"An IOT based online motoring system for textile looms"

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Abstract

Monitoring solutions using the Internet of Things (IOT) techniques, can continuously gather sensory data, such as rpm and breakage of waft and warp, and provide abundant information for a monitoring centre. Nevertheless, the heterogeneous and massive data bring significant challenges to real-time monitoring and decision making, particularly in time-sensitive industrial environments.

Keywords *Weft breakage, warp breakage, rpm of take-up motion and late off motion, backup sensor, IoT.*

Literature review

To date, the industrial IoT has been emerging as a novel technical pattern enabling a widespread application of the IoT in industry where physical sensors gather data from the industrial field and deliver the message to the Internet. The collected real-time big data, in turn, contribute to the online monitoring of manufacturing environment and the optimizing of entire industry.

However, there are serious challenges since industrial applications have strict requirements on delay, reliability, and security. A number of research efforts have been made to cope with the above challenges. Kong *et al.* proposed an environmental space time improved compressive sensing algorithm for data loss and reconstruction in sensor networks, based on the features of spatial correlation, temporal stability, and low-rank structure. To deal with the event reporting scenario.

On the other hand, Cloud computing and other distributed computing techniques have been explored to deal with the massive data. Tao *et al.* investigated the applications of IoT technologies in Cloud manufacturing to obtain intelligent perception and access of various manufacturing resources.

Introduction

An Online monitoring system is essential to monitor environment conditions and working status of major equipment in industrial fields, so as to achieve accurate failure prediction, timely repair, and maintenance of the equipment. Such system contributes to the integration of operation, maintenance, and management of the equipment. Nevertheless, being limited by the severe conditions of industrial environment, most measuring methods are unreliable or too expensive to maintain. The demand for online monitoring and maintenance, repair, and overhaul (MRO) services has been constantly rising

Block Diagram

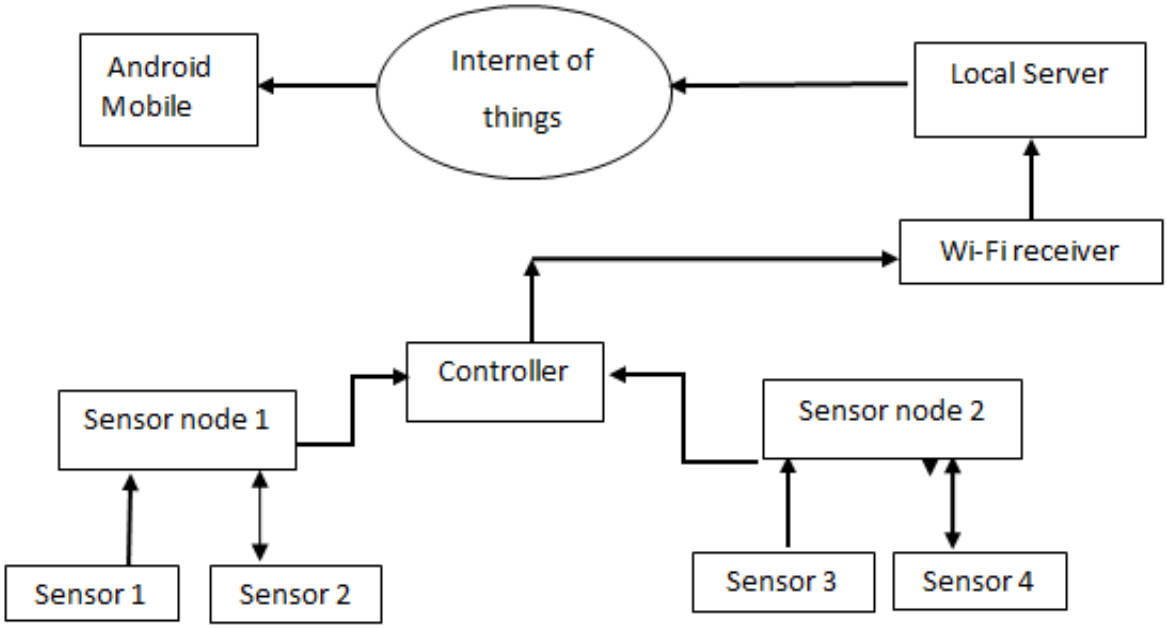

Fig no 1 block diagram of textile loom

1. **Sensors:** Sensors are used to collect the data and these sensors will send data to sensor node.

2. **Controller**: It reads input from sensors. It will switch to another sensor if it will not works data will send to server in cluster format.

3. Iot : The Internet of Things (**IoT**) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

4. Mobile App: Her mobile app is used to see the result using Iot and showing the result in tabulate format which is used full to textile loom owner which can be utilised any where.

Conclusion

1. Quality parameters can be displayed over textile owner and textile person in the industry. This reduces technical manpower need in the industry.
2. Under any node's failure, backup sensor takes its place and the process goes seamlessly.
3. Data generated during failure of one sensor and introduction of new is stored for analysis.
4. The exact reason of failure can be found with these observations.
5. The IoT and sensor support allow weaving process to its maximum rate.
6. The overall quality and rate of production is increased.

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