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(54) **WEARABLE SECURITY AND
ENTERTAINMENT DEVICE**

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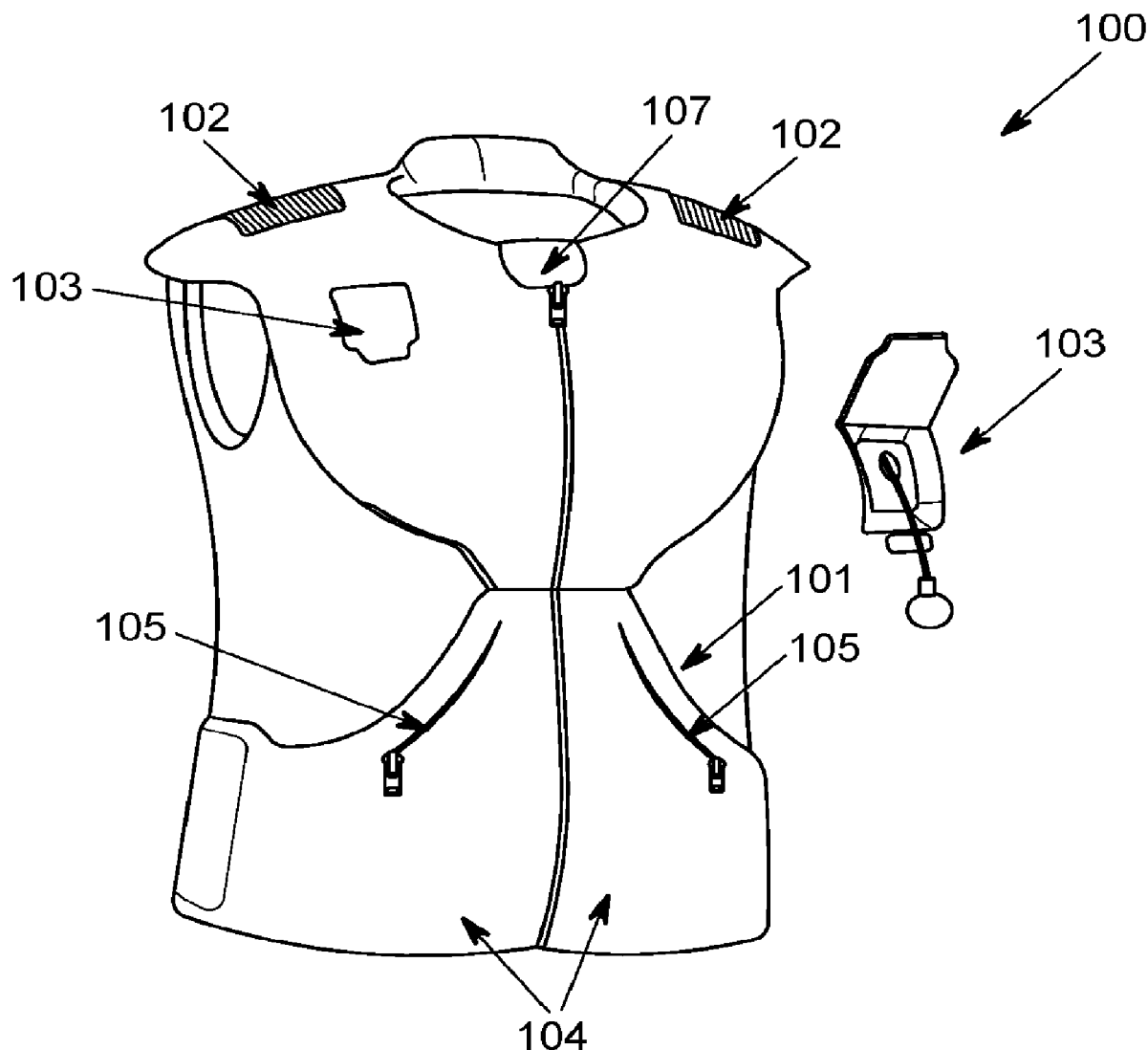
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(63) Continuation-in-part of application No. 16/740,906,
filed on Jan. 13, 2020, now abandoned.

