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Resource Organizer

Dr.N. Baggyalakshmi [a*], A.G. Harrini [b], Dr.R. Revathi [c]

[a*] *Assistant Professor, Department of Computer Science, PSGR Krishnammal College for Women, Tamil Nadu, India. E-mail: baggyanethra@gmail.com*
[b] *Student, BSC Computer Science, PSGR Krishnammal College for Women, Tamil Nadu, India. E-mail: 23bcs024@psgrkcw.ac.in*
[c] *Assistant Professor, Department of Computer Science, Karpagam Academy of Higher Education, Tamil Nadu, India. E-mail: revathilakshay@gmail.com*

Abstract

There are a lot of problems with the current system because everything is done manually. The present system's biggest flaw is the enormous physical volume of data, which makes searching for and retrieving specific pieces of information a pain. Papers containing information are susceptible to harm. It takes a long time to find out whether documents arrived or not when you have to handle everything by hand. At the time of product application, it will be rejected if any document is missing. It is really time-consuming to reapply for the product process. All these issues with the current method led them to believe that a computerised system would be better. All of these issues will be resolved by the automated system. There is a good probability that more people's time will be wasted in this communication scenario. It is quick, adaptable, and easy to use. Analysing a system is looking closely at all the different things it does and how they relate to each other and the world around them. Analysing a system involves doing things like drawing lines around it and checking to see if a potential system has to take other systems into account. Decision points and transactions processed by the current system are the subjects of data acquired during analysis. The project's backend was built in SQL Server and frontend was built in Asp.Net. A large number of managers are in charge of each and every one of an organization's operations. Manufacturing, production, marketing, and other facets of organisational management are overseen by these managers. An important problem with management is that, as time went on, they shifted their focus to human capital. Now, every company has a hierarchical structure, and each structure has its own unique purpose and character. Given that their people are their most valuable asset, larger companies in this situation must devote significant resources to human resource management. Organisational data evolved over time away from its core functions in this way. To sum up, a resource organiser is a piece of software that helps with the management and coordination of different resources. Assets can be either concrete, like machinery and buildings, or intangible, like human capital and time.

Keywords: Resource Organizer, Organization, Management, Communication.

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Introduction

Craftsman Automation is one of the manufacturing company engaged in the manufacturing of gray iron in Coimbatore. This company manufactures cast iron, rough casting for companies, automobiles, which assure the best quality for their products.

Beginning as a modest operation in the southern Indian city of Coimbatore in 1986, Craftsman Automation has expanded to become a frontrunner in precise production across many industries [1]. The dedication, customer focus, culture of quality, and distinctive emphasis on social responsibility of Team Craftsman Automation are all strengthened by their years of expertise in the engineering area.

Craftsman is able to offer comprehensive engineering solutions to a wide range of clients because of its varied manufacturing and design capabilities [2]. The capabilities encompass a wide range of operations, including product design, precision machining, surface and heat treatment, welding, fabrication, and precision assembly. Using their in-house process and tool design in conjunction with their client service, they help improve the manufacturability and cost optimisation of their products and processes.

The objectives of the project.

- To gain some practical experience and company knowledge
- To know the management system and administration
- To know the function and activities of office and management
- To know various aspects and workings of different department

Craftsman Automation manufactures and supplies precision components and sub assemblies for various powertrain applications. This includes engine components, transmission components, and other precision parts for automotive and industrial customers [3]. They also provide engineering and design solutions to meet customer requirements.

The company offers a range of automotive products such as chassis components, aluminium products, and body-in-white structures [4]. In the industrial sector, they provide customized solutions for material handling, robotics, and industrial automation.

Craftsman Automation places a strong emphasis on quality and has implemented robust quality control systems across its operations [5]. The company is ISO 9001 certified for quality management and ISO 14001 certified for environmental management. They also follow international standards and industry best practices to ensure compliance and customer satisfaction.

Literature Review

Leng et.al [6] As individualized demands increase, socialized resources must quickly self-organize using crowd intelligence in order to co-create open architecture products. The social manufacturing paradigm is driving a growing need for manufacturers to monitor product quality and authenticity. The cyber-credit of social manufacturing among different makers is handled by a new decentralized block chain-driven model called Makerchain. It is suggested to use a chemical signature-based anti-counterfeiting technique to symbolize the distinctive qualities of customized goods. It is realized and anticipated that twinning unique signature data to blockchain and other functional databases will increase the trustworthiness of manufacturing service transactions between makers. A decentralized manufacturing network can be enabled for the automated execution of smart contracts among makers, allowing for the verification of product lifecycles by third parties through a historical event trail. The suggested method for clustered makers to self-organize around customized demands is illustrated with the presentation of a Makerchain Decentralized Application (DApp).

