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# Stepping towards e-Governance through Enhanced File Tracking System: A Functional Model using Integrated Support of ICT

Alok Malviya\*  
Dr. Piyush Kendurkar\*\*  
Kirti Vijayvargiya\*\*\*

## Abstract

*Procedures in Government departments cause creation and movement of files related with different issues among various departments/offices. Though the departments have dispatch and reception sections to keep record of dispatched and received files. Yet it is a common problem that due to various reasons, many a times, and the files get hanged up in some department, or it becomes wearisome to know the location/status of the file. This in general results in delaying the resolution of the concerned files. Also many times it may affects important projects to proceed/complete within time. The model presented in this paper offers an approach to bring e-Governance in this regard. Through innovative use of ICT, it offers transparency to know the status of files at various offices/departments. By use of Internet, Web Technology, and Database Servers it provides an active tool for tracking status of Files in various departments/sections. Besides it provides mean to quantify the workload and bottlenecks in procedures. Along with convenience in record keeping of file movements, it can also provide various useful statistical reports for future plans to improve QoS in public services.*

**Introduction:** Government departments in their operations have procedure of getting sanctions from competent authorities for any required task. Files related with these operations, from their instance of creation, keep on moving among different offices. Due to manual procedure for keeping or even automated but not uniform format of file movement details at dispatch and reception sections of these offices. The problems observed:

The overall manual process of file movement among these offices many times creates troubles and hurdles in most of the useful operations/processes suffering many expensive projects and leading to the downfall in performance of many department / projects. Some of the practical problems observed are as under:

- Due to missing entries in outward /dispatch sections at origin department the location of file could not be traced.
- Sometimes the missing entries in inward entry registers at receiving department may lead to lost of a file.
- Files remain pending at the desktop of a particular officer/authority for observation and yet it is not given due attention.
- Even after approval from concerned authority, the files still lay at the dispatch section without getting dispatched to the next office/department.
- The origin department / parties have to apply many efforts to trace the exact location/information/status

of the file and even leads to many of the mall practices like, sometimes illegally getting approval of the files, or sometimes even being complete in all the manners, still required to pay just for an approval.

- Also at one of important stages of this whole process, namely the Auditing process of the file, many times the concerned departments/parties have to put much efforts to get the file audited, and even the files complete with all the required sanctions/documents are unnecessarily hold at the audit department. In many cases even the competent authorities become unable to get the audit approval due to some or other reasons.

## Objectives:

- To bring due transparency in Offices, enable common people querying Government Office for knowing status of their application/queries.
- To provide a tool, that can help Administrators to get status of jobs pending at various desks and offices.
- To assist Administrators in Workload Management, at offices or sections.
- To let the Administrator and controllers identify bottlenecks in the process.
- To achieve improved QoS in Public service departments.

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\*Professor, Institute of Management Studies, Indore

\*\*Assistant Professor, Institute of Management Studies, DAVV, Indore

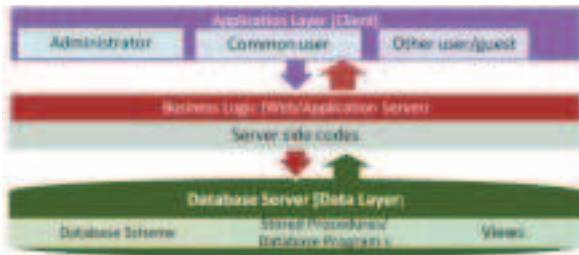
\*\*\* Assistant Professor, International Institute of Professional Studies, DAVV, Indore

- To provide various statistical reports assisting in resource scheduling process at various departments.

**Design of the Model:**

The model is based upon Database System, Web Technology and Mobile connectivity. Following is the description of design:

System Architecture:



The n-Tier Architecture consists of following:

- Client Interface

*Admin Interface* – The Admin Interface assists Controllers and Administrators in the Office to perform authentication and authorization type activities viz. Creation/Deletion of other users, Granting/Revoking of privileges, Defining/Changing departmental procedure for routine operations. These interfaces help the administrators with all the transactional states like Data insertion, Data deletion and Data updating along with the extensive data search capabilities.

