CLAIMS

1. An apparatus for a diaper, the apparatus comprising:

   two electrodes; and

   an electronic device coupled to the two electrodes;

   the two electrodes being operable to generate a potential difference when electrically connected together by ionized liquid, and the electronic device being operable to generate an alarm signal when the potential difference is generated.

2. The apparatus according to claim 1, wherein each electrode is made of a different material.

3. The apparatus according to any one of the preceding claims, wherein one electrode comprises a metal.

4. The apparatus according to any one of the preceding claims, wherein one electrode comprises carbon.

5. The apparatus according to any one of the preceding claims, wherein one electrode is rectangular or arc-shaped.

6. The apparatus according to any one of the preceding claims, wherein the electrodes are parallel with each other.

7. The apparatus according to any one of the preceding claims, wherein the electrodes have different lengths and/or widths.

8. The apparatus according to any one of the preceding claims, further comprising a sheet of flexible material, wherein the electrodes are printed onto the sheet of flexible material.

9. The apparatus according to any one of the preceding claims, wherein the electronic device comprises a speaker and the alarm signal comprises an audio signal emitted from the speaker.

10. The apparatus according to any one of the preceding claims, wherein the electronic device comprises a light source and the alarm signal comprises a visual signal emitted from the light source.

11. The apparatus according to any one of the preceding claims, wherein the electronic device comprises a transmitter and the alarm signal comprises a communication signal transmitted from the transmitter.

12. The apparatus according to claim 11, wherein the electronic device is operable to measure a value of the potential difference and cause the transmitter to transmit the communication signal in dependence on the value.

13. The apparatus according to claim 12, wherein the electronic device is operable to periodically measure the value of the potential difference and periodically cause the transmitter to transmit the communication signal in dependence on the value.

14. The apparatus according to claim 11 or 12, wherein the electronic device is operable to generate the alarm signal only when the value of potential difference is at or above a threshold value of potential difference.

15. The apparatus according to any one of the preceding claims, wherein the apparatus comprises one or more additional electrodes, each additional electrode being coupled to the electronic device, and the electronic device being operable to generate the alarm signal when the potential difference is generated across at least two electrodes.

16. The apparatus of claim 15, comprising at least two arc-shaped electrodes together forming at least a portion of a circle, and a further electrode being positioned inside the circle.

17. The apparatus of claim 16, wherein the further electrode is positioned at a center of the circle.

18. A system comprising:

an apparatus as claimed in any one of claims 11-17; and

a server having a receiver operable to receive the communication signal from the apparatus, the server being further operable to generate an indication that the communication signal has been received.

19. The system of claim 19 or 20, comprising:

two or more apparatuses as claimed in any one of claims 11-17, each apparatus being operable to include a unique identifier in a communication signal transmitted from the apparatus, the unique identifier uniquely identifying that apparatus, and

wherein the server is operable to determine which apparatus transmitted a received communication signal based on the unique identifier in the received communication signal and to provide a reference to the unique identifier with the indication corresponding to the received communication signal.

20. A diaper comprising the apparatus as claimed in any one of claims 1 to 18.