

CLAIMS:

1. _____ A wearable device comprising:

_____ a radio-frequency identification (RFID) tag comprising a memory that stores identification information;

_____ a power harvesting circuit configured to harness power from electromagnetic radiation;

_____ a sensor coupled to the power harvesting circuit and configured to utilize the power to monitor a condition of the wearable device only while the RFID tag is in communication with an RFID reader; and

_____ a microcontroller coupled to the sensor and configured to write data indicative of the condition to the memory of the RFID tag, wherein the RFID tag is configured to transmit the identification information and the data in response to receipt of the electromagnetic radiation from ~~an~~the RFID reader.
2. _____ ~~The device of claim 1, wherein the~~ wearable device ~~comprises~~of claim 1, comprising an energy storage device configured to store power.
3. _____ The wearable device of ~~claim 1~~, wherein the sensor comprises at least an accelerometer, a gyrometer, a pressure sensor, a sound sensor, or a light sensor.
4. _____ The wearable device of ~~claim 1~~, wherein the monitored condition ~~of the wearable device~~ comprises a position of the wearable device.
5. _____ The wearable device of ~~claim 1~~, comprising one or more LEDs configured to facilitate detection of the wearable device by an external light detector, wherein the microcontroller is configured to generate a control signal to illuminate at least one of the one or more LEDs in response to receipt of the electromagnetic radiation from the RFID reader.

6. _____ The wearable device of claim 5, wherein the control signal is configured to cause the at least one of the one or more LEDs to emit light intermittently at a predetermined rate.

7. _____ A system, comprising:

_____ a wearable device comprising a radio-frequency identification (RFID) tag, wherein the RFID tag comprises a memory that stores identification information and the RFID tag is configured to transmit the identification information to an RFID reader in response to receipt of electromagnetic radiation from the RFID reader;

_____ a tracking device supported by the wearable device and configured to facilitate tracking a position of the wearable device;

_____ a power harvesting circuit supported by the wearable device and configured to harness power from the received electromagnetic radiation, wherein the harnessed power is utilized to transmit the identification information and to operate the tracking device; and

_____ a processor configured to receive the identification information from the RFID reader and a signal indicative of the position of the wearable device, wherein the processor is configured to detect an interaction between the wearable device and an interactive element of an attraction based on the received identification information and the received signal, and wherein the processor is configured to adjust the interactive element of the attraction based on the detection of the interaction between the wearable device and the interactive element.

8. _____ The system of claim 7, wherein the tracking device comprises one or more light emitting diodes (LEDs) configured to emit light.

9. _____ The system of claim 8, comprising:

_____ a microcontroller supported by the wearable device and configured to generate a control signal that causes at least one of the one or more LEDs to illuminate in response to receipt of the electromagnetic radiation at the RFID tag; and

_____ a detector coupled to the processor, wherein the detector is configured to detect light emitted by the one or more LEDs and to generate the signal indicative of the position of the wearable device.

10. _____ The system of claim 9, wherein the generated control signal is configured to cause the at least one of the one or more LEDs to emit light intermittently at a predetermined rate.
11. _____ The system of claim 9, wherein the received signal is indicative of one or more characteristics of the light emitted by the at least one of the one or more LEDs, and the processor is configured to differentiate the wearable device from another wearable device based on the one or more characteristics.
12. _____ The system of claim 11, wherein the one or more characteristics include a color, a rate, a pattern, or any combination thereof.
13. _____ The system of claim 7, comprising a microcontroller supported by the wearable device and configured to interact with the tracking device to write data indicative of the position of the wearable device to the memory of the RFID tag, wherein the RFID tag is configured to transmit the signal indicative of the position of the wearable device from the memory to the RFID reader in response to receipt of the electromagnetic radiation from the RFID reader.
14. _____ The system of claim 13, wherein the tracking device comprises at least an accelerometer, a gyrometer, a pressure sensor, a sound sensor, or a light sensor.
15. _____ The system of claim 7, wherein the ~~processor is configured to adjust the~~interactive element is an image.
- ~~15.16. _____ The system of claim 7, wherein the attraction based on the detection of the interaction between the wearable device and the element is within an amusement park.~~

~~16.~~17. _____ A method, comprising:

_____ transmitting electromagnetic radiation from a radio-frequency identification (RFID) reader;

_____ harvesting power from the electromagnetic radiation using a power harvesting circuit of a wearable device;

_____ utilizing the harvested power to operate a sensor supported by the wearable device to monitor a position of the wearable device;

_____ utilizing the harvested power to operate a microcontroller supported by the wearable device to write data indicative of the monitored position to a memory of a RFID tag supported by the wearable device; ~~and~~

_____ transmitting identification information and the data from the memory of the RFID tag to the RFID reader in response to receipt of the electromagnetic radiation from the RFID reader; and

~~17. The method of claim 16, comprising~~ determining, using a processor, that a guest interacted with an interactive element of an attraction based on the transmitted identification information and the transmitted data.

18. _____ The method of claim 17, comprising adjusting, using the processor, the interactive element of the attraction based on the determination that the guest interacted with the interactive element.

19. _____ The method of claim ~~16~~17, wherein the sensor comprises at least an accelerometer, a gyrometer, a pressure sensor, a sound sensor, or a light sensor.

~~20.~~ 20. _____ The method of claim ~~16~~17, comprising generating a control signal, via the microcontroller, ~~in response to receipt of the electromagnetic radiation from the RFID~~

~~reader~~ to illuminate one or more light emitting diodes (LEDs) supported by the wearable device to facilitate detection of the wearable device by an external light detector, wherein the microcontroller is configured to generate the control signal in response to receipt of the electromagnetic radiation from the RFID reader.

21. The method of claim 17, comprising updating, using the processor, a database to award points to the guest in response to determining that the guest interacted with the interactive element of the attraction.