(57)

ABSTRACT

The present invention relates to a wearable security and entertainment device comprising, a vest for covering torso of a user, speakers for generating sound to entertain the user, a latch to transmit a signal to the speakers for generating an alarm in an emergency situation by pulling, pockets for carrying objects required by the user and reflecting strips to make the user visible to others.



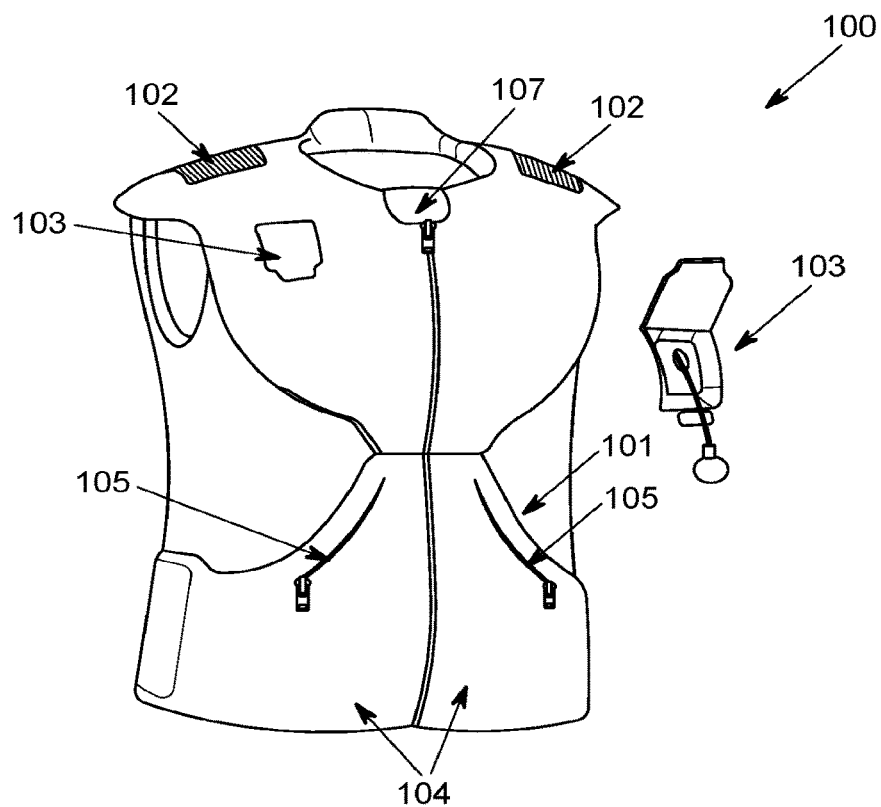


FIG. 1

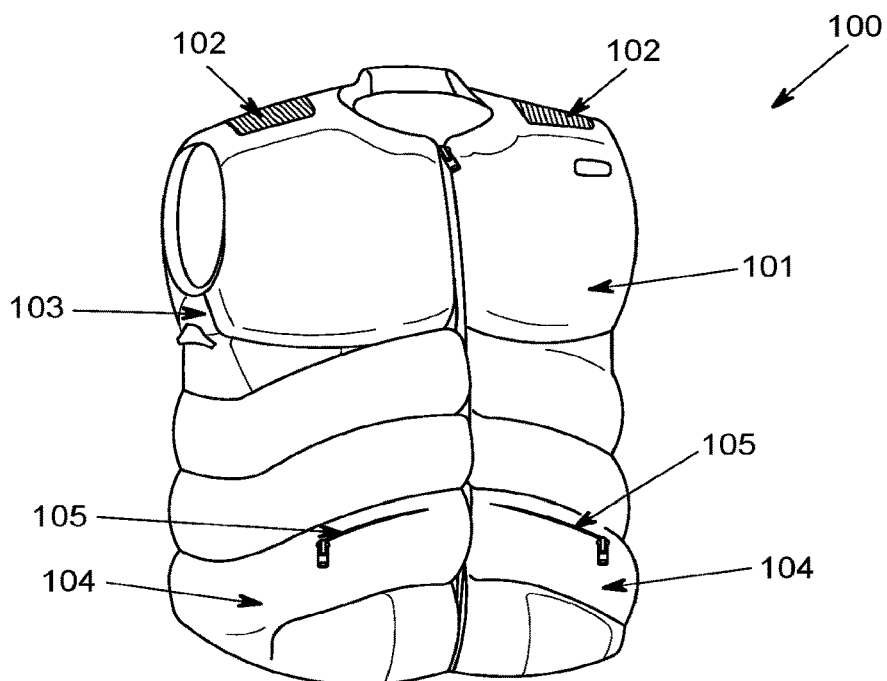


FIG. 2

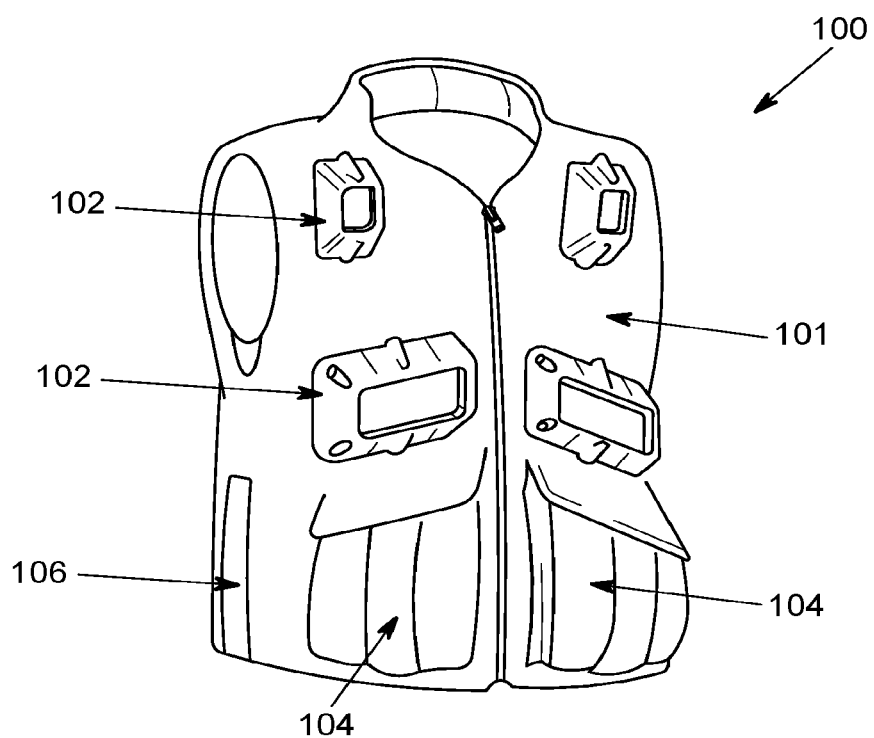


FIG. 3

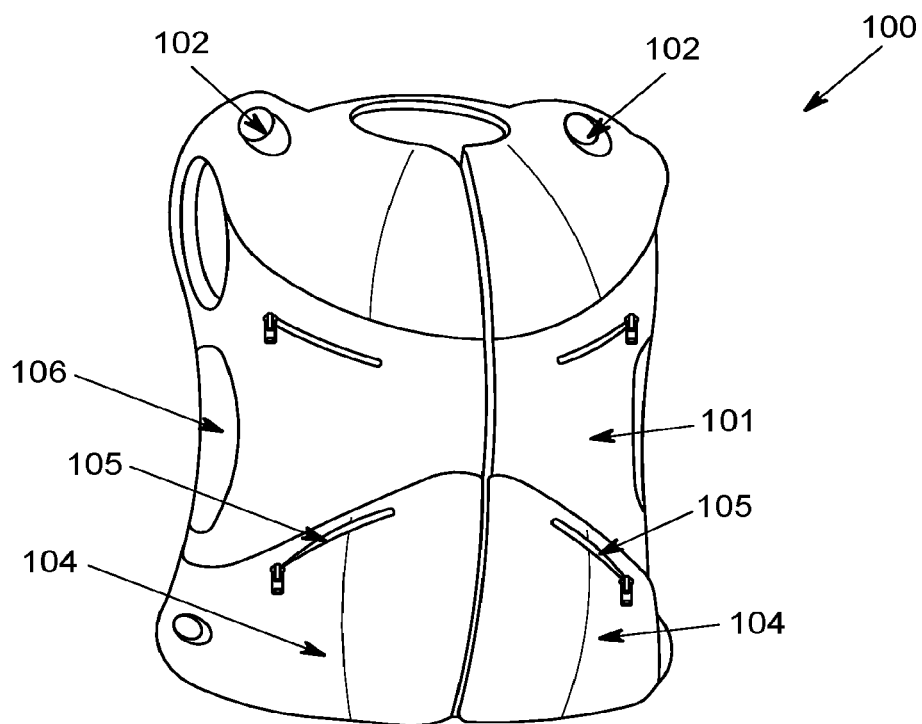


FIG. 4

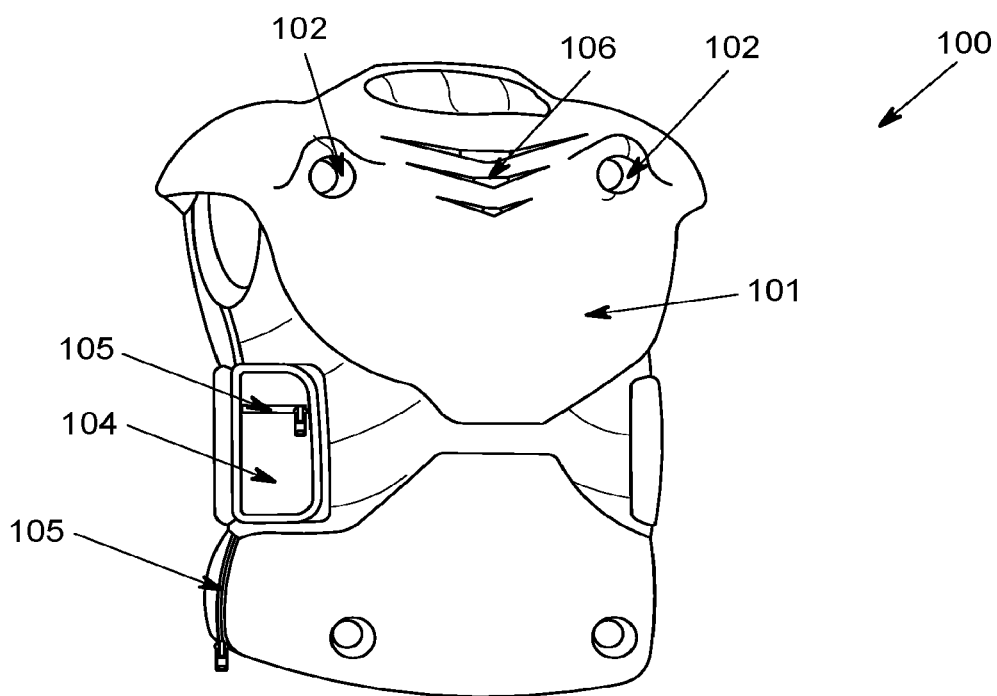


FIG. 5

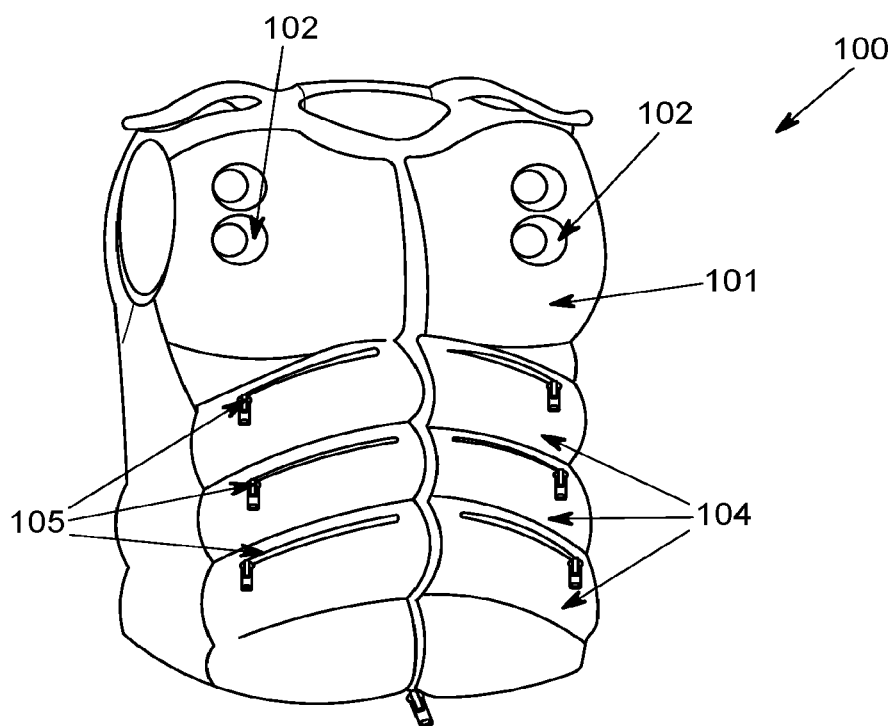


FIG. 6

WEARABLE SECURITY AND ENTERTAINMENT DEVICE

CROSS REFERENCE

[0001] This application claims the benefit of U.S. Provisional Application No. 62/760,936, entitled "Sound Vest" filed Nov. 14, 2018, the contents of which are incorporated herein by reference in their entireties and for all purposes.

FIELD OF THE INVENTION

