**DESIGN AND IMPLEMENTATION OF ONLINE BANKING SYSTEM**

**BY**

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**INTRODUCTION**

The greatest innovation that has taken place in the twentieth century is in the realm of information Technology. This is currently made possible by the introduction of the digital computers which has been observed in the field of communication to be increasingly inseparable from communications. These linkages often referred to as convergence is driven by technology and amplified by business trends. Faster growth in network systems that use communication links to connect subsidiary system (nodes) which may send and receives, direct and redirect information. Talking of the internet a couple of years ago would have sound like a fairytale but today the internet is pervasive in almost every field of human Endeavour changing the fundamentals of how we conduct national as well as international businesses. Few years of its existence, the internet has shown that it can deliver the long sought after goal of electronic commerce.

It is worth that companies in the developed countries world-wide have recognized the business potential of the internet and are getting connected to the network of networks in their millions.

The financial institution (Bank) is one of such organizations. Banking constitutes one of the most prominent life wire for Socio-Economic grow and development in any given nation, it supports and assists in the supply of long and short term loan, accepts both current sowing and fixed deposits, both foreign transactions, advice and facilitates transactions between client, workers, agents, firm, buyers and seller by providing payment services, not excluding the issue of undertaking risk on behalf of their clients, only to mention but a few. The internet having found its application and acceptance in the banking procession has particularly put the banking industry on an accelerating pace of development. The technological highway (the internet) has become an enabler for Banks in achieving high level productivity and in handling volumes of transaction which would have been impossible without the use of on-line banking (E-commerce).

The technology facilitates linkages with clients both through the provision of information and quality service delivery, as well as in reducing barriers to entry into payment systems retail banking. Internet banking allows clients to engage in informal transaction relationship which would have taken long distance travels or movement of documents with the attendant risk of loss. With the online banking (internet) you can at your convenience, at home and at any time review account balances and transactions, transfer funds, receive and pay bills, down-load transaction services and contact customer services just to mention but a few. An over view of the benefits and prospects of the on-line banking suggest that for banks to be relevant to their customers in term of the services they provide in the twenty-first century and in the future, must append this services provided by E-commerce in the banking system in order to stay in competition. Now the on-line banking is the one thing bank should get up and invest in

internet technology to reap bounteously the benefit accruing from internet banking.

While Internet continues growing and gaining popularity among crowd, mobility represents new challenges to web designers. Wireless access is a new challenging mission in the current Internet era, with different demand for information by using less efficient terminals and networks. What really motivated our choice of topic was the fact that Information and Communication Technology (ICT) is not yet fully applied in May fresh Bank and in our economy as a whole. We felt that May fresh Bank Caritas University Branch should also exploit the use and application of this wireless system in order to enhance their operations effectively and efficiently.

**STATEMENT OF THE PROBLEM**

In banking industries today, queuing has become the order of the day, customers’ line up for hours waiting to withdraw or deposit money. This creates a lot of problem to both customers as they waste their useful time in the baking hall. The management also wastes their time as they run around to find solution to their problems. Also, it is observed that customers cannot withdraw money any time they want as banks has their working hours. This is a big problem as needs can arise at any time and human beings would always like to have those needs solved. Also, money deposited into accounts at times takes some hours to reflect in the persons account balance hence making banking operations slow and unhealthy for business growth. The purpose of this, research is to develop an online departmental fee management system that acts as a solution to the problems of the student’s tuition fee payment currently in the institution.

Some of the problems encountered in current banking systems are:

Management problems:

1. Loss of customer information’s or errors made while processing information about their transactions.
2. Miscalculations or errors made in the process of calculating the sum of the inflow and outflow of cash from enterprise accounts.

Customer’s problems:

1. Manual pre assessment of client’s profile, the system is very slow and consumes a lot of time which causes the delay in completing the entire enrollment process.
2. Consumption of time and human effort due to long queues in the process of paying money in the bank and the stress of converting draft into receipt.

Documentation problems:

1. Everything is done on paper and these are highly prone to damages and require a good amount of security and space to store.
2. Editing is another level of problem in those paper documents; the only option is to make new documents if any correction needs to be made.
3. Manual method of documentation does not provide backup.
4. Any minor or major work requires to be done at the bank.
5. Due to manual ways of generating report, such report can easily be misplaced or lost.

**AIM AND OBJECTIVES OF THE STUDY**

The aim of this project is to design and implement an online banking system.

**The objectives:**

1. To develop a new system that will enable quick payment and make transactions easier and safer using Python, hypertext markup language (HTML) and Structured System Analysis and Design Methodology (SSADM).
2. The new system that gives a quick access to data and modification of records if necessary.
3. To build a onetime entry for customer details in the system.

**SIGNIFICANCE OF THE STUDY**

This work would help the management and customers of banking institutions to have a better knowledge of operating on the method of automated transactions/payment and how this can be effective. It is obvious that the manual system is slow in operation and also ineffective in service.

The inconvenience brought about by the manual system could be overwhelmed by the use of more effective and advanced system. In other words, an automated system minimizes time delay procedures during student’s fee payment.

**To the Researchers,**

The researchers will not only provide information and design and implement an online banking system but will also gain knowledge and help them develop their skills when it comes to web-based applications and their professional career in the future.