Zhao et.al [7] Massive changes to education as well as unprecedented disruptions have resulted from the COVID-19 pandemic. These modifications might go away when classes resume, though. Furthermore, not all of the modifications to education are necessarily the ones we wish to see. The argument made in this paper is that the pandemic has presented a rare chance to implement educational reforms that were previously suggested but never fully implemented prior to COVID-19. Three major shifts in education are needed in the wake of COVID-19: curriculum that is personalized, developmental, and ever-evolving; student-centered, inquiry-based, authentic, and purposeful pedagogy; and instruction delivery that leverages the benefits of both synchronous and asynchronous learning.

Sklyar et.al [8] As product companies prepare for service-led growth, using digital technology is becoming more and more important. We examine the processes of change occurring both within and between firms as they pursue

digital servitization, using the viewpoint of the service ecosystem. 44 managers who were involved in organizing activities at two multinational industry leaders were interviewed in-depth for this study. Our research reveals significant distinctions between the two main companies with regard to their approaches to digital service-led expansion and related ecosystem-related undertakings. In order to organize for digital servitization, the study deconstructs the underlying processes of organizational change in the ecosystem and proposes that within-firm centralization and integration are critical. The results show that in order for managers to fully benefit from digitalization beyond its purely technological advantages, service-centricity must be fostered.

Davis and DeWitt [9] Provide an explanation of the distinction between organization theory and strategy. Selecting a theory is primarily influenced by the dependent variables used by the researcher. Different answers can be found for the questions "Why do firms perform better than others?" and "Why do firms do what they do?" Like howler and spider monkeys, who live in harmony within the same ecosystem but feed on distinct dependent variables, are strategic management academics and organization theorists. As traditional firms become more and more unsustainable as a result of the digital revolution's impact on product markets and the markets for capital, labor, and supplies, we further speculate about the impending existential crisis for both fields.

Nurlaila [10] The company aims to optimize the variables that impact performance, such as raising employee satisfaction, work ethic, and pay, since it recognizes the importance of performance. Moving away from this phenomenon, the goal of this study is to examine the likelihood that elements related to job satisfaction will boost output. With up to 92 employees responding, the methodology is quantitative in nature. Using a straightforward random sample approach, the data sources are PT. IKAD employees. According to the research findings, increasing job satisfaction is the best model for enhancing performance, and the estimation value is either simultaneous or partial. But if the business can offer competitive pay, then self-satisfaction will emerge.

Proposed Methodology

Since at present everything is done manually, it is having a lot of drawbacks. The major drawback of the present system is the back amount of physical volume of the data making information search and retrieval a tedious process. There are changes of damage of papers containing information’s. Because of doing all work manually the time for searching the documents which are came or not is so difficult. If any document were missed then at the time of applying product will become reject. Then reapplying for the product process are so tedious.

Because of all these problems of the present system they are decided to use computerized system. The computerized system will solve all these problems. In this case of communication chances of wasting more people time are high. It is fast, flexible and user friendly.

1. Modules in the System

Employee Creation

Each employee's information is entered into the Hierarchical Organisation Information System along with their relevant department, designation, and section details.

Employee Hierarchy

The Administration department serves as the foundational unit under which all other departments in this system are housed. Therefore, the employment hierarchy can be described as follows: at the very top, there is the root department head, often called the chairman; next, there is the department head, followed by the department employees; next, there is the section head, followed by the section employees; and finally, there are sub-departments inside the departments.

Department Entry/Department Hierarchy

With the help of this module, employees can establish master data for their departments and use it to identify sub-departments. Various sections will be present in some of the departments.

The chiefs of each department for departments without sections, staff working in those areas should report to the section in charge, who in turn should report to the department head. Each department head may have subordinates inside his own department, but in general, everyone should report to the head of their respective departments. This Departments and their sub-departments will form the Departmental structure.

Live Status

In order to facilitate the management of employee information, live status provides precise information regarding which employees will work in which sections. This includes both superior and subordinate employees, as well as their respective departments.

Effective management of their performance monitoring and transfer to other departments is possible.

Employee List Enumeration

The HR manager can provide specific criteria to access the employee details from the database, as the details are already there.

Process Details

This following process will be done to get the desired results.

- Employee hierarchy can be created using Employers and their superior's information.
- Department Hierarchy can be created using the departmental interdependencies.
- Vacancy list in various departments can be identified and prioritized by calculating the position weight ages.
- Employees can be transferred from one department to another based on different criteria provided by the HR manager.
- Employee retention can be processed depending their performance.

Job Rotation

If an employee starts to get bored with their current position, the company will implement a job rotation programme. These will cause subpar results and, in extreme cases, catastrophic mistakes in the operational sphere. The job rotation process can solve this problem. In this case, the person will be transferred to another department that more closely aligns with their interests, allowing them to return to work with renewed vigour and energy.

