International Journal of Scientific Research and Engineering Development-– Volume 3 Issue 2, Mar-Apr 2020

Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

MOULD MONITORING SYSTEM

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Abstract—**Management of the products and various variety of materials is vital so as to realize greater efficiency. There are various industries which produce various products and it becomes very hectic for them to stay track of every product. the info required for keeping track of each product includes manufacturing date, expiry date, servicing date etc. Many product developing industries need to manage various materials. it's very difficult to watch this data manually. Various mechanical companies manufactures moulds for product generation, they need to cope with great deal of information like number of moulds created per day, efficiency of a specific mould, expiry of mould and plenty of more things. there's requirement of giant amount of labor for maintaining this data and also require excessive interval. the target of this method is to supply web based data management for mould monitoring. The proposed system consists of the many parts.(1)product related data entry.(2)provide product servicing alert.(3)Overall report generation about specific mould. There would be various types of reports which will be generated by this web application.**

Keywords-Mould,Redux,React,Monitoring,Maintenance

I. INTRODUCTION

Mould may be a hollow cavity which may be formed by using the pattern. Pattern may be a replica which desired product to be made. Generally mould is made by sand and liquid molten metal is poured into cavity and after a while molten metal solidify and desired product is made.

Automatic monitoring of products may be a vital aspect in industries. there's a industry named Taparia Tools in Satpur which produces various sorts of tools from differing types of moulds. There are various sorts of moulds employed in this industry to form tools like spanners,screw drivers etc. But keeping track of those products become very difficult.They don't have any software or application which stores details about any mould/product. Every work is completed on paper and there's no proper system which stores each and each detail of product. there's a necessity of a platform which is able to store each and each detail of a mould currently being employed, to whom a specific mould is sold, expiry date of mould etc. during this project, we are developing a web-based application that may be beneficial for keeping track of every mould in industry. This web-based application will have an alert notification system which is able to alert the information entry person about the servicing and maintenance of a specific mould which goes to expire. This web-based application will help to stay the information safe within the database which in future is used for analysis. it'll also reduce the load of employees in industry. This application is employed in many industries for keeping track of products. Mould Monitoring system has become an integral part for various mould industries in data management and development of mould. it's essential in determining the standard and era of a particular mould. within the current mould-making industries, the challenge is to shorten the mould lead-time while maintaining the specified quality. this can be one in every of the most demands from customers so on maintain a competitive edge over the competition. While mould industries are always improving on their systems to cater to the rapidly changing industry, one in every of the common issues that are still plaguing them is that the management of enormous quantities of knowledge within a mould project. Within the current practice of local mould-making industries, the majority the information for the mould design, manufacture and testing stage are often either confused or duplicated unnecessarily. As a result, it becomes less responsive when changes are required since manual decision-making and sorting of those data are required. With the increasing complexity of plastic part design, the corresponding mould design, manufacturing, and testing data also increase in both quantity and complexity. the standard method of managing these data would take up a considerable amount of your time. This issue may well be resolved by incorporating a knowledge management system that specifically caters to mould-making industries into their practice.

Problem Statement

To develop a system or application which keep track of mould manufacturing. we aim to create user friendly application or system which provide data related to moulds,sends alert for servicing and report generation. parameters, such as body temperature, heartbeat, and blood pressure thus, this task becomes tedious after sometime. As the system is wired the problems arises are difficult for the patient to move .Difficult

and tedious when the same doctor has to monitor many patients simultaneously.

II. LITERATURE SURVEY

Mould Monitoring system has become an part for various mould industries in data management and development of mould. it's essential in determining the standard and lifetime of a particular mould. Within the current mould-making industries, the main challenge to overcome is to reduce the mould producing time and to do proper monitoring of each mould. This is often one amongst the most demands from customers so on maintain a competitive edge over the competition. While mould industries are always improving on their systems to cater to the rapidly changing industry, one amongst the common issues that are still plaguing them is that the management of huge quantities of information within a mould project. Within the current practice of local mould-making industries, the majority the information for the mould design, manufacture and testing stage are often either confused or duplicated unnecessarily. As a result, it becomes less responsive when changes are required since manual decision-making and sorting of those data are required. As the mould plastic part design is becoming complicated; the time complexity is increasing. Also the corresponding mould design, manufacturing,designing, testing data is also increasing in both quantity and complexity. The standard method of managing these data would take up a considerable amount of your time. The problem can be solved by using a knowledge management system that is mostly provided to mould generation industries into their practice. The following paper shows a proper method for the information from the various stages of the mould project may be managed more effectively through the use of templates. This framework is split into modules to cater for the varied stages of the mould project. A case study is presented let's say the proposed framework for mould data management[1]

