

Invoice Management System Using Salesforce

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Abstract

An invoice management system is an online internal business system that manages invoice documents from vendors and suppliers. It is a tool that generates billing for rendered services and products respectively.

Keywords

Salesforce, SalesforceAdmin, SalesforceDeveloper, Apex, Force.com, invoice generating.

Introduction

Paper bills are now the primary channel of communication between companies and their customers. However, their potential for personalization is limited, and they are not interactive. If a customer wants to react to something in his paper bill – for example, to make a customer service inquiry or to order a new service – he must make a telephone call. Internet Billing promises far more than a new and inexpensive way to deliver billing information. Industry experts predict that Internet Billing will fundamentally change the way companies interact with their customers. So we introduce a new management system that is Invoice management using Salesforce is a new

task as Salesforce is an emerging technology In IT industry. As in this invoice management system we simply generate invoices for products or rendered services through a automatic system which uses Salesforce platform and doing some additional operations like we add a customer and take all the required details of customer and add some conditions over generated invoices and give a reminder to the customer if any of the customer have some due amount to pay to the render. Here we choose Salesforce technology to do all the tasks as it is simple to use and have very user-friendly interface and done all the development part using APEX language which is an object-oriented language. APEX is used while creating the schema and flow of the invoice and some automatic operations that this system will do like giving a reminder through the email text message etc.

Related (Background) Work:-

The concept of electronic billing is not new. Since the advent of the Internet, a small number of consumers have been using this electronic medium to pay bills online after receiving standard paper invoices via regular Postal Service. What is new in the electronic billing arena is the concept of electronic bill

presentment. With electronic bill presentment, companies that send bills (billers) post consumers' statements to the Internet, enabling consumers to view the statements and make e-payments. With ever increasing spread of Internet, Bill presentment and payment is becoming a new type of service area for periodic billers like Telephone Companies, Electricity etc. billing system, below are some of these studies and their result are referred to:

J Crookes (1996):-proposed MSBS(multiservice billing system

Albert Levi, Cetin Kaya Koc (2009):-proposed a new Internet e-payment

protocol, namely CONSEPP (Convenient and Secure E-Payment Protocol)

Proposed methodology:-

Given below is the methodology of the project:

❖ Schema building(objects) :-

Making objects for storing data of customer.

In objