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FTS: File Tracking System for Railway Board

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Abstract: ***The aim of this paper proposes a project based implementation File Tracking System (FTS) used in private and mostly in government sector. This project is built on Railway System using three tier architecture. This application is used to prevent corruption. There are a large number of departments in the Railway Department where file transfer is done from one department to another. The number of files moving within the specific time duration, file allocated to any employee and whether the file has been forwarded or not. Sometimes if someone has to do corruption then they does not send that file forward, seeing all this problem we have developed File Tracking System (FTS), which track the movements of the file within the organization. This application will keep track the movement of files from one desk to another inside the department.***

I. INTRODUCTION

In this paper FTS is used for Railway Department System. There are two models in this project, one is Admin and another is the User. There are more than one department in the Railway Board. There will be more than one organization under the Admin, the Division Railway Manager (DRM), these are the Admin, they will be the departments. DRM can view the files of any department. Which files are move from one department to another department, Admin can see the movement of the file. The User will register, User can create a file, that file will go to a one desk to another desk of any section. While filing, User can also upload any document and submit it after submitting it will go to the receiver, after login of the receiver, it will receive, that file will be divided into two categories one will be “Active-file” and another is the “Inactive-File”. The “Active-File” will be a new file and the “Inactive-File” is the one whose complete work is completed which can be sent to next receiver. Whether to “Approve” the received file or not, it will be decided by the user and if the User select the “Approve”, then there will be the option of forward and complete. User can select the “Forward” option if the file needs to move for further approval and User select the “Complete” if the file does not required to move anyone and it will directly send to the Owner. User select the “Not Approve” the file will be send to the particular selected User and process of the file movement will be in progress. This process is infinite unless the User wants to stop it. Admin can see the file of each department, which file is stuck in which department for how many days. Sometimes someone wants to do corruption , he does not even send the file forward, in a way the file is stopped. Admin direct can send mail or message to the user of that department and ask why this file is stuck for so long, what is the reason for keeping it for so long and the user will have to tell about file to the admin. In this way the corruption will work because the Admin can see each and every movement of the file, so the user will not even hold the files and will approve the file and pass it on to the next receiver.