*User Interface* - The 'generic user interface' helps the end users of the system in transactions through the existing data and required services. The operational user interface also helps the ordinary users to managing their own information in a customized manner as per the included flexibilities

*Mobile devices Interface* – Along with the web interface, the mobile interface provides the end users to access the system and track the status of their files through mobile devices.

- The Web/ Application Server - The Web Server/ Application server contains Business Logic embedded in XML, code back pages and server side controls. The Server is equipped with secured socket based connectivity and authentication system.
- The Database Server – The Database Server contains schema of the backend database including:
  - Table and Views such as, File Master, File Tracks, Users Master, Department Master, Process Master, User Privileges etc.
  - Stored Procedures and functions for backend process.

- Triggers attached to various tables handling automatic status updates for file under process.

Class Diagram:



System Flow Chart:



Description of the workflow:

- 1) A Master entry for file is generated with initiation of a request either from the office itself or from a visitor seeking any service.
- 2) With generation of file its unique electronic File identification is produced. Later on the file can be traced with its File-id.
- 3) After creation of file, it may either be sent to the internal officer or may be the dispatched to some other destination department.
- 4) All such movements of the file are recorded in File Tracks Table, with date, time, officer/department id and status like Pending/Objection/Cleared/Dispatched etc.

- 5) Each of the concerned officials is allotted a unique User Id. This User Id is used by the official to logon to their concerned section of the System and perform routine operations through it.
- 6) With Assignment of a file to concerned official, a File Track record showing this assignment with the User Id of the official is inserted. Beside a pending task in the task list for the same official is added with status "pending".
- 7) Officials logging in to the system, by default get a list of pending tasks, through which they select the next task for observation and process.
- 8) After observation, the officials either clear the file with Cleared OK status or, put the objection or any other appropriate remark, along with updating the online status for the said file accordingly from their task list interface.
- 9) After every update in status of the file, a trigger "TrgFileStatusUpdate" in back end database is automatically executed.
- 10) On significant status update or objection on the file, the initiator is informed through automated routines.
- 11) The Administrator/privileged users may get generated various useful reports viz.
  - List of Files (received/dispatched)
  - List of pending files (Department/ Official/ Category wise etc.)
  - List of cleared files
  - List of files having objections
- 12) Along with this, the administrators can produce various statistics for files with their department, as a performance measure, or with objective to identify bottlenecks, improve Quality of Service or for other managerial purpose.
- 13) The File records with fields Amount and concerned dept id, help to produce some other useful statistics like, Total Amount of files cleared/pending with departments etc.

#### Requirements

- IT Infrastructure – The Model has been developed on very commonly available Database, Web and Application technology as :
  - Database : Microsoft SQL Server 2008,
  - Web Server : IIS 9
  - Development Tool: ASP.Net, C#.net with .Net Framework 4.5, AJAX
- IT Skills - The system provides a user friendly interface that can be accessed through any common

web browser. Also it provides a mobile interface for clients with mobile devices. With its easy to operate convenient interface, even persons having less familiarity can easily access and operate it.

- BPR - The operations with the presented model may require little bit reengineering of process at offices in the departments so that the generation and updating of file records are mandatorily ensured.

**Conclusion:** Identifying status of applications and files at government offices is still a challenging job in Indian scenario. The model presented in the paper, with its simple but powerful features, provides an approach to achieve due transparency in public services. Along with this it can assist in measuring workload and identify bottlenecks in offices. With little efforts it can improve QoS in public services. The presented model is focused on monitoring status of the files as core functionality. There are many scopes for further improvement in the model to make its more useful. The overall motive behind our efforts in this paper is to come out with a functional model bringing transparent and responsible e-Governance Systems. Suggestions in this regard are welcome.

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