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Intelligent Printshop Process Automation System

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ABSTRACT—In the fast evolving world, everything is getting digitalized and people are expecting every work to be real quick. But the printing system is lagging to provide these. In the existing system of Print shop, the documents are to be sent to the shopkeeper via WhatsApp or e-mail and shop owner will be open in his system and then we have to wait for our turn to give print for our document. Hence the main objective of this project is to create a website where user can directly upload the documents to be print and book the slot that is convenient for the user to collect the document and the payment to be done directly in the website.

The website in the admin end is directly connected to printer which automatically prints the documents that the user wants after the payment in the website. This makes the transaction or the process between the Xerox shopkeeper as well as the user easier during the rush time.

KEYWORDS—Printing system, Automation, Server, Storage, Payment

I. INTRODUCTION

Intelligent print shop process automation system is a website which helps the student for printing documents and binding so that the users' time is not wasted as well as the Xerox Shop rush is decreased. During the time of the pandemic this website is very useful to avoid crowding. The main objective of this project is providing a convenient or a less time-consuming process for printing and binding a report or a document.

Our project aims to reduce the waiting time by directly uploading the documents to be print in the website and booking the slot that is convenient for the user to collect the document and the payment to be done directly in the website. The website in the admin end is directly connected to printer which automatically prints the documents that the user wants after the payment in the website. This makes the transaction or the process between the print shopkeeper as well as the user easier during the rush time.

II. OVERVIEW

Concentrates on the own field of expertise. It improves the quality of printing process on a whole. Helps in learning definition of concepts based on printing automation. Access to latest technologies, approaches and methods. From documents to digitalization, this solution provides the best approach to increase the work efficiency at printshops. It increases the overall productivity of the printshop business. The execution guarantees that the yield being delivered inside as far as possible and time taken for the aggregation is comparatively less.

This solution also provides high end security to every document that's being uploaded to the server by the end customers.

III. LITERATURE SURVEY

A. *Print on Air*

This approach provides an application to the client which searches or uploads the required media of product and then it processes further for printing it. It shows the all-available vendors nearby to the user for printing. Then a user can choose the vendor and pay by selecting payment mode.

B. An Automation Perspective of Print Production Workflow System

It was published in the year 2020. This paper describes about the print workflow automation adoption. A reference to print workflow model “pretty print” has been discovered. It will be simple steps to submit pre-press job on the web portal to use the service. The pre-press job will be tagged automatically to large scale print provider. The service will prevent delays. The service will promote cost effectiveness. This system reduces the requirements of manpower that results into unemployment if many small scale print providers adopt to this model.

C. The Web Based Ordering and Inventory Information System for Online Printing Services with TAM Method

The study aims to create a web-based ordering system that is expected to ease the customer. This solution is developed for a company engaged in the digital media printing. Printing company involves newspapers, banners, posters, business card and so on.

The design of this system is done to make it easier for customers to place orders while the management division helped in managing data.

Order and stock data storage using a web-based system and stored in a database.

D. Research on the Development from Print Media to Digital Media--Taking the American Market as An Example

Describes how digital media has a popular trend nowadays while print media is also an irreplaceable part. Advantages: It is easier to collect than audiovisual data and more permanent than most Web materials. This is because some documents online will expire that viewers cannot read if they did not save them. Disadvantages: In this fast-paced society, fewer people will choose to read the material word by word because it will take a long time to understand and get the main point. The production of print media is time-consuming.

IV. METHODOLOGY

A. Smart Chart Representation

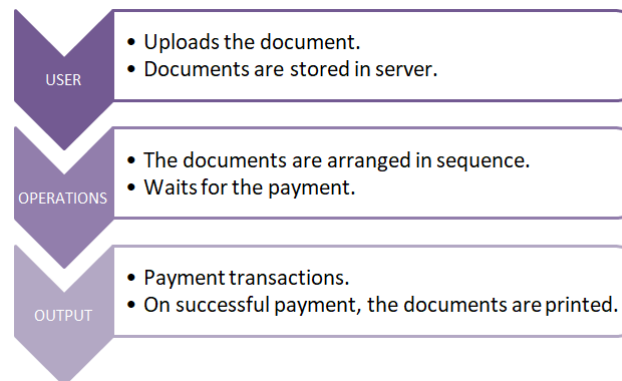


Fig. 1 Smart chart representation

1. The methodology that's followed is user first uploads the documents.
 2. The documents that are uploaded are stored in the common server at the admin end.
 3. The documents are arranged in the sequence according to the time stamp.
 4. It follows first come first serve policy.
 5. After the documents are arranged in sequence, the system waits for the user to complete his payment. Once the payment is successful the document is printed.
 6. If it's not successful the payment process step is repeated.
- The proposed system develops a website in which the user can upload the document that has to be printed and bound. As per the user convenience, user can book the slot and take the print out of the required documents. The user will have to do the payment in the website and once the payment is done the document will be printed automatically by the printer.