Mould Monitoring System :This paper presents a scientific approach, from domain investigation and functional requirement analysis, through modelling to implementation, to development of a collaborative data management framework that produces use of object-oriented techniques. This structural framework can help in data sharing and team data management in parallel product and process development by providing functions for project configuration, personal product and process item management, and team library management. Establishing this framework involves: 1) To identify functional requirements for computer engineering data management through the investigation of a parallel product delivery process with focus on product and process development; 2) Use of system engineering and object oriented modelling techniques for building the proposed framework. A product model and a project configuration are combined for an object model and a functional model. They are used together because the basic work of the collective team data storage model.[2]

TABLE 1

SUMMARY OF LITERATURE SURVEY

Author	Year	Workon
M. L. H. Low et al[1]	2008	Mould data management in plastic injection mould industries.
Yuh-Min Chen et al[2]	2011	A collaborative data management framework for concurrent product and process development.

III. SYSTEM ARCHITECTURE

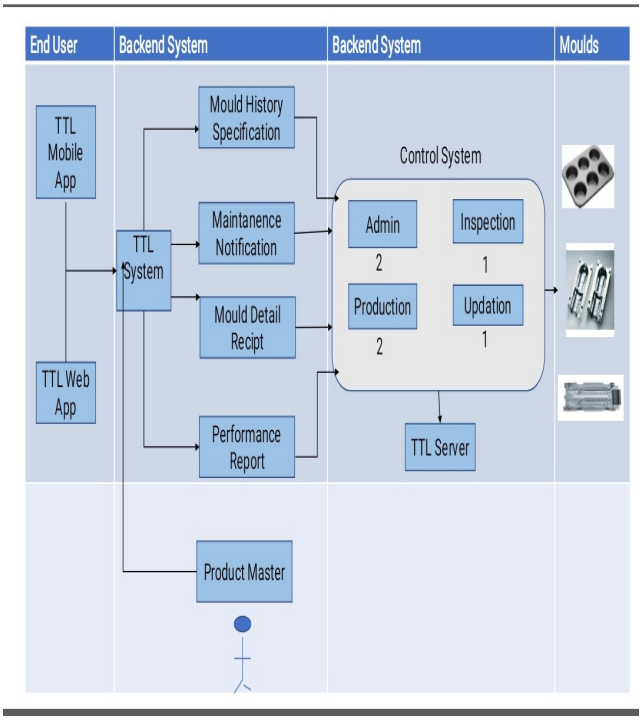
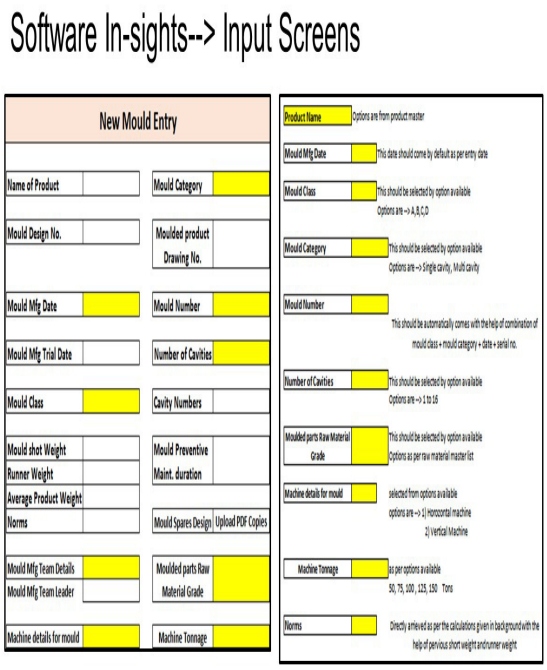


Fig. 2 System Architecture

This architecture contains total six logins to be used by industry. Two logins for Admin and Production department and one login for Updation and Inspection department.



