Bank Statement Analyzer

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ABSTRACT

In today's world money transfer has become an easy process because of evolving technologies in the banking domain , people are doing hundreds of transactions in a day, and thousands in month which makes it difficult to manage their spendings to have control over their spending.so having the system or technology which analyse the transactions provided it in PDF format like Bank Statement and it provides you back with the data in easy and understandable format that helps you to manage your spendings will be beneficial for all the users.

Bank Statement Analysis is a methodology to study the bank statement provided by various banks as per your spending/earnings.Bank Statement Analysis helps individual to keep track of his/her spendings and have control over it.It will also help banks to have maximum satisfaction of their members/customers. There are various pre existing systems , websites which provide the analysis of the bank statement but it's complexity is high to understand and it cost more than expected for individual to do analysis of his/her bank statement. the output provided by pre existing systems is not simplified hence it costs time for user to understand and reduces their progress.

We are aiming to innovate a system which will intake an bank statement of an individual and process the data and categories the data into meaningful fields and will do some mathematical calculations to provide the systematic and diagrammatic view of created fields which will increase the understanding of the user and indirectly will increase the efficiency.The cost and time require for the analysis will be very less and efficiency is 100%.

Keywords: Bank Statement Analyzer, UPI, Diagrammatic, Efficiency, EMI.

I. INTRODUCTION

Financial Analysis is a principal field of business, the banking sector, and many other domains which helps them to analyze and manage their expenses and it needs to be very accurate. Various Existing methods are available which provide Financial Analysis but their accuracy is not satisfactory, and complexity as

well as the cost, is too high which alters their progress and also costs them time. Bank Statement Analysis is an idea where bank statements are uploaded and getting the expenditure categorized into various categories, this helps the users to manage their expenses and get a pictorial view to keep track of their expenses. This reduces the burden of users, and not to think of money and where their money is going

Bank Statement analysis is an idea that involves uploading a large bank statement and classifying expenses into various categories. This allows users to manage their spending and to get personalized reports and track their spending. This gives users a way to track where he/she has spent their money.

Our goal is to create a system that analyzes users' bank statements and classify the users' expenses systematically and very accurately. The expenses are classified in many ways such as EMI, Food, Medicine, Stationery and so on. There are many portals or systems available for analyzing Bank Statements that are either too inaccurate or some portals or systems are accurate but very expensive. Our main goal is to achieve maximum accuracy at minimum cost.

This System will also be helpful for Banks to give out loans to individuals. The Bank will get the analysis of the individual Bank Statement on that basis the bank may or may not provide him/her with a loan. This will reduce the number of default loans for banks.

Our main motive is to innovate a system that matches today's world and provides the accurate output for which it is designed, at an affordable cost.

II. LITERATURE SURVEY

In searching for relevant literature, we extensively used libraries and the Internet to find literature specific to our research topic. Research areas include bank statements, machine learning concepts, data processing, and PDF processing.

To extend the literature review, research topics were divided into concepts and subject areas such as banking, machine learning, PDF processing, and transaction identification.

1. Elaine Henry and Thomas R. Robinson, in "INTERNATIONAL FINANCIAL STATEMENT ANALYSIS", argues that their work addresses the growing need for investment and encourages students to think about analysing financial statements from a global perspective. This text is effectively an introduction to balance sheet analysis, combining a true international orientation, a structured presentation style, and numerous illustrations and tools to aid in the concepts presented in the text. The authors cover the area comprehensively, with an eye on the reader's success at every level in the complex world of financial statement analysis.

After reading the research paper, you will be able to do the following:

1) Describe the roles of financial reporting and financial statement analysing
2) Describe the roles of the statement of financial position, comprehensive income, changes in equity, and statement of cash flows for evaluating a company stance and financial position.
3) Describing the importance of financial statement notes and supplementary information including disclosure of accounting methods, estimates, and management commentary.
4) Describe the goals of financial statement audits, the various types of audit reports, the audit process, and importance of effective internal controls.
5) Identify and describe the information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information.

6) Describe the steps in the financial statement analysis framework.

2. Book by George Foster "FINANCIAL STATEMENT ANALYSIS". This book provides an intensive study of financial statement analysis, seeking to explain

· The demand and supply forces underlying the provision of financial statement data,

· The properties of numbers derived from financial statements,

· The key aspect of decisions that use financial statement information.

· The characteristics of the setting in which these decisions are made.

The intended outcome is for readers who understand these four factors are in a strong position to exploit the richness of the information contained in many financial statements as well as to fully appreciate the limitations of that information. The book goes through each and every step of analyzing a financial statement including

1) Demand for financial information.

2) How to get the information needed?

3) Methods to analyse the financial statements

4) Forecasting financial statement information

5) Cross sectional analysis of financial statements

6) Time series analysis of financial statements

7) Information Efficiency

8) Asset Pricing

It also discusses corporate financial statements and.also discuss about loan decisions for banks to give to corporate sectors and individuals as well.

III. SYSTEM OBJECTIVE

1) Process the uploaded bank statement and provide the data categorized into various categories for analysis.

2) Helps to manage and control the expenses and capital flow in the Business , banking sector and many other domains.

3) Banks will have the advantage of providing the loans by analysing the individual's loan background.