[0002] The present invention relates to emergency alert devices. More specifically, the present invention relates to a device to help a user in an emergency situation by generating sound in high volume to grab the attention of nearby people, moreover the invention also provides entertainment to the user by playing music according to the requirement.

BACKGROUND OF THE INVENTION

[0003] In today's world criminal activities are increasing day by day. We daily hear the news of robbery, rape and murder. The environment has become so unsafe especially for the women. Conventionally, pepper spray was used for self-defense but sometime the criminals wear plastic mask to protect their eyes from pepper spray. To remove this problem pocketknife were introduced. The pocketknives are foldable, which help in decreasing the size of the knife and may carry safely. But it is difficult to tackle a group with a pocketknife.

[0004] To overcome the problem of tackling a group of criminals, an alert watch was introduced. The alert watch transmits a message signal in the emergency situation to the friends or relative of the user. But the alert watch is small in size and may easily snatch by the criminals.

[0005] US20140130225A1 discloses about a safety vest is provided for use by a wearer. The vest comprises an outer layer, an inner layer, a bullet protection layer, and a plurality of communication components disposed within the vest, a rechargeable power supply and a thermoelectric transducer assembly for converting body thermal energy into electrical energy for powering the communications components or other equipment. A pressure sensor may be disposed in the vest, for detecting pressure applied to the vest and generating a responsive output signal independent of any input by the wearer. In one embodiment the thermoelectric transducer assembly includes at least one thermoelectric transducer disposed in the vest. The thermoelectric transducer(s) may be interwoven throughout the vest in a layer. In one embodiment the vest assembly may include a body contact layer worn adjacent the wearer, with at least a portion of the thermoelectric transducer assembly being disposed within the body contact layer. The thermoelectric transducer assembly, or a portion thereof, may be detachably connectable to the power supply, e.g. plug connectable. The thermoelectric transducer assembly may comprise one or more thermo-responsive pads disposed in thermal transfer relation with a body portion of the wearer. The thermo-responsive pad may be operative to generate a power supply recharging output signal in response to the wearer's body heat, so as to charge the power supply. The thermoelectric transducer assembly may further include a voltage regulating circuit operative to receive and condition the transducers assembly recharging output signal to power levels suitable to recharge the power supply, thereby extending the life of the power supply. The communication components may include a receiver opera-

tive to receive an input signal from a remote transceiver, a decryption device operative to decrypt the input signal, a speaker operative to broadcast a decrypted audio input signal and/or a display operative to display a decrypted text input signal

