QR BASED APP FOR MANAGEMENT OF AIRPORT EQUIPMENTS

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ABSTRACT

The main objective of is to view all the details of any equipment and updating it just by scanning a QR/Bar code printed on that device so airports traffic can easily manage the inventory. It will be helpful in better managing of the device as they can easily check the history of it. Notifying the airport authority about the due dates for service of the device.

I.   INTRODUCTION

A mobile based inventory management system using QR code application. A mobile application is required that is capable of -

a.) Having all the details of the equipment like S/N, Date of Installation etc. by scanning a QR code/ barcode.

b.) Readily accessing the past service record by scanning a QR code/ barcode.

c.) Entering the details and updating service history on the spot, just after maintenance.

This app simply scans the QR code printed on the equipment. And then retrieve its info from the database and the database contains info like date of purchase it's service history its maintenance info and no. of times it is used or currently it is in use or not.

It will also notify the airport authority about the due dates for maintenance and service of any crucial equipment to minimize errors. If the equipment is not available it will notify the date and time when it will be back. The user can easily update that info from the very app. This app has a very simple GUI making it easy to use by anyone.

II.   LITERATURE SURVEY

Inventory Management is one of the key areas within an Aircraft Servicing and Maintenance organization. The management of aircraft spares, Line Replacement Units (LRUs), Rotables, special hardware items and consumables of an aircraft or aircraft servicing, maintenance, repair and overhaul (MRO) facility includes several key areas starting from demand management, modelling and forecasting, material management, order fulfilment and tracking of movements, warehouse management and physical inventory control. In a traditional hierarchical inventory system, direct orders are the only information for inventory management that is exchanged between the firms in the Supply Chain. But due to the rapid development of modern information technology, it becomes possible for the firms to share more information in real time.

III.   PROBLEM STATEMENT

Airports play a substantial role on the economic growth and development of cities and regions. In today's knowledge economy, far and away, the most precious cargo they move is people. The equipment's used in these places work continuously without break therefore tracking their maintenance is a big challenge for airport authority. This app will be like a butter to their bread as it will keep a record of the history of this equipment. Worker can easily retrieve the data of any equipment in use just by scanning the QR code printed on these machines.

IV.   PROPOSED SYSTEM

This app simply scans the QR code printed on the equipment. And then retrieve its info from the database and the database contains info like date of purchase it's service history its maintenance info and no. of times it is used or currently it is in use or not.

This app has a very simple GUI making it easy to use by anyone. It works in some simple steps and process

Step 1) A verified worker can needs to login into it using his/her ID no. After that he has to scan the QR code printed on the machine he wants to retrieve info of.

Step 2) The QR code will contain the basic info of the machine-like S.no and model no. and a unique id.

Step 3) Using that unique id, no the app will retrieve its history from central database of the airport.

Step 4) The worker can see that info from the app it the worker is permitted to update the info he can easily update any info of that machine

V.   FRONT-END

In front-end coding, we use three languages that are HTML, CSS, JavaScript and Angular. Html is used for creating webpages and CSS is used to control the layout of multiple web pages all at once and JavaScript is used for providing functioning to elements and Angular is used for customer interaction.

