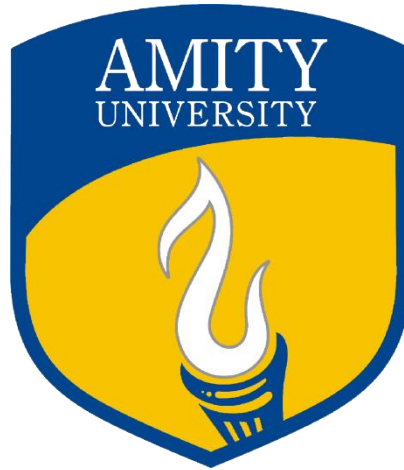


TERM PAPER
ON
“OFFICE AUTOMATION”



SUBMITTED TO
AMITY SCHOOL OF ENGINEERING & TECHNOLOGY

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DECLARATION

I, **Nidhi Bansal**, student of **B.TECH (CSE)** hereby declare that the project titled “**Office Automation**” which is submitted by me to Department of Computer Science and Engineering, Amity School of Engineering and Technology, Amity University, Noida, Uttar Pradesh, in partial fulfilment of requirement for the award of the degree of Bachelors in Technology in Computer Science and Engineering, has not been previously formed the basics for the award of any degree, diploma or other similar title or recognition.

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Lastly, I also thank those who all helped me in my project work.

CERTIFICATE

On the basis of declaration submitted by **Nidhi Bansal** (Enrollment No. A2305216577) student of B.Tech (CSE), I hereby certify that the project entitled “**OFFICE AUTOMATION**” which is submitted to Department of Computer Science and Engineering, Amity School of Engineering and Technology, Amity University Uttar Pradesh, Noida, is an original contribution with existing knowledge and faithful record of work carried out by her under my guidance and supervision.

To the best of my knowledge this work has not been submitted in part or full for any Term paper, Degree or Diploma to this University or elsewhere.

Signature:_____

Date:

Name: Ms Smriti Sehgal

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ABSTRACT

Office Automation refers to the use of computer in the field of business that is to store the large amount of data of a company, transaction details in the files, etc. It refers to the varied computer machinery and software used to create, collect, store, manipulate, and relay office information needed for accomplishing basic tasks which are carried out on daily basis mostly in the business. A variety of office automation systems are now applied to business and communication functions that used to be performed manually or in multiple branches of an organization. These works may include e-mailing, billing, preparing strategies, etc.

Due to office automation, the productivity of the company is increased due to consistency in the data storage, Non-redundancy in the data, centralised storage for all the data etc.

All these works are done on Database management system (DBMS), which are different for different field i.e. DBMS for air transportation, DBMS for service providing company, DBMS for industry (different type of industry), etc. DBMS is created by the company for its own use as different companies will have different format of invoicing, strategies, different types of customer etc. A DBMS used for hospital cannot be used for universities.

DBMS based on database. A database has collection of interrelated data or you can say all the information will be saved on the database of a DBMS.

The basic activities of an office automation system include raw data storage, electronic transfer, and the management of electronic business information. However data storage has to be done physically but once done will be saved as softcopy. A person can also recall all the data whenever he/she wants in a very short period of time because an Office automation system has a centralised storage where all the information gets stored.

Office automation systems also provide security to the data. As there is authentication and authorisation in the systems i.e. companies' employees and customers will have authentication and different employees will have different levels of authorisation. We can take an example of a bank. In a bank, a branch manager is authorised to check the details of any account in his/her branch whereas a teller will not be authorised although both are authentic persons of that bank.

So in short, Office automation helps in optimizing or automating existing office processes. This office automation also provides the security to the data.

INTRODUCTION

Office automation i.e. to automated the office work/ process. Office automation system are those automatic system that are used for office purposes/ processes. Office automation systems includes both hardware as well as software. These Office automation systems mainly work on the basics of a centralized system. In computer, this centralized system is known as Database Management System. This system is responsible for office automation. There are also various factors on which office automation is based. The various factors are data exchange, data storage and data security. Data Exchange refers to the exchange of data digitally from one user to end user. Data Storage refers to the storage of data, where to store data, how to store data, etc. Data security refers to the security of the data recorded or stored. For security, authentication and authorisation is done by the system.

For a company all the basics of office automation should be fulfilled otherwise company will not able to fully automates.

There are database different for different fields, area or size of the organization. An Organization has to customize their DBMS according to their needs. This implies DBMS is not universal.

There are various DBMS software like MySQL, SQL, Microsoft access, etc.

Tally.ERP9 is also accounting software which works like a DBMS.

OFFICE AUTOMATION:-

What is office automation?

Office automation refers to the increment or integration of office functions usually related to managing information. Here Automation stands for the use of automatic equipment in a manufacturing or other process or facility. And Office automation means use of automatic equipment for the work of offices or business work. There are various tools available in the market to automate office functions etc. we have drivers for many thing which helps in converting a message into another. E.g. when printing, we need a driver that can make a connection between a laptop and printer.