IV. SYSTEM REQUIREMENT

1. Operating System :- Windows 9/10/11
2. RAM/ROM :- 4GB/20GB
3. Script :- Javascript
4. Language :- Python
5. Database :- My Sql
6. IDE :- Anaconda

V. SYSTEM ARCHITECTURE
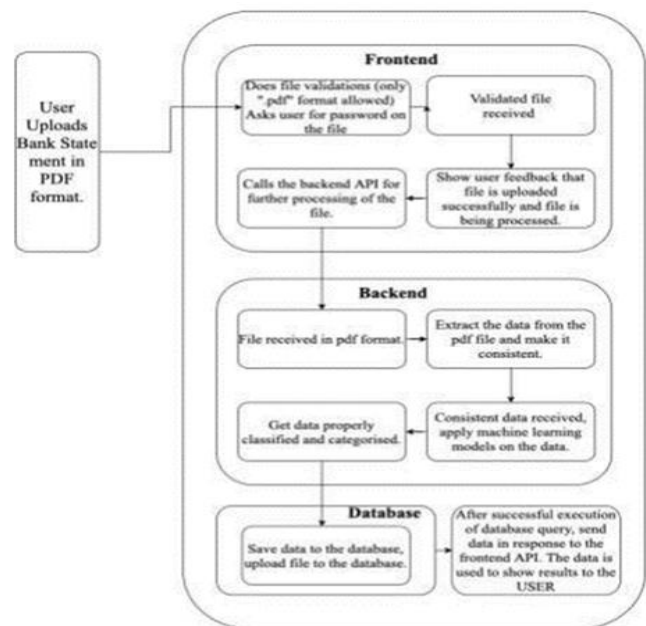
VI. METHODOLOGY

For a user to access the bank statement analyzer they must first register later they will be provided login credentials for the same.

After the user login through their credentials the user can upload their bank statement which then will be analyzed

The analyzer will first give the user a Pie Chart showing how much amount was debited and credited into their account.

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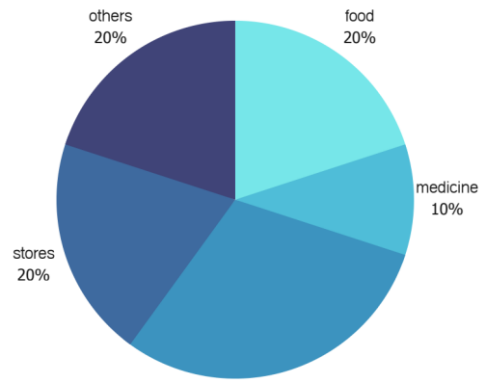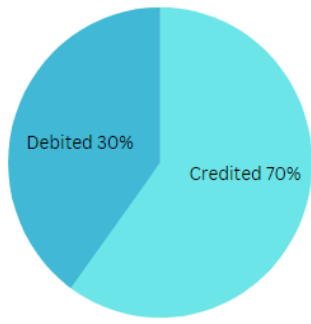
When user clicks on any of the sections of the pie chart they will be shown a pie chart depicting the mode of transaction such as cash, cheque, emi, upi, nft etc
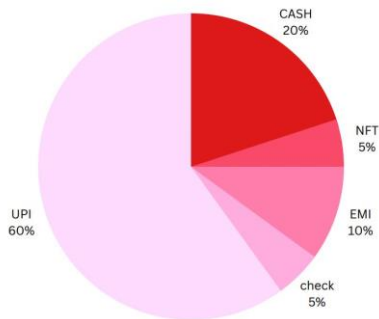
Similarly when the user clicks on any of the sections of the pie chart they will be given a detailed table or another pie chart based on the section the user chooses.If user chooses UPI then they will be given further classification of the UPI transaction into merchants and individuals.

If the user clicks on the merchant section of the pie chart he will be shown another chart depicting the merchant type that is how much they spent on food stalls, medicals, stationary, general stores and the merchants which can't be classified will be shown in others sections.

If the user selects the Individual section they will be shown a table consisting of information to whom they transferred, when they transferred etc.

When in the merchants pie chart user selects an section they will be shown a table consisting of information such as the merchant name, date of transaction, amount, merchant location, merchant upi id, merchant mobile number, address.

Merchant Name	Transaction Id	Date	Amount	UPI ID	Address	Location	Mobile Number
ABC store	153	12/12/2022	500	abc@merchantupiid	XYZ street Pune Maharashtra	18.446762, 73.816229	9999999999

V. MOTIVATION

As students living in hostels it would be very hard for us to constantly go to the bank or ATM to take out cash from our bank account but thanks to UPI payments that problem was solved and we shifted to UPI payments without a second thought. Without knowing that we were drawn to a wolf that will bear its fangs towards us in the near future. The problem was when we had cash we could keep a track of where the money is going as we had physical money to spent so we kept a track of all our financial expenditure , But as we shifted to online mode of transaction we neglected the track part and just kept spending though the apps keeps track of where we

spend the money but it is not as we used to do. The app keeps a track of the merchant UPI id and the merchant name but manytimes the store of the merchant is not registered by his name so it becomes confusing to whom we paid our valuable money. So we thought why not try to solve this problem and make a solution that will not only solve our problems but will also solve the problems of many individuals and especially students.

III. CONCLUSION

This Application help user to analyse the bank statement and provide the analytical report on the account expenses.The provided output by the model in the graphical formats increases the understanding of the individual by studying different categorized fields and helps to manage and control their daily expenses.It also helps bank to make decisions on providing the loan for an individual.

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