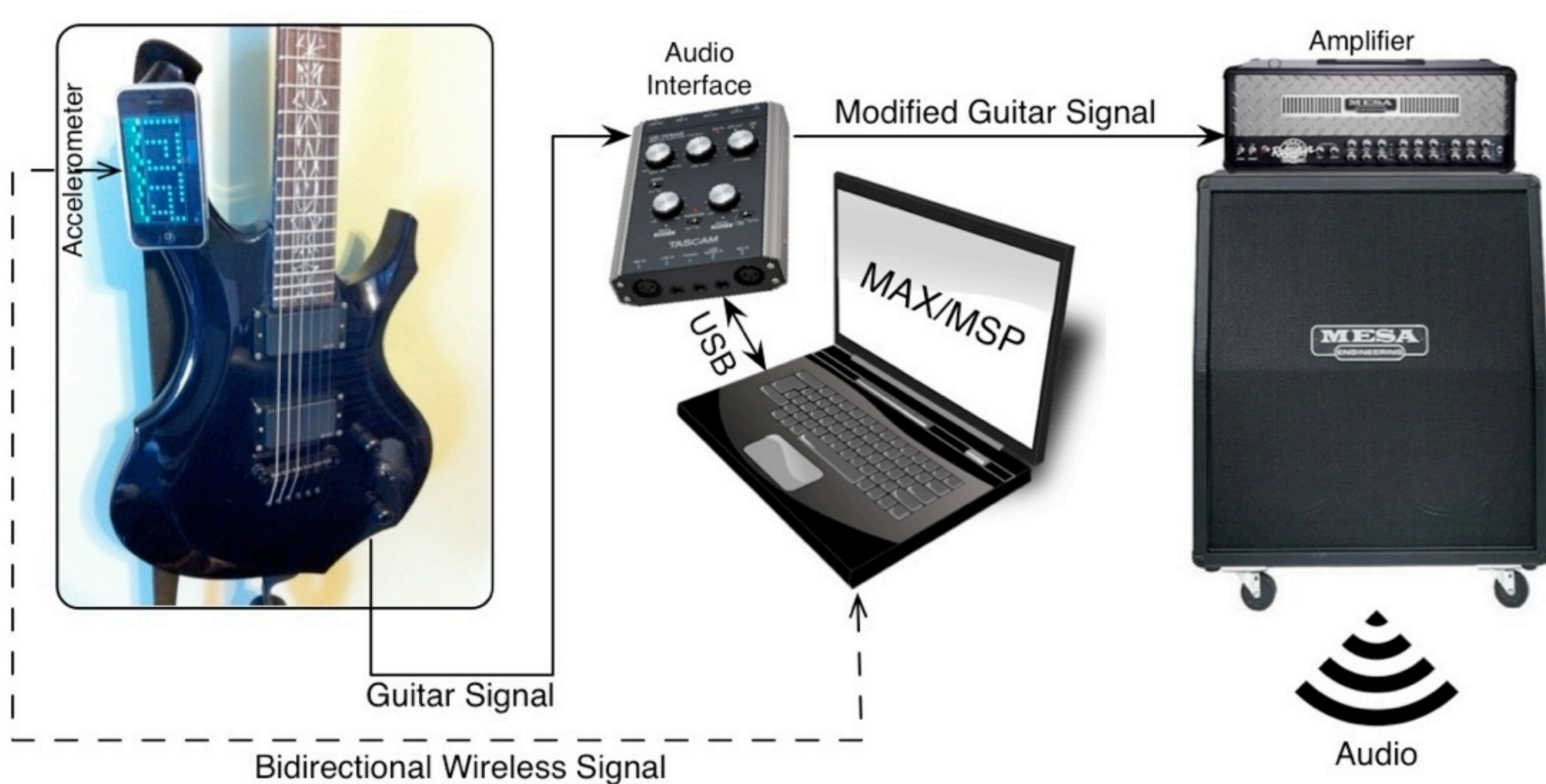


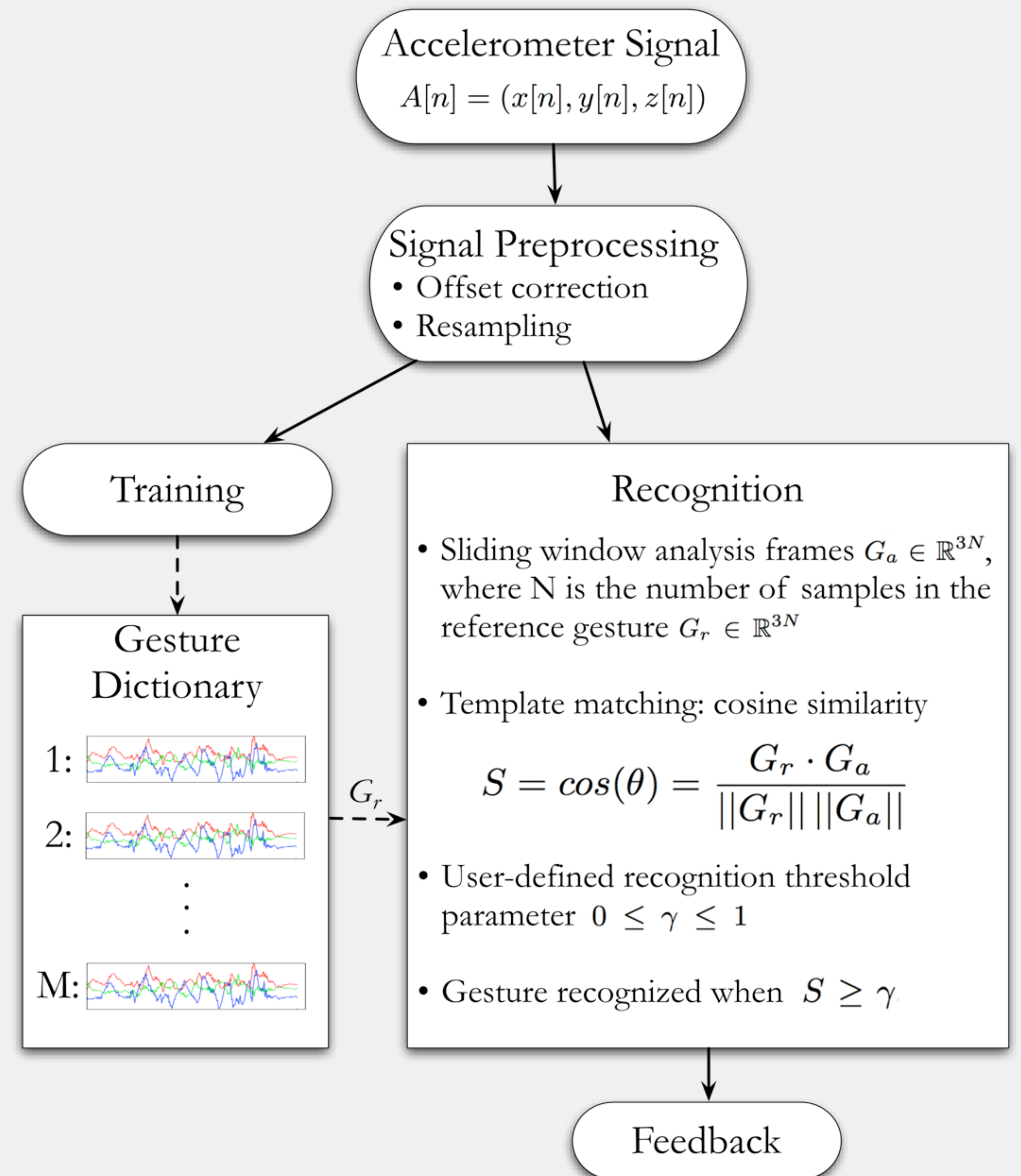
Overview

- Sensor-based gesture recognition for managing an overwhelming number of audio effects in live guitar performances
- Train personalized gestures
- Upon recognition of gesture, toggle appropriate audio effects and provide feedback
- Evaluation:
 - 86% accuracy for user-independent recognition
 - 99% accuracy for user-dependent recognition