Office automation began with the typewriter and the copy machine. Today, however, it is increased not just to mechanization of tasks but to the conversion of information to electronic form as well. E.g. one can send e-mail to anyone at anytime.

It collects, processes, stores and transmits electronic messages; these are the basic activities of an office automation system.

Importance of office automation

Office automation is necessary in the field of business mainly as its quite hard for the business person to store a large amount of data physically, or to accomplish the tasks occurs in the business, etc. By using Office Automation systems, they are capable of storing the large amount of data and also their time for sending messages has been reduced, security of data is also increased, fetching of data record is easy, etc. Ultimately, their production has been increased so much after the invention of office automation systems.

Why do we need office automation?

Although job seeking or job doers don't need office automation so much but for business person it's a gift for them. These office automation systems have increased

their productivity, exchanging of information, storing of information/data, data application etc.

Office automation also reduced the pressure on environment as paper less work or less numbers of papers has been used now for offices.

Office Automation made work facile for Inventory purchasing. Marketing expenditures, financial plans, etc.

Benefits and Challenges to office automation:

Benefits:

1. Office Automation systems has reduced the clerical work.
2. Office Automation systems are fast and accurate as comparable of clerical work.
3. All the data of a company has been stored as soft copy either on internet or in primary or secondary memory that is safe, non-destructible, and can be stored for long time as comparable to hardcopy.
4. Office Automation systems has also reduced the storing space.
5. Office Automation systems has also reduced the environmental pressure.

Challenges:

1. Office Automation systems are expensive for short term but for long term they are cheap as comparable to the hard storage used for offices work.
2. To use Office Automation systems, skilled person required, which also increases the burden on business person.
3. Office Automation systems resist changing and can't be change in emergency, like an emergency door opened only by a specific card, etc.
4. There is no use of office automation systems during cut-off of electricity.
5. If there is any change in office automation systems, proper training cost and time is required for the employees to train them, like it's happening in India for GST systems nowadays.

6. Cyber security is necessary while transactions, emailing etc.

Basics of office automation:

The office automation system is mainly based on the following:

- a. Database management
- b. Data exchange
- c. Data application
- d. Data storage

Database management:

Collection of interrelated data is referred to as a database. And the Management of database i.e. keeping records of the database by using computer based record systems is known as database management systems.

Database can be anything like record of transactions of a company in files, record of employees over internet, record of students' results etc.

Database management systems uses these information i.e. database while working. For e.g., like in a bank, they have all records of their customers. Now a customer has come to withdraw some amount from his bank account, the teller (bank employees) will check whether the amount which has to be withdrawn is available in the respective customer's account or not. And if the database provides that the amount that the customer wants to withdraw is available in his/her account, he/she will give that amount to the customer. This is how a database management systems work.

How DBMS helps in office automation?

DBMS stands for Database Management Systems. DBMS is a computer based software application that interacts with the user, other applications, and the database itself to capture and analyze data. A DBMS is capable of managing data efficiently and allows

users to perform multiple tasks with ease. It can store, organize and manage a large amount of information within a single software application.

There is no universal DBMS for all companies. It depends on the type of fields, size, areas in which the company is working. Different companies have to create/give order for their own DBMS according to their work field e.g. Hospitals will have different DBMS than a cafe. DBMS has a large amount of data available in the form of tables which are available in their database. Tables are the collection of records. These tables are usually interrelated with each other. The information in the tables that has to be stored, have to be typed manually. This information gets stored in the database and can be used later while fetching any particular record.

DBMS manages three important things: the data, the database and the database schema. These three elements help in providing concurrency, security, data integrity and uniform administration procedures. DBMS are also responsible for automated rollbacks, restarts and recovery, etc.

DBMS has a centralized view of data that can be accessed by multiple users, from multiple locations. The DBMS provides the authentication and authorization to the users. By authenticating, it provides that the user is an authenticated user (different users are provided with IDs and passwords). By authorizing, it limits what data the end user can see as well as how that end user can view the data, providing many views of a single database schema.

DBMS offers both physical and logical data independence i.e. the users don't need to know where the data is stored and also don't need to concern about any physical structure change of data.

Types of DBMS used for office automation

There are different types of DBMS which are used for office automation system.

1. Hierarchical DBMS:- This DBMS has phylogenetic structures and contains geographical images.

2. Relation DBMS:- This DBMS is widely used. This can be denoted by RDBMS. It is table-oriented. It has a restricted range of structures.
3. Network DBMS:- This DBMS is very flexible although it is not widely used.
4. Object oriented DBMS:- This DBMS is developing few commercial implementations. It has diverse structures. This is extensible in nature.

Data exchange:

Data exchange refers to the sharing of data among the employees, customers or with other companies, etc via different computer programs. Data exchange is one of the most common and important component in offices activity. Nowadays, data exchange can be carried out through internet i.e. electronic communication channels. This includes E-mail, Voice Mail, video conferencing, faxing, copying, scanning etc.