[0006] The prior art talks about transmitting the signal in the emergency situation but the disadvantage of the prior art is that the invention transmit signal to the friends or relative but cannot gain attention of the people near to the user. Another disadvantage of the prior art is that the invention may only user for safety purpose as the invention cannot entertain the user.

[0007] US20090262967A1 discloses about A vest for a hearing impaired wearer has panels for covering areas of the wearer, removable sleeves, a wristwatch on one sleeve and speakers mounted to the respective panels for receiving signals to generate vibrations, the mounting of the speakers being adapted for transmitting vibrations to the wearer's body. The vest/jacket will have several holding places fastened onto the fabric. The cloth will hold multiple flat panel speakers both front and back. The speakers will be connected to speaker wires, thereby linking to electronic magnetized cooper wires, which enable to speakers to work. The vest/jacket will also be contained sports wristwatches and bands, with Nylon strap, Velcro closure, or sewn in around the side of the armhole of the sleeves. They are ideal as sportswear for cyclists, joggers, skateboarders, roller-bladers and so forth. They will also come with reflectors, either on the side of the shoulder arms sleeves or on the back of the vest. The device will also come with small speaker loop to be worn around the neck with a headphone either build inside the hood or worn externally. There will be multiple pockets and pouches to store gadgets, keys, iPods, CD/DVD Players, small computer laptops, games, digital cameras, wallets, PDAs, removable speakers and so forth. The speaker vest/jacket will all have transmitter and receivers built internally or externally of the vest for receptive to work with the remote wireless. They are the essential components used to operate its functionality with the headphone, speakers, and blinking reflectors. There will patches under the elbow-level of the sleeves for blinking, reflections and protection from sports activity. The speakers can be added anywhere, in the front or the back. The idea is to seek a manufacturer or prototype company that will make them in a functionality form. Wireless (battery operated) (Wi-Fi) based radio wave, solar sensor. The wearable speakers vest/jacket will come in all colors, style, designs, textures and comfort.

[0008] The prior art discussed in above paragraph provides a jacket with patches on the arms to protect the user from sports injury and speaker mounted on the jacket for the entertainment of the user. But the disadvantage of the prior is that the invention does not protect the user from unwanted emergency situation.

[0009] In order to provide safety and entertainment to the user while travelling without the need of carrying the device in hand, there is a need to provide a wearable device to entertain the user and safeguard by generating an alarm in the unwanted situation.

OBJECTS OF THE INVENTION

[0010] The principal object of the present invention is to overcome the disadvantages of the prior art.

[0011] An object of the present invention is to provide a device for entertainment of said user.

[0012] Another object of the present invention is to provide a device for protecting use from unwanted situation by generating an emergency alarm.

[0013] Another object of the present invention is to provide a device for carrying objects required by the user.

[0014] Another object of the present invention is to provide a device for protecting the user from low temperature.

[0015] Yet another object of present invention is to provide a device to protect user from accident while travelling in dark by reflecting light striking on the user.

[0016] The foregoing and other objects, features, and advantages of the present invention will become readily apparent upon further review of the following detailed description of the preferred embodiment as illustrated in the accompanying drawings.

SUMMARY OF THE INVENTION

[0017] The present invention discloses about wearable device for safety and entertainment to remove the problem of carrying music or safety equipment while travelling as the invention provides multipurpose wearable device to relax the mind of the user by playing music according to the requirement, as well as secure the user by generating sound in high volume in an emergency situation.