REACTJS:

React is additionally called ReactJS. React is nothing but simple Javascript library which is employed for building user interfaces.
React is maintained by Facebook and a community of individual companies and developers.[8]

React is consider as a base used for development of single-page or mobile application. However, Work of React is barely rendering data to the DOM, then creating React applications usually requires the utilization of additional libraries for routing and state management. Example of such libraries are Redux and React Router.[5]

What is Node.js?
Node.js is free and open source environment Node.js may be a platform independent meaning it can run on any platform like Windows, Linux, Unix, Mac OS X, etc. On the server side Node.js uses Javascript.[6]

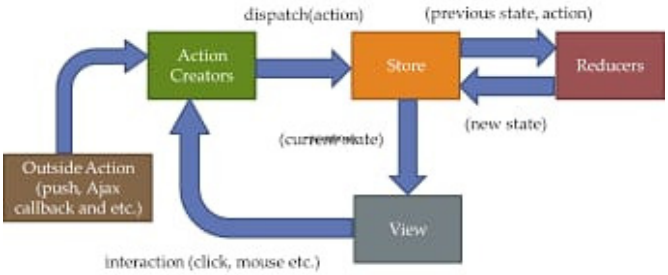
Why Node.js?
Node.js uses asynchronous programming![13]
A common task for an online server is to open a file on the server and return the content to the client.

Following are the steps that specify how PHP or ASP handle a file request:
1.Sends the task to the computer's classification system.
2.Waits while the classification system opens and reads the file.
3.Returns the content to the client.
4.Ready to handle the subsequent request.

Following are the steps that specify how Node.js handle a file request:
1.Sends the task to the computer's classification system.
2.Ready to handle the subsequent request.
3.When the classification system has opened and browse the file, the server returns the content to the client.
4.Node.js eliminates the waiting, and easily continues with the subsequent request.
Node.js runs one-threaded, non-block, asynchronouscodingwhich is extremely memory profitable.

What Can Node.js Do?
Node.js accustomed generate dynamic page content
It is also accustomed create, open, read, write, delete, and shut files on the server
Node.js can collect form data and store into database.
The operation like insertion, deletion, updation and modification on database is additionally done by Nodejs.[12]

What is a Node.js File?
Node.js files contain tasks that may be executed on certain events.
A typical event is someone trying to access a port on the server of
Node.js files must compulsorily be started on the server before having any change.



REDUX

Redux is nothing but a storehouse which contains the state of the applying. It becomes a painful task when the scale of application becomes large to manage the state of every component in your application. So redux involves our rescue in doing so and maintaining and updating the state of every component in our application.Redux is commonly found confusing after we try our hands on that for the primary time. So i'll quote an example to form you understand what redux is and why can we need redux in any respect.In react application there's unidirectional data flow by unidirectional I mean data flows from parent components to child components not the opposite way around so you send the information from parent components to child components within the style of what we call as props then this child component make use of this

prop.In react application everything could be a component Imagine how difficult it becomes if there are too many components in your application just like the one within the image given below so it becomes difficult to manage the flow of information from parent to child components. this is often the primary reason why we use redux because it manages the states of all the components for us. Redux is free for all which means it is open source JavaScript library for managing application state There are few concepts which you wish to grasp for understanding redux properly. I'll try and explain them with the assistance of an example. Let's say you ordered pair of shoes from flipkart after ordering the shoes you get the delivery from the delivery agent during a specified time. So here your ordering of shoes could be a action which is one in all the concepts of redux. After you perform an action here during this case ordering of shoes is an action you await the delivery but does it happen like that as soon as you order something from flipkart you get the delivery immediately. No in point of fact it takes time and there's a process which gets followed everytime once you order something from your favorite website. So similarly in redux after performing the action there's a term called dispatch that sends your action to reducer. Similar to after placing the order your package is shipped to nearest warehouse to your address. the identical add redux is finished by dispatch. Now Reducer looks at the action and accordingly do what it must do for storing the information future. Reducer is nothing but a file consisting of switch case statement and used for storing the information during a store and returning the updated state value from the shop. So whenever the state is updated the worth within the store gets updated too.[7]

CONNECTING TO MYSQL USING THE NODE-MYSQL PACKAGE

With the help of nodejs we'll easily connect node-mysql package to MySQL database. Before establishing this connection, we must install the node-mysql package on our account. For this installation we must follow these steps:
Log in to your account using SSH.
Type the next commands:
cd ~
npm install mysql

Code sample

After you put in the node-mysql package, you're able to work with actual databases. the subsequent sample Node.js code demonstrates the way to do that .

