Battery Life Detection Using Connector Pin

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TATA CRUCIBLE HACKATHON

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Deliverables :

- Problem statement
- Other solutions already present
- Your solution
- Expected results
- Investment required for implementation

Problem Statement

- To Measure the residual life of battery in the Watch at the point of sales in the Stores, Service with or without opening the watch back cover

Details of the Solution

- The path made for the crown in the watch can be used.
- A connector pin can be made such that it is small as crown and has slots to measure the battery's lifespan.
- Here the manufacturer has to create/set an arrangement, such that a small component like an audio jack can be inserted in the watch.
- The arrangement mentioned above is that it should be able to seat the pin (that is the form of audio jack, say X) and an interrupted battery circuit that is exactly same as in an audio jack.
- The pin (X) should have at least 2 slots, one for positive and another for negative terminal.
- This pin (X) should be modified such that they act as the probe leads and can be connected to a multimeter.
- The watch can be prevented from further wear and tear by using waterproof (O-ring) crown.

Benchmark of the Solution

1. Having a thin light strip at the side of the dial. Flaw - The trademark for analogue is gone.
2. Having a Bluetooth mechanism inside the dial as the watch can be connected to a phone. Flaw - The Bluetooth mechanism consumes more power from the battery.

Novelty of the Solution

1. No alterations are needed in the watch case.
2. No use of digital circuitry is implemented.
3. No separate device is needed.
4. Battery life can be determined whenever needed.
5. Sales can be increased by selling the connecting pins.

Feasibility of the Solution

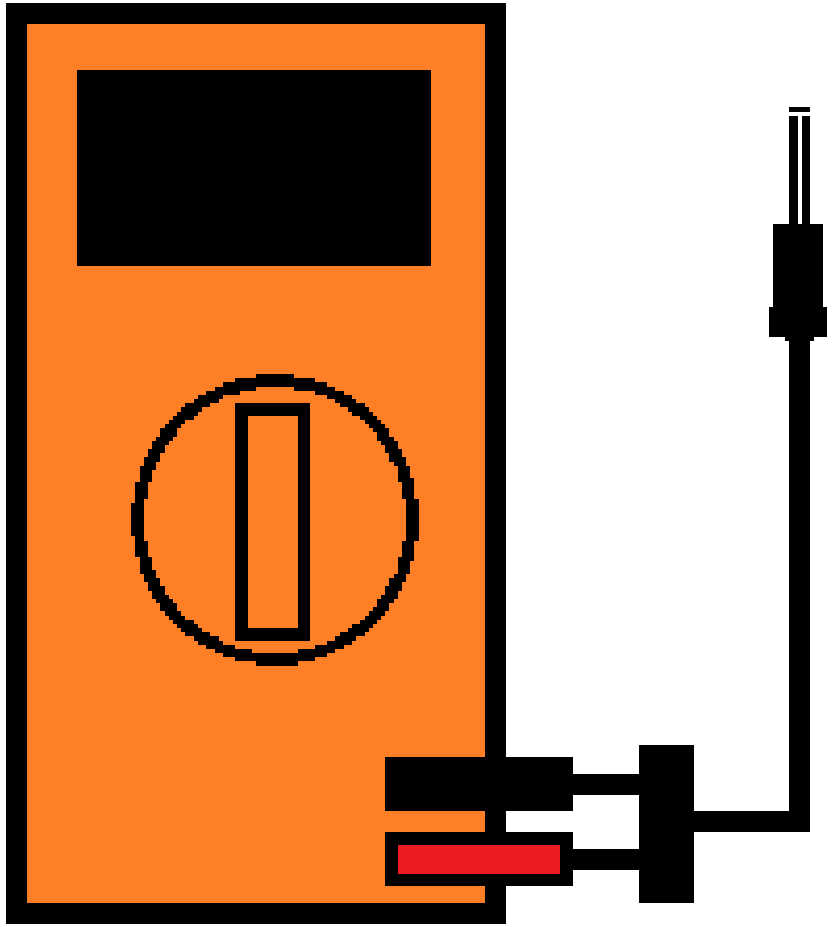
- A watch may roughly give a profit of Rs.3,000 and more.
- With the given arrangement, it could yield up to Rs.4,000.
- So, a mass production (say 500 watches) is manufactured, and it yields up to Rs.20,00,000 (± 10%). This is for only one model.
- For calculating profit for every model, it would give an average profit of Rs.45,00,000 (as the profit of the high selling model tallies the profit of the low selling model).
- So, an investment of Rs.9,00,000 (20% of the net profit, ±5% can be done according to the upcoming statistics) is required to implement our solution.

Annexure I

Note:

- Add all supporting images, diagrams, illustrations, documents, research papers, etc. as an attachments in subsequent slides.
- Provide some details about the attachment in short.

A Prototype for Connector Pins



THANK YOU