[0018] According to an embodiment of the present invention, a wearable security and entertainment device comprising, a vest installed in the device for covering torso of a user, speakers attached to the vest for generating sound to entertain the user, a latch electrically connected to the speakers to transmit a signal to the speakers for generating an alarm in an emergency situation by pulling, number of pockets attached to the vest for carrying objects required by the user and reflecting strips associated to the vest to make the user visible to others.

[0019] While the invention has been described and shown with particular reference to the preferred embodiment, it will be apparent that variations might be possible that would fall within the scope of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] Embodiments of the present disclosure will now be described, by way of example only, with reference to the following diagram wherein:

[0021] FIG. 1 illustrates a schematic view of the wearable security and entertainment device.

[0022] FIG. 2 illustrates first perspective view of the wearable security and entertainment device.

[0023] FIG. 3 illustrates second perspective view of the wearable security and entertainment device.

[0024] FIG. 4 illustrates third perspective view of the wearable security and entertainment device.

[0025] FIG. 5 illustrates fourth perspective view of the wearable security and entertainment device.

[0026] FIG. 6 illustrates fifth perspective view of the wearable security and entertainment device.

DETAILED DESCRIPTION OF THE INVENTION

[0027] The following description includes the preferred best mode of one embodiment of the present invention. It will be clear from this description of the invention that the

invention is not limited to these illustrated embodiments but that the invention also includes a variety of modifications and embodiments thereto. Therefore the present description should be seen as illustrative and not limiting. While the invention is susceptible to various modifications and alternative constructions, it should be understood, that there is no intention to limit the invention to the specific form disclosed, but, on the contrary, the invention is to cover all modifications, alternative constructions, and equivalents falling within the spirit and scope of the invention as defined in the claims.

[0028] In any embodiment described herein, the open-ended terms “comprising,” “comprises,” and the like (which are synonymous with “including,” “having” and “characterized by”) may be replaced by the respective partially closed phrases “consisting essentially of,” “consists essentially of,” and the like or the respective closed phrases “consisting of,” “consists of, the like.”

[0029] As used herein, the singular forms “a,” “an,” and “the” designate both the singular and the plural, unless expressly stated to designate the singular only.

[0030] The present talks about device to generate an alert in an unwanted situation to grab the attention of nearby people. The invention also provides entertainment to the user by playing rhythmic sound without the need to hold the device in hands.

[0031] Referring to FIG. 1, illustrates schematic view of the wearable security and entertainment device, wherein the device comprises, a vest **101** is installed in the device for covering torso of a user. The vest **101** protects the user from cold temperature as the fabric of the vest **101** keeps the user's body warm. A snap collar **107** is used to protect the vest **101** from detaching to the torso of the user.

[0032] There are number of speakers **102** attached to the vest **101**. The speakers **102** are to generate rhythmic sound to entertain the user. The speaker **102** work in such a way that the electrical signal converts into an audible sound. The speakers **102** have an electromagnet; a metal coil that creates a magnetic field.

[0033] When an electric current flow through the metal coil, the coil like a normal (permanent) magnet, but upon reversing the direction of the current in the coil, the poles of the magnet gets flips. Inside a speaker, an electromagnet is placed in front of a permanent magnet. The permanent magnet is fixed firmly into one position whereas the electromagnet is movable. As pulses of electricity pass through the coil of the electromagnet, the direction of its magnetic field is change rapidly. This means that it is in turn attracted to and repelled from the permanent magnet, vibrating back and forth. The electromagnet is attached to a cone made of a flexible material such as paper or plastic which amplifies these vibrations, pumping sound waves into the surrounding air and towards the ears. The frequency of the vibrations governs the pitch of the sound produced and their amplitude affects the volume.

[0034] A controller is connected to the speaker for controlling the type of music generated by the speaker **102**. The controller is preferably an arduino microcontroller. The arduino microcontroller is basically a re-programmable circuit which is use to perform different task by feeding instructions in the form of coding.

[0035] A memory unit is attached to the controller. The memory unit is to store different types of music required by the user and also an alert sound. The arduino microcontroller

fetches the music from the memory unit that is required by the user. The memory unit may include but not limited to a memory card, USB storage, hard disk and alike.