Hardware Configuration



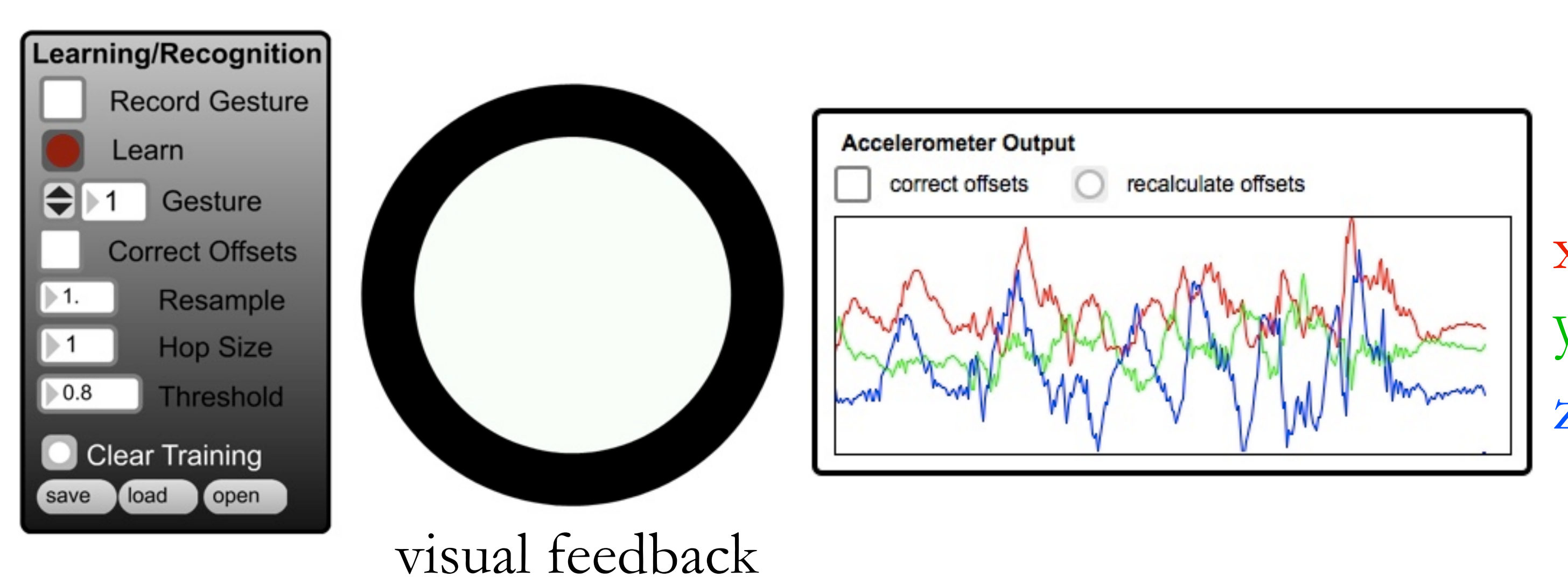
Gesture Recognition



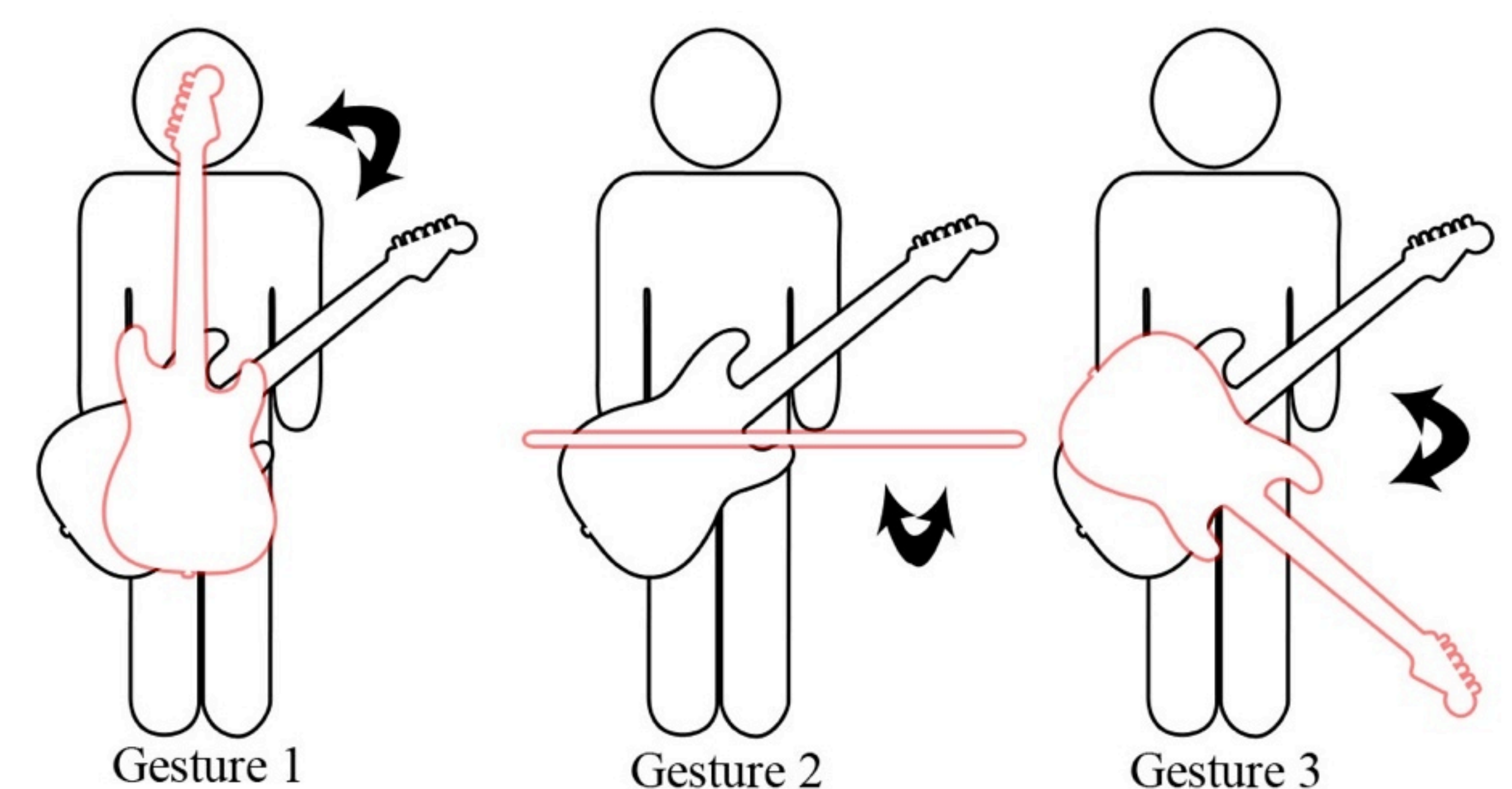
Software

- Max/MSP guitar effects rack with a collection of digital audio effects connected in series
- Touch OSC iPhone application retrieves accelerometer signal wirelessly (UDP connection). Audio effect parameters may be continuously modified by accelerometer signal
- Effect preset programming: apply multiple audio effects with stored parameters to guitar signal
- Song structure programming: enter sequence of effect presets required to perform a piece

User Interface



Evaluation



	User-independent	User-dependent
Gesture 1	94%	97%
Gesture 2	99%	100%
Gesture 3	84%	100%
Average	86%	99%

- Ten right-handed participants. Half are guitar players
- Results suggest that guitarists should train personalized gestures to toggle audio effects