Office automation systems that include the ability to electronically share information between more than one user simultaneously are sometimes referred to as groupware systems e.g. electronic meeting system. It's a long distance meeting. LAN is an important factor in this meeting or you can say LAN is the backbone of office automation systems.

Data application:

Data application refers to the “what we want to do with the data?” It can include data analysis, document production, report generation, digital image modification etc. Different application software is available in the market for data application. e.g. for *Data Analysis* , we can use *MS Excel* etc.

For *Digital image modification*, we can use *Adobe Photoshop*, *Microsoft Photo editor* etc. For *Report generation*, we can use *Microsoft Access*, *MySQL*, etc

For *word processing*, we can use MS Word, etc. . Today's commercial word processing applications provide users with a sophisticated set of commands to format, edit, and print text documents. One of the more popular features of word processing packages is

its preformatted document templates. Templates automatically set up such things as font size, paragraph styles, headers and footers, page numbers, etc.

Data storage:

Data storage is one of the most important components in office automation systems as it's been hard for the company to store such large amount of data for a long time. These large data include office records and other primary office forms and documents. Due to office automation systems, companies now have more storage spaces and also these are digitally stored which are easy to store, and also gets stored for a long time.

There are various secondary storage devices available in the market which can be used to store the data. E.g. Hard disk- we can store data and software in it, Magnetic tape – used for system backup, etc.

Data can also be stored on internet like on google drive, etc which are available at any location and will not be lost until you delete it.

Examples of office automation systems:

- ☐ For accounting, Tally.ERP9 works as office automation for inventory making, accounts updation, etc.
- ☐ Microsoft access,
- ☐ SQL Server,
- ☐ MySQL,
- ☐ FileMaker, etc.

Amizone (DBMS-Amity university):

Amizone is an online portal basically a DBMS which is used by the students, parents, teachers or management staff in Amity University. Here are attached images of Amizone portal of a student.



Fig.1

A student portal will consist of all the data of the student, their attendance record, time table, courses details, fee bill and receipts, etc. The students' details are first record manually into the amizone and then these records gets stored. All new information about the student whether about his/her attendance status, results, etc gets updated as Amizone works on Centralized storing system.

Amity's Intranet Zone Amizone is a utilizer cordial, better and more efficacious implement, its key features are:

1. ATTENDANCE: A student can check their attendance conventionally.
2. CALENDAR to view upcoming Events, holidays and happenings at University.
3. SYLLABUS can be viewed of the current semester.
4. KNOWLEDGE RESOURCE is a platform where the students can get the guidance for their quotidian studies i.e. Question bank, PPTs, Study Materials, References, worksheets etc.
5. EXAMINATION DETAILS and perpetual assessments details (Internal assessments marks) can be viewed.
6. NOTICE board exhibits all the consequential Descries for the students.
7. PROFILE section particularizing of the students.
8. PHOTO GALLERY shows the photographs of the events held.
9. FEES can be paid online through NET BANKING and receipt is additionally engendered online.

An interactive portal, it additionally exhibits News and Events of AIIT and Amity University Uttar Pradesh, Academic orchestrating and holiday calendar, culls of specialization subjects, registration for end-term examinations and downloading the admit card when all requisite formalities are consummated.

It avails students in accessing a wide array of academic domains like online sessions plan for the entire study semester, time table, attendance record, and syllabus and course materials.

Students can access these details from anywhere and is thus a handy option for students. Additionally accommodating as an online application for suggestions and grievance handling, students may post in their concerns via Amizone which are responded to within stipulated time by the Head of the Institution. AMIZONE additionally facilitates the students' feedback mechanism for the faculty on numerous parameters.

An interactive portal, it additionally exhibits News and Events of AIIT and Amity University Uttar Pradesh, Academic orchestrating and holiday calendar, culls of specialization subjects, registration for end-term examinations and downloading the admit card when all requisite formalities are consummated.

Amizone also provides students with online journal databases like:

- **IEEE Xplore (10742 Journals)**
- **ACM Digital Library (377 Journals)**
- **Springer (1950 Journals)**
- **Taylor & Francis (1076 Journals)**
- **Oxford University Press (198 Journals)**
- **Cambridge University Press (223 Journals)**
- **EBSCO Host (2300 Journals)**

Advantages of Amizone:-

1. Consistence, non- redundancy in nature.

2. Students have all knowledge about themselves, about their classes, time tables, courses, attendance, etc.
3. No need to make different files.

Disadvantages of Amizone:

1. Amizone is a centralised system, if a person doesn't do his/ her work, all work will get affected.

CONCLUSION

Office automation is a new field in the technology. Office automation is good for all the business from their productivity point of view.

Although office automation is like a gift for business man but still there are some challenges in the field of office automation. First, If the authorised person is absent, then all the work will get affected because office automation system work as a centralised system and it cannot be access without a proper authorisation Ids and passwords.

Skilled employees are required to make entries in the database.

Incipient softwares are additionally needed to purchase.

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