Product Requirements Document

Project MetroKnome

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Team #: 14

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A. Purpose/summary

Visual and aural output variable timing device that can be used as a baseline for a specific pace.

B. Needs/objective/background:

Inexpensive solution to provide a pace setting device for a multitude of uses that incorporates an input mechanism to set the desired pace along with an output mechanism to confirm the desired pace.

Minimal instructions necessary beyond product description, easy to use such that a 5 year old human child can operate within 1 minute.

C. Functionality

Input device to change the pace (beats per minute).

Output device to produce auditory indicator of the passage of the set time period.

Output device to produce visual indicator of passage of the set time period.

Programmable.

D. Performance

30 to 230 bpm in 20 beat increments to provide a variety of slow, medium, and fast tempos.

E. Competition/Intended Market

Competition is substantial, therefore a low cost solution is needed.

The primary market is musicians for time synchronization, however the device will enable anyone needing a visual/aural pace setting device. An example includes medical training centers who use the device to optimize the timing of chest compressions during cardiopulmonary resuscitation on a manikin.

F. Safety/Environmental

Intrinsically safe, dry, at room temperature.

G. Economic

The total parts and manufacturing costs cannot exceed $50 per unit

The development costs should not exceed $250

H. Energy

The system will use an off the shelf 9V battery.