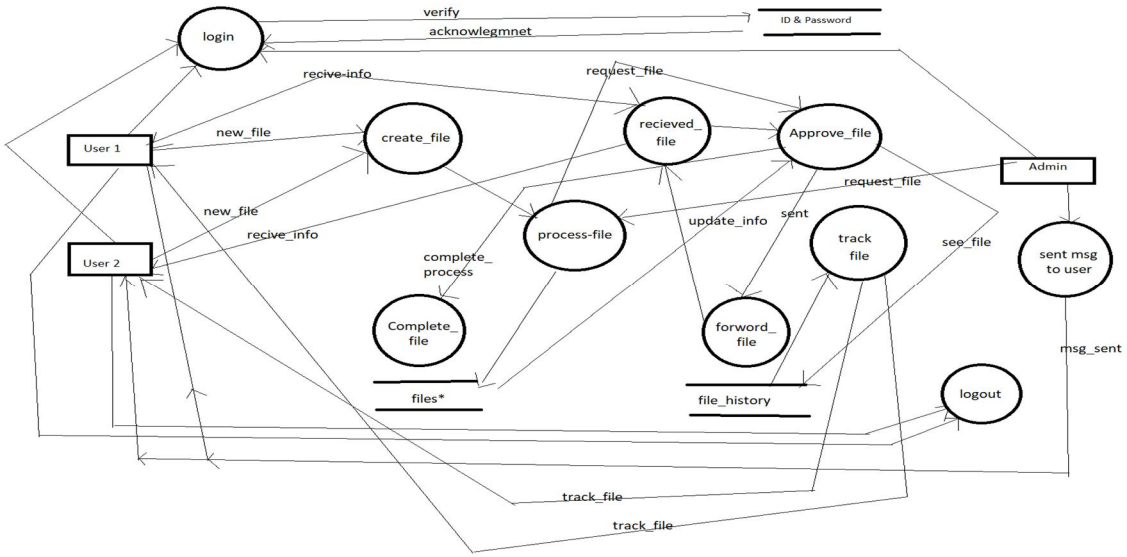


Fig. DFD diagram for file tracking system

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II. TECHNOLOGY USED

A. NET
B. HTML, CSS, JavaScript
C. Bootstrap
D. AES(Advance Encryption Standard) Algorithm
E. Three Tier Architecture

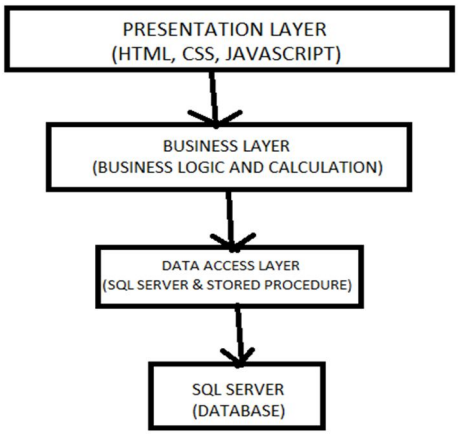
III. PURPOSE

The main purpose of this "FILE TRACKING SYSTEM" to track the movement of files. We have design a application which is very robust, simple and satisfying all the requirement of Admin and User. It is the unique module which provides end to end solution to Admin and User. Send message to department if any department holds files for longer time. Email and SMS notification can be sent to employee to notify them about the status and progress of their files. The system will be control by Admin/stem administrator. However there will be scope of improvement and future notification.

IV. ARCHITECTURE USED IN SYSTEM

The architecture used in this system is Three Tier Architecture. In three tire architecture we have three Layer.

1) *Presentation Layer:* This is the top most layer. The presentation layer is used for User Interface. It is related to the user can easily interact with the system that is what the user sees. This layer is to translate tasks and results in something which the user can understand. It contains pages web forms and windows form which is used to data is presented to the user and use to take input from the user. It is the most important layer because it is the one that the user sees and good UI attracts the user and this layer should be designed properly. It contains the HML, CSS and JavaScript.
2) *Business Layer:* This is middle layer. This layer involves C# classes, coding, logical calculations and operations are performed under this layer. In this layer we can processes the command and makes logical decisions and performs particular calculations. It is the middleware between two layers that is presentation and data access layer. This layer also validates the input conditions before calling a method from the data layer. This ensures the data input is correct before proceeding, and can often ensure that the outputs are correct as well. This validation of input is called business rules.
3) *Data Access Layer:* In this layer ado.net is used to connect the business layer to the database or data source. It contains methods which are used to perform operations on database like insert, delete, update, etc. It contains stored procedures which are used to query database. Hence this layer establishes a connection with the database and performs functions on the database.



V. ADVANTAGE OF 3-TIER ARCHITECTURE

Update new graphical environments is easier and faster. It provides logical separation between presentation layer, business layer and data layer. By introducing application layer between data and presentation layer, it provides more security to database layer hence data will be more secure. Easy to maintain large and complex projects. You can hide unnecessary methods from the business layer in the presentation layer. Data provider queries updated and OOP's concept easily applied on project.

VI. ALGORITHM USED IN SYSTEM

The most commonly used Symmetric Algorithm is the AES (Advance Encryption Standard) algorithm is used in this system. As stated by Shish Ahmad et. Al. in [2] symmetric key algorithms are preferred over the public key cryptography. The more popular and widely adopted symmetric encryption algorithm likely to be encountered nowadays is the Advance Encryption Standard (AES).It is found at least six times faster than triple DES. A replacement for DES was needed as key size was too small of it increasing vulnerable against the exclusive key search attack. Triple DES was are designed to overcome these add drawback but it was the found slow.

In this project ASE Algorithm is used for this because if any hacker wants to access its password then he will get that password in encrypted form which will be in coded language which hacker will not understand and when we want to access password then we have to Will be found in the decrypted form, in this way you will be able to prevent the hacker from hacking the system's data. Cryptography is a very basic technique for data security in File Tracking System. It is ideal to choose the most efficient cryptographic algorithm in all aspects; operation speed, storage and power consumption [3].

The feature of a AES as follows:-

Symmetric key is a symmetric block cheaper 128 it data 128/192/256 bit keys stronger and faster than triple DES Provide full specification and design details software implementable in C and Java operation of AES. AES is an interactive rather than Feistel cipher. It is based on “Substitution Permutation Network”. It comprises of this series of link operations some of which involves replacing input by specific outputs substitution and other involve shuffling bits rounds the (Permutation). Interestingly AES performs all it’s a competition byte rather than bits his AES treats they 128 bits of plaintext.

VII. CONCLUSION

In this paper, we discuss, design and implement a file tracking system which is a web based application. We have done if for particular Railway organization which has lot to do with paperwork and as we know that paper work can be easily manipulates which encourages corruption. So, it is really helpful to terminate corruption, also improve file management process, increase staff efficiency, save staff energy and time, reduce cost and improve the work efficiency. By using this process work can be honestly done by employee and we can see how employees are working. It is very good and fast service and easy to use.