To avoid any unanticipated delays, the job rotation technique may be used to fill emergency openings. The credentials of the candidate or employee, along with those of any associates, will be forwarded to the appropriate department.

Position Weightage

The calculation for position weightage will take into account the weightage of the relevant departments, sections, and even designations. There will be a specific role for every employee in the company's overall success. Each position's weight will be determined by taking into account both its actual position in the organisation and its place in the authority flow.

Vacancies Details and Process Details

It is possible to fill open positions in different departments by hiring new staff or by transferring or adding responsibilities to current workers.

System Specifications

1. Hardware Requirements

This section gives the specification of the hardware in which the system is expected to work.

Table 1: Hardware Specification

Processor	Core 2 Duo at 2.0 GHz
RAM	512 MB DDR II RAM
Monitor	17" Colour
Hard disk	160 GB
Keyboard	Standard 102 keys
Mouse	Optical (3 Buttons)

2. Software Requirements

This section gives the details of the software that are used for the development.

Table 2: Software Specification

Operating System	Windows 10
Environment	ASP.Net
Backend	MS SQL Server

Research and Discussion

The term "system design" refers to the steps used to create a brand-new or enhanced system for a company. The system design lays out the steps needed to implement the system in order to fulfil the needs that were discovered in the system analysis.

System design focuses mainly on four distinct attributes. They are data structure, software architecture, interface representation and algorithmic details.

It explains a way to go about making a new system. System design is the process of translating a document intended for users into one intended for programmers. A physical and logical design process is followed. Important considerations made throughout the design phase are:

- Preparing input and output specification
- Data flows and stores
- Preparing security and control specification
- Temporary and permanent collection of data
- A walk through before implementation process

1. Design Process

Database Design

A database is just a group of related data files that have been structured to meet all of your data needs. To help with database and system table architecture, Microsoft Access offers additional optional features that manage user access to the database, allowing for data independence, integrity, and security, as well as adding, editing, and retrieving data.

Data Co-ordination

Data in a database is organised, accessible, and processed as if it were contained in a single file, even though it actually comes from multiple sources. It stands to reason that all of the data is in one place. separate devices in separate, geographically dispersed places may be physically connected through data communication facilities to store the data.

Data Integrity

Doing so guarantees that all information stored in the database is accurate and comprehensive. Database integrity is compromised if database contents are changed. Data integrity of limitations must be maintained for consistency's sake. The following are examples of integrity constraints:

- Domain constraints specify NULL or NOT NULL
- Validity integrity - checks for data type and range
- Entity integrity - uniqueness and primary key
- Reference integrity - foreign key relation

Data Independence

The ability of application programmes to remain unaffected by changes in physical data organisation is known as data independence. Ultimately, this goal aspires to make it possible to modify application programmes without rearranging physical data, and to change the content and organisation of physical data without reprogramming applications.

2. Tables Design

Table 3: Name: Admin

Primary Key: username

Column Name	Data Type	Size	Description
username	varchar	255	Username
password	varchar	255	Password

Table 4: Name: Department

Primary Key: department_id

Column Name	Data Type	Size	Description
department_id	int	11	department_id
name	varchar	25	Name
head	varchar	6	Head
location	varchar	11	Location

Table 5: Name: Employee

Primary Key: empid

Column Name	Data Type	Size	Description
Emp_id	int	6	id
Emp_Name	varchar	40	name
Emp_title	int	20	post
Emp_doj	int	50	Date of joining
Emp_dob	int	10	Date of birth
Emp_Address	varchar	100	Address
Emp_mobile_no	int	10	Mobile number
Emp_email_id	varchar	20	Mail id
Emp_pan_no	varchar	20	Pan card number

Table 6: Name: Job_Rotation

Primary Key: job_id

Column Name	Data Type	Size	Description
Job_id	Numeric	10	Job identification
Name	Varchar	10	Name
Design	Varchar	10	Designation
Too	Varchar	30	Too
Status	Varchar	100	Status
remarks	varchar	20	Remarks

Table 7: Name: Leave

Foreign Key: empid

Column Name	Data Type	Size	Description
Emapid	int	10	Employee id
leaveid	int	20	Leave id
fromm	varchar	25	From
too	varchar	15	Too
reason	varchar	10	Reason

Table 8: Name: Section

Primary Key: id

Column Name	Data Type	Size	Description
Section ID	int	10	SectionID
name	varchar	20	name
incharge	varchar	25	Incharge name
no	varchar	15	number

Table 9: Name: Vacancy_Filling

Primary Key: vid

Foreign key: empid

Column Name	Data Type	Size	Description
vid	int	4	Vacancy id
empid	int	20	Employee id
date	Date	25	Date
details	varchar	150	details

3. Input Design

The process of accepting legitimate user input is known as input design. This accurate information is then saved in the database as operational data. Making input data entry as easy and error-free as possible is the purpose of input design. At the data entering phase, the input screen takes precautions to prevent erroneous data from becoming operational data.