[0036] The amplifier is interconnected between the speaker **102** and the arduino microcontroller. After fetching the music from the memory card, the arduino microcontroller transmits a signal to the amplifier. The amplifier increases the power of the signal received from the arduino microcontroller. The signal with increased power goes to the speaker **102**, where the electrical signal is converted into audible sound.

[0037] Referring to FIG. 2, a latch **103** is electrically connected to the speakers **102**. The latch **103** is a type of switch. When the latch **103** is pulled by the user, it transmits an emergency signal to the arduino microcontroller. Upon receiving the emergency signal, the arduino microcontroller stops the music and fetches the alert sound from the memory unit and transmits the alert sound to the amplifier in the form of electrical signal.

[0038] The amplifier increases the power of the electrical signal to generate the alert sound in high volume. The electrical signal with increased power goes to the speaker **102**. The speaker **102** converts the electrical signal into audible sound to grab the attention of nearby people. A battery is attached to the vest **101**. The battery is to provide power to the speaker **102**, latch **101**, amplifier and other components of the device **100**.

[0039] Referring to FIG. 3, numbers of pockets **104** are attached to the vest **101**. The pockets **104** are for carrying objects required by the user. The pockets **104** provide a large space for storing different type of materials like water bottle, food etc. Due to the high quality fabric, the pockets may hold objects of heavy weight.

[0040] Referring to FIG. 4, there are zips **105** mounted on the pockets **104**. The zips **105** are to protect the objects from falling outside the pocket **104**. The zips **105** consists of number of small teeth which are interlocked when pushed closer by the zipping hook and vice versa. A reflecting strip **106** is associated to the vest **101**. The reflecting strip **106** is to make the user visible to others while travelling in the dark.

[0041] Referring to FIGS. 5 and 6, according to another embodiment, the position and types of speakers **102** may change as per the requirement of the user. The position of the speaker **102** may change but not limited to first, second, third, fourth side and alike of said vest. The first, second, third and fourth side is preferably top, middle, bottom and back side. The position of the latch **103** and the reflecting strip **106** may also change according to the requirement.

[0042] The user does not need to worry about safety or getting bored while travelling alone as the invention provides security alert for the unwanted situation and music for entertaining the user.

[0043] Although the field of the invention has been described herein with limited reference to specific embodiments, this description is not meant to be construed in a limiting sense. Various modifications of the disclosed embodiments, as well as alternate embodiments of the invention, will become apparent to persons skilled in the art upon reference to the description of the invention.

I claim:

1) A wearable security and entertainment device, comprising;

a vest installed in said device for covering torso of a user; plurality of speakers attached to said vest for generating sound to entertain said user;

a latch electrically connected to said speakers, wherein said latch pulled to transmit a signal to said speakers for generating an alarm in an emergency situation;

plurality of pockets attached to said vest for carrying objects required by said user; and

plurality of reflecting strips associated to said vest to make said user visible to others.

2) The device as claimed in claim 1, wherein a controller is attached to the speaker for controlling the sound generated by the speaker, wherein said controller transmit an electrical signal upon receiving alert signal from said latch.

3) The device as claimed in claim 2, wherein a memory unit is connected to said controller for storing musical sound and alert sound.

4) The device as claimed in claim 2, wherein an amplifier is interconnected between said controller and speaker for increasing power of electrical signal received by said controller to increase volume of sound generated by said speaker.

5) The device as claimed in claim 1, wherein zips are mounted on said pockets for protecting said objects from falling outside.

6) The device as claimed in claim 1, wherein said speaker may mount but not limited to first, second, third, fourth side and alike of said vest.

7) The device as claimed in claim 3, wherein said first, second, third, fourth side are preferably top, middle, bottom and back side.

8) The device as claimed in claim 1, wherein a battery is attached to said vest for providing electrical power to said device.

9) The device as claimed in claim 1, wherein a snap collar is used to protect said vest from detaching to said torso of said user.

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