

FPGuitAr Hero

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Our project will combine camera-based motion tracking with a graphical interface and audio output to create a game that gets people moving through music. In *FPGuitAr Hero*, players wear colored tags on their hands and feet which are tracked by a camera and mapped onto the graphical interface. On this interface, users must “hit” notes as they stream down the screen. Each note successfully hit will produce the corresponding audio output and earn a point. Our project can be subdivided into:

- (1) Interfacing with the camera
- (2) Tracking colored blobs (corresponding to hands and feet)
- (3) Creating game logic, graphics, & audio output (could possibly be split up based on complexity)
- (4) Importing new songs from SD card (optional, time permitting)

Other potential additions are a two-player mode, variable gameplay speed or speeding up over time/multiple levels, or incorporating gestures like jumping into the gameplay. Also there are possibilities for making a suite of games or adding game extra complexity.