B. System Design

Design is essentially the bridge between requirement specification and final solution for satisfying the requirements. System design is essentially a blueprint or a plan for a solution to the system.

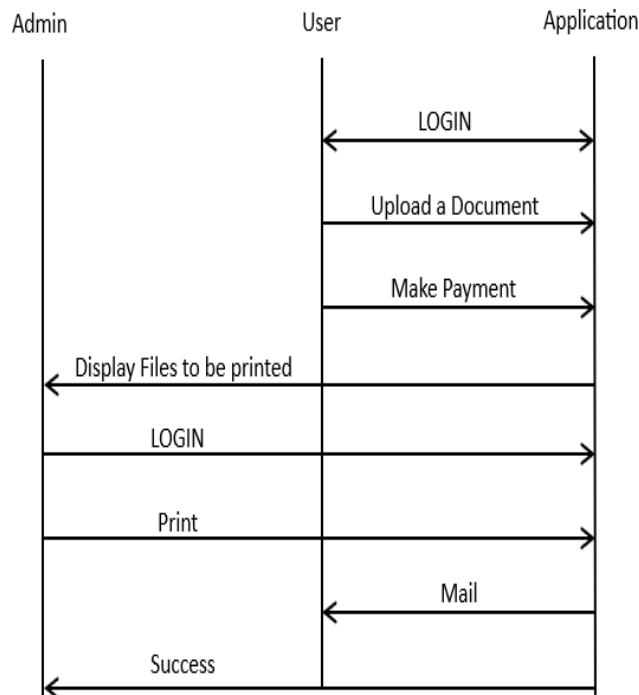


Fig. 2 Sequence Diagram

The properties of System design are:

1. *Verifiability*: The documents are printed with respect to the timestamp and has proper documentation on users and their respective documents.
2. *Completeness*: The process from uploading the document to the print of it including the steps of storing, money transactions is automated making it a completed process.
3. *Consistency*: The process is consistent as any number of users can upload any number of documents and those documents will be printed according to the time of upload.
4. *Efficiency*: It's efficient as the workload of the shopkeeper is lifted. This automated process helps the business to upgrade and the productivity is massive.

A sequence diagram or system sequence diagram (SSD) shows process interactions arranged in time sequence in the field of software engineering. It depicts the processes involved and the sequence of messages exchanged between the processes needed to carry out the functionality. Sequence diagrams are typically associated with use case realizations in the 4+1 architectural view model of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

C. Flowchart

As we have seen in the system design below, there is a server, storage, payment. Storage is where documents are stored by the user and it can be fetched from the admin side. The server connects the payment and storage. When payment is successful then it will give print otherwise it will end.

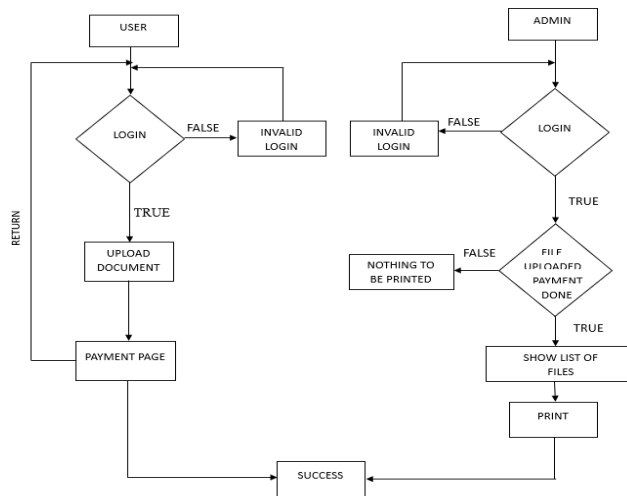


Fig. 3 Dataflow diagram

D. Architectural Design

Dashboard has the admin and user end. The user will provide the admin with documents and some input and it will get uploaded in the storage. The storage will be accessed by the admin if the payment is successful and then the documents will be printed else the process will end.

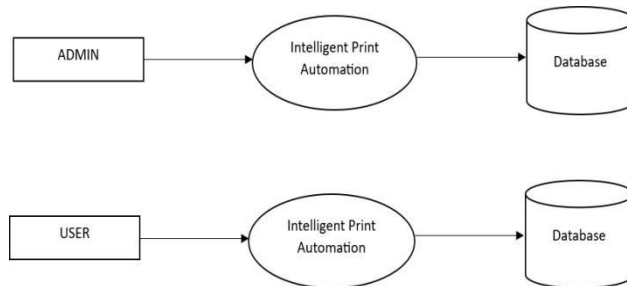


Fig. 4 System Architecture Design

A data-flow diagram is a way of representing a flow of data through a process or a system (usually an information system). The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow — there are no decision rules and no loops. Specific operations based on the data can be represented by a flowchart.