VI.   BACK-END

Node.JS and express.JS for framework, building of the app. Node.js have a huge, active, open-source, JavaScript-based ecosystem.
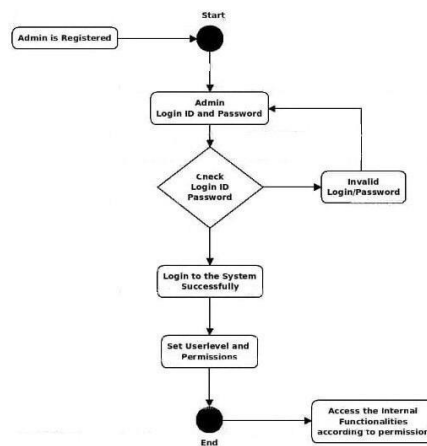
Node.js executes JavaScript code in its environment on the server, whereas Angular is a JavaScript framework that gets executed on the client (i.e., within a web browser.)
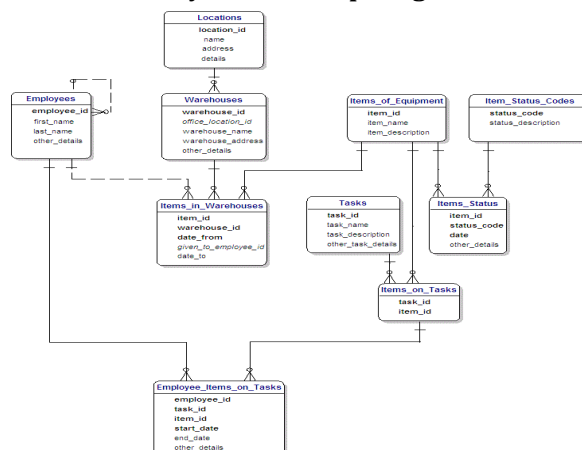
VII.   DATABASE

MongoDB is a relational, reliable, scalable and ease to use database management system. The core of Mongo DB Cloud is MongoDB Atlas, a fully managed cloud database for modern applications. Atlas is the best way to run MongoDB
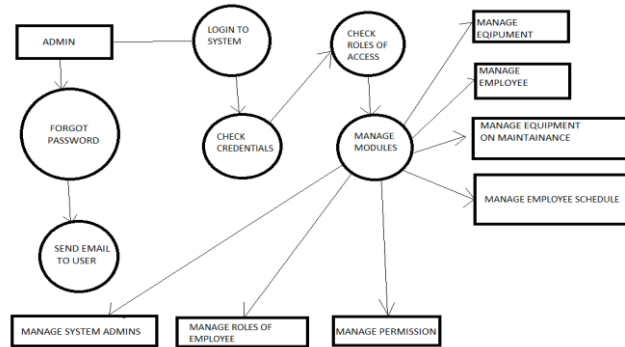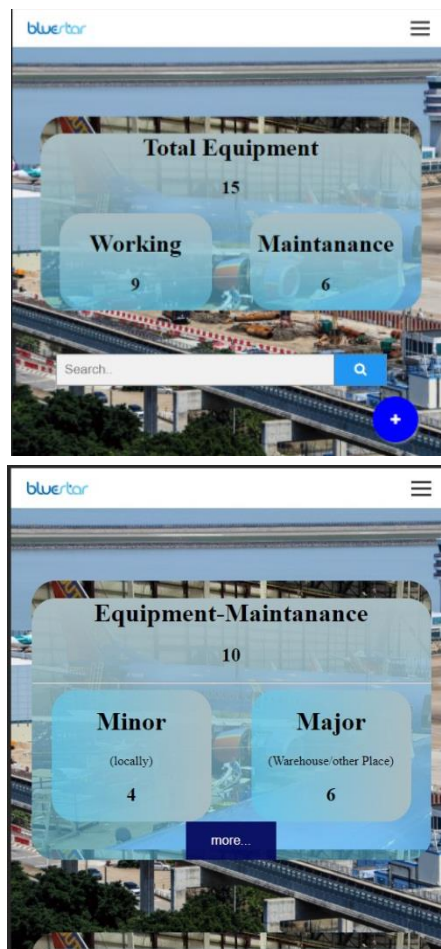
VIII.   DIAGRAMS

Data Flow diagram

Entity Relationship Diagram

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UML Diagram

IX.   WORKING MODEL

X.   CONCLUSION

It is an easy GUI based QR code scanning app. This app can provide ease to the airport employees by easily maintaining data of all equipment's, their availability and working conditions

By sending reminder notification of due maintenance, it will remind the workers so that their performance is not compromised at any stage in any state

This app can be updated easily and new equipment's can be added by the airport management The updated forms of this app can also be used in mall and other places.

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XI.   REFERENCES

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