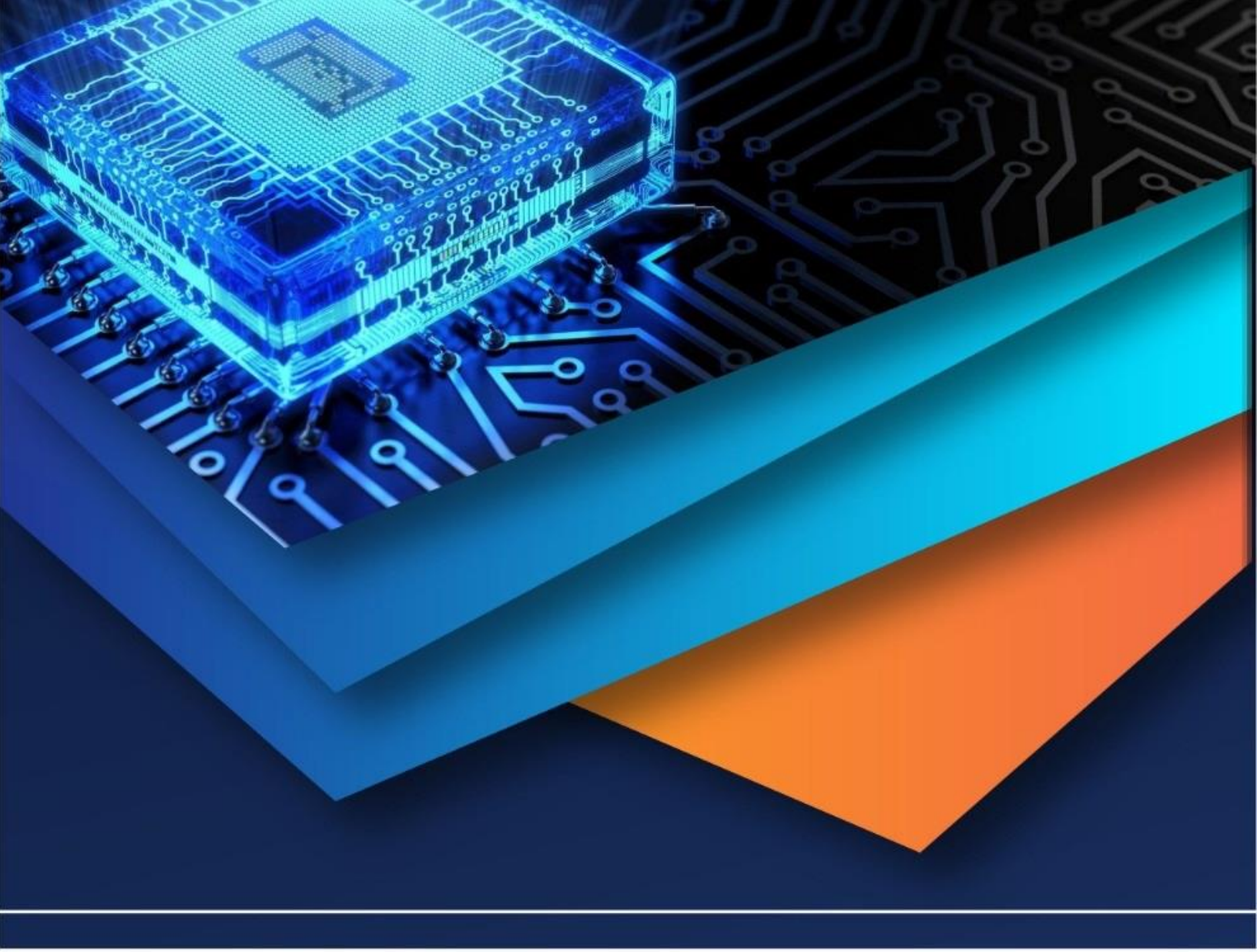
VIII. EXISTING SYSTEM

The existing system of railway organization include so many department like a division and subdivision and zones which are distributed according to their role and responsibility. Each department maintain millions of files and record which are maintained according to traditional method by sending the files from one department to another department. The system involve several entities including user who perform different activities within the system. As we know Railway organization is such a huge database which is really unable to process using traditional method which takes lots of time to process from clerk to office to main administrator.

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