There are several notations for displaying data-flow diagrams. The notation presented above was described in 1979 by Tom DeMarco as part of structured analysis.

For each data flow, at least one of the endpoints (source and / or destination) must exist in a process. The refined representation of a process can be done in another data-flow diagram, which subdivides this process into sub-processes. The data-flow diagram is a tool that is part of structured analysis and data modeling. When using UML, the activity diagram typically takes over the role of the data-flow diagram. A special form of data-flow plan is a site-oriented data-flow plan.

V. EXISTING SYSTEM

- H. Huang et al., (2009) proposed the frameworks that distinguish the phishing utilizing page section similitude that breaks down universal resource locator tokens to create forecast preciseness phishing pages normally keep its CSS vogue like their objective pages.
- S. Marchal et al., (2017) proposed this technique to differentiate Phishing website depends on the examination of authentic site server log knowledge. An application Off-the- Hook application or identification of phishing website.

Free, displays a couple of outstanding properties together with high preciseness, whole autonomy, and nice language-freedom, speed of selection, flexibility to dynamic phish and flexibility to advancement in phishing ways.

- Mustafa Aydin et al. proposed a classification algorithm for phishing website detection by extracting websites' URL features and analyzing subset-based feature selection methods. It implements feature extraction and selection methods for the detection of phishing websites. The extracted features about the URL of the pages and composed feature matrix are categorized into five different analyses as Alpha- numeric Character Analysis, Keyword Analysis, Security Analysis, Domain Identity Analysis and Rank Based Analysis.
- In the existing system they have used Logistic Regression, Multinomial Naive Bayes, and XG Boost are the machine learning methods that are compared. The Logistic Regression algorithm outperforms the other two. The model is preprocessed in the proposed system, the words are tokenized, and stemming is performed. Data Processing is the process of converting or encoding data for easy machine transfer. The accuracy of Logistic Regression is 96.63 percent, and the overall comparison is presented.

DISADVANTAGES OF EXISTING SYSTEM:

- The existing models have low latency.
- Existing systems do not have a specific user interface.
- The existing system model fails to predict a continuous outcome. It only works when the dependent or outcome variable is dichotomous.
- The existing system model may not be accurate if the sample size is too small.
- The existing may lead to overfitting problem.

VI. IMPLEMENTATION

A. Implementation Modules

Module 1: Signup and Registration

- Allows the user and the admin to sign up and login to their respective dashboards
- System authenticates the user and the admin using MySQL.

Module 2: Uploading the document

- Allows the user to upload the document in any format.
- The document that's uploaded is stored in the drive.

Module 3: Conversion of the document

- The documents that are uploaded are converted to pdf format.
- The conversion is implicit in the user end for calculation of the amount and explicit in the admin end.

Module 4: Printing of the document

- The documents are extracted from the drive to their respective directory.
- The files are printed from the directory automatically on click of the button.

Module 5: Payment

- The payment is calculated with respect to number of pages and the specifications specified by the user.
- The payment can be done using UPI.

B. Proposed Solution

- User Interface is provided
- Model is trained using many features
- High level of accuracy
- The proposed system is generally more accurate compare to other modes.
- The proposed system can train faster especially on larger datasets.
- The proposed system most of them provide support handling categorical features.
- The proposed system some of them handle missing values natively.

C. *Input Design*

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

OBJECTIVES

1. Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.
2. It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.
3. When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow

D. *Output Design*

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

1. Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should Identify the specific output that is needed to meet the requirements.
2. Select methods for presenting information.
3. Create document, report, or other formats that contain information produced by the system. The output form of an information system should accomplish one or more of the following objectives.
 - Convey information about past activities, current status or projections of the
 - Future.
 - Signal important events, opportunities, problems, or warnings.

VII. RESULTS

We have developed our project using a website as a platform for all the users. This is an interactive and responsive website that will be used to detect whether a website is legitimate or phishing. This website is made using different web designing languages which include HTML, CSS, JavaScript and Flask framework in Python. The basic structure of the website is made with the help of HTML. CSS is used to add effects to the website and make it more attractive and user-friendly. It must be noted that the website is created for all users, hence it must be easy to operate with and no user should face any difficulty while making its use.

The proposed system is trained with the dataset consists of different features and note that the dataset doesn't contain any website URL. The dataset consists of different features that are to be taken into consideration while determining a website URL as legitimate or phishing. The proposed system is developed using the Gradient Boosting Classifier. After

the system is trained with the dataset, the classifier identifies the given URL dependent on the preparation information that is if the site is phishing it prompts the user that the website is phished and if genuine, it prompts the user that the website is legitimate. We have detected phishing websites using Gradient Boosting Classifier with an accuracy of 97%.

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