**To the Bank Customers,**

Through this system, the customer will have a less strenuous method of carrying out transactions/payment which aids in the conservation of their time. This will reduce the lengthy queues and congestion at banks for payment. Further still, the project will also help to reduce the number of churning customers that are tired of waiting to reach bank counters to make payments.

**To the Banks,**

Through this system, the bank would need less staff and still have a transparent and reliable system. This would save resources and finances. The accounts officers would still verify customers’ transaction status.

**SCOPE OF THE STUDY**

This study is restricted to the banking industry and was intended to offer an automation of the banking process, through the development of a secure online banking system. This study focused on the development of an online system that allows secure online transaction and payment system for the banks. The system will be used by bank customers and bank staffs to carry out any banking process online, and by the bank account officers to verify customers’ transactions. The system captures financial information after payments are made and tracks all digital blueprint made by the users of the system.

**A BRIEF HISTORY OF ELECTRONIC PAYMENTS (LITERATURE SURVEY)**

Payments are made using payment instruments. Check and cash are examples of payment instruments. However, digital payment is not a single instrument but rather an umbrella term that is applied to many instruments used in various ways. It can be defined as a way of paying for services or goods via an electronic medium without the use of cash or check. It is also known as electronic payment system or e-payment.

The origin of digital payment is associated with the beginning of the internet, which changed the world as nothing before. If there was no internet, there wouldn’t be e-services and online stores. The internet history began in 1969 with ARPANET, the military network that was meant to be communication network during the Vietnam War period. However, the main turning point occurred in 1989 when Tim Berners-Lee discovered the so-called “pages” or “sites” that made it easier to access and publish information on the internet.

Along with the development of the internet, online payments began to operate in the 1990s. Established in 1994, Stanford Federal Credit Union was the first institution to offer online banking services to all its customers. Initially, online payment systems were not user-friendly and needed specialized knowledge of data transfer protocol.

In the beginning, the major players in the digital payment market were Millicent and E-cash, founded in 1995 and 1996 respectively. Most of the first online services used micropayment systems and their shared characteristic was the attempt to have electronic cash alternatives (like e-money, tokens or digital cash). Moreover, the Amazon (one of the e-commerce pioneers) was founded in 1994.

In 1998, PayPal began as a mobile payment firm with wireless transactions on Palm Pilots. However, it later focused on online payment when it established a strong customer base on eBay, a company that had a powerful auction platform. PayPal continued to create innovations one after another like sending payments using email addresses, launching the reverse Turing test to reduce fraud and making HTML payment buttons.

When eBay sellers started to enlist in PayPal, eBay felt threatened. It responded by creating Billpoint that mimicked much core functionality of PayPal. Instead of building innovative features to reduce friction for customers, the company began to cajole users into accepting Billpoint by exercising more control over its platform. Some tactics used by eBay included offering free listing days to Billpoint users, requiring the use of Billpoint for its Stores sites and cutting fees.

Not only eBay tried to defeat PayPal with monopolistic power and marketing gimmicks but also financial institutions such as banks attempted to pursue legal means against the company to categorize it as an unsecured service or a bank.

Finally, after realizing that its customers preferred PayPal as their payment solution, eBay acquired PayPal. After some years, PayPal realized it was spending a lot of resources to improve the shopping experience on eBay instead of focusing on reducing friction for customers of the payments market. In September 2014, three weeks after Apple launched Apple Pay, eBay announced PayPal’s separation. Meanwhile, Alipay quietly surpassed PayPal and become the biggest mobile payment solution with approximately $150 billion worth of transactions in 2013.

Due to the wide spread of internet-based shopping and banking, digital payment system grew fast. With technology development, many digital payments companies have been established to increase, improve and offer secure e-payment transactions.

**METHODOLOGY**

According to Ndunagu (2004) “Strauss and Corbin in 1998 defined Methodology as a way of thinking about and studying social reality”. “Potter in 1996 defined methodology as strategies that lay out the means for achieving the goals of research”. They all defined methods as procedures and techniques used to reach the study’s goal. “Potter in 1996 sums up the inter-relationship and differences by stating: “Methodologies are the blue prints; methods are the tools” (Donald, 2004.). For the purpose of this work, the Structured System Analysis and Design Methodology (SSADM) were used to analyze the system. In this, the Top Down Design approach was used, where the entire system was broken into several subsystems and each subsystem also broken into different modules.

**SYSTEM REQUIREMENT**

In order to realize this project, the following software components were used.

**Hardware Requirement**

In the cause of the design, the software developed needed the following hardware for an effective and efficient operation of the new system.

Intel Computer System:

1. At least 512 MB RAM

2. At least 40gb hard disk

3. Colored Monitor

4. An uninterruptible power supply (UPS)

5. Printer

**Software Requirement**

The software requirement includes:

**1.** A window 98 or higher version for faster processing

**2.** Xampp (Apache Server)

**3.** VS Code Integrated development environment (version 6.0) or higher

**4.** Web Browser

**CONCLUSION**

The aim of this project is to provide a computerized banking system to be used in the bank. This project has been successfully completed and will go a long way to change the mode of operation of Banks especially to improve efficiency of the bank.

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