

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; 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 RFID reader.
2. The device of claim 1, wherein the wearable device comprises an energy storage device configured to store power.
3. The 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 device of claim 1, wherein the monitored condition of the wearable device comprises a position of the wearable device.
5. The 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 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 element of an attraction based on the received identification information and the received signal.

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 element of the attraction based on the detection of the interaction between the wearable device and the element.

16. 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.
17. The method of claim 16, comprising determining, using a processor, that a guest interacted with an 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 element of the attraction based on the determination that the guest interacted with the element.
19. The method of claim 16, wherein the sensor comprises at least an accelerometer, a gyrometer, a pressure sensor, a sound sensor, or a light sensor.
20. The method of claim 16, 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.