In your code, change dbname with the database name, and username with the MySQL database username, and password with the database user's password. Additionally, you ought to modify the SELECT query to match a table in your own database:

```
var mysql = require('mysql');
var connection = mysql.createConnection({
host : 'localhost',
database : 'dbname',
user : 'username',
password : 'password',
});
connection.connect(function(err) {
if (err) {
console.error('Error connecting: ' + err.stack);
return;

console.log('Connected as id ' + connection.threadId);
});
connection.query('select * from employee', function (error, results, fields) {
if (error)

throw error;

results.forEach(result =>{
console.log(result);

});

});
connection.end();
```

This demo creates a MySQL connection object that connects to the database of MySQL. After the database connection is established, you'll use the method of query to run raw or anyother SQL statements (in this case, a get query on a table named employee).[4]

IV. CONCLUSION:

The web-based application that will be developed will be very beneficial for various industries , which at the moment don't have any automatic monitoring system which will help to track of each and every work in industry. Also this system will give an alert notification message to data entry person and the management team to take some actions based on the message.This system is for tools industry which will help to know live status of each mould. Also searching of any data can also be done with the help of this system.

V. ACKNOWLEDGMENT:

It gives us great pleasure in presenting the preliminary report on Mould Monitoring System. It is indeed a pleasure to express our thanks and gratitude to all those who have helped us. No serious and lasting achievement or success one can ever achieve without the help of friendly guidance and co-operation of so many people are involved in the work. We are extremely thankful to Dr. V. S. Pawar, Head of Department, Computer Engineering for permitting us to undertake this work. We express our heartfelt gratitude to our respected internal guide Mr. S. A.Talekar for his kind and inspiring advice which helped us to understand the subject and its semantic significance. He enriched us with valuable suggestions regarding our topic and presentation issues. Finally, we would like to appreciate all our great teachers and

mentors throughout our academic career without whom we would not have achieved this milestone. We are also very thankful to all our colleagues who helped and co-operated with us by their active participation.

REFERENCES:

[1] Low, M. L. H., Lee, K. S. (2008). Mould data management in plastic injection mould industries. International Journal of Production Research, 46(22), 62696304.

[2] Chen, Y.-M., Hsiao, Y.-T. (1997). A collaborative data management framework for concurrent product and process development. International Journal of Computer Integrated Manufacturing, 10(6), 446469.

[3] Firebase Cloud Messaging https://firebase.google.com/docs/cloud-messaging

[4] https://www.a2hosting.com/kb/developer-corner

[5]ReactJS.org, Available on ReactJS official'. [Online].Available:http://www.ReactJs.org .

[6] NodeJS.org, Available onNodeJS official'. [Online].Available:http://www.NodeJs.org .

[7]Redux.[online] https://daveceddia.com/what-does-redux-do/

[8] A javaScript Library for Building User Interfaces [Online] URL: https://facebook.github.io/React/.

[9] Stefanov Stoyan.(2016). React: Up and Running: Building web Applications. First Edition.

[10] Horton Adam And Vice Ryan.(2016). Mastering React.

[11] Stein Johannes.(2017). ReactJS Cookbook.

[12] N. Chhetri. (2016). "A Comparative Analysis of Node.js (Server-Side JavaScript)," Culminating Projects in Computer Science and Information Technology.

[13] R. R. McCune.(2011). "Node.js Paradigms and Benchmarks,".

[14] S. Tilkov And S. Vinoski.(2010) . "Node.js: Using JavaScript to Build High-Performance Network Programs", IEEE Internet Computing.