The most time-consuming and costly aspect of system design is input design, which demands meticulous consideration. It is error-prone since it is the first thing users see when they interact with the computer system. The processing and output of the system will amplify any mistakes in the input data. Here is what we hope to achieve with the input design.

- Produce cost effective method input
- High-level accuracy
- Free of ambiguity

Several stages of input design are:

- Data recording
- Data verification
- Transmitting data to the system
- Data correction

4. Output Design

The output design specifies the desired output and how it should be generated. In order for the correct decisions to be made, it is important that the correct information be presented. We can broadly classify the produced results into three groups:

- Screen Output
- Output to be stored as files in storage media
- Hard copy of the output

Simply said, the screen output is the displayed result of the program's execution. Most searches for online information have their results shown on the screen. The output that is generated can be saved in a file for future reference, and hard copies can be made to give to management or as needed. Here are the goals of the final product:

- Design output to serve the indented purpose
- Design output to fit user
- Deliver the appropriate quantity of output
- Assure that output is where it is needed
- Provide output on time
- Choose the right output method

Making sure the system's input and output are well-designed and user-friendly is an essential task. The primary function of system outputs is to convey processing results to end users. A hard copy of the findings can be obtained through outputs for use in further consultations. The user-system relationship and decision-making capabilities are both enhanced by an understandable output design.

Conclusion

The internship experience has provided invaluable insights into the world of resource organizer software and its role in enhancing organizational efficiency. Through hands-on work and collaboration with experienced professionals, I have gained a comprehensive understanding of the key features and functionalities of resource organizer software.

The significance of resource tracking in optimizing resource allocation and utilization. The software's ability to streamline collaboration and communication among team members has also been evident, contributing to increased coordination.

The reporting and analytics capabilities of the resource organizer software have proven instrumental in generating meaningful insights and facilitating informed decision-making. The integration features have further demonstrated the software's potential to seamlessly integrate and thereby enhancing overall workflow efficiency.

The internship experience has not only deepened my technical knowledge and skills but has also provided exposure to real-world challenges and problem-solving. It has reinforced the importance of effective resource management and the role that resource organizer software plays in achieving organizational goals.

References

Davronovich, A.D., & Mansurjonovich, J.M. (2023). Important Advantages of Organizing the Educational Process in A Digital Technology Environment. *Galaxy International Interdisciplinary Research Journal, 11*(2), 149-154.

Zhang, D., Pee, L.G., & Cui, L. (2021). Artificial intelligence in E-commerce fulfillment: A case study of resource orchestration at Alibaba's Smart Warehouse. *International Journal of Information Management, 57*.

Tien, N.H., Ngoc, N.M., Jose, R.J.S., Hung, N.T., Oanh, N.T.H., & Vu, N.T. (2020). Comparative analysis of human resource development strategy of family universities and corporate universities in Vietnam. *International journal of academic research and development, 5*(4), 26-30.

Kononets, N., Ilchenko, O., & Mokliak, V. (2020). Future teachers resource-based learning system: experience of higher education institutions in Poltava city, Ukraine. *Turkish Online Journal of Distance Education, 21*(3), 199-220.

Zhu, G., Wu, X., Ge, J., Liu, F., Zhao, W., & Wu, C. (2020). Influence of mining activities on groundwater hydrochemistry and heavy metal migration using a self-organizing map (SOM). *Journal of Cleaner Production, 257,*120664.

Leng, J., Jiang, P., Xu, K., Liu, Q., Zhao, J.L., Bian, Y., & Shi, R. (2019). Makerchain: A blockchain with chemical signature for self-organizing process in social manufacturing. *Journal of Cleaner Production, 234*, 767-778.

Zhao, Y., & Watterston, J. (2021). The changes we need: Education post COVID-19. *Journal of Educational Change, 22*(1), 3-12.

Sklyar, A., Kowalkowski, C., Tronvoll, B., & Sörhammar, D. (2019). Organizing for digital servitization: A service ecosystem perspective. *Journal of Business Research, 104*, 450-460.

Davis, G.F., & DeWitt, T. (2021). Organization theory and the resource-based view of the firm: The great divide. *Journal of Management, 47*(7), 1684-1697.

Nurlaila, P. (2022). Performance Model: Satisfaction, Commitment and Reward Based. *KINERJA: Jurnal Manajemen Organisasi dan Industri*, *1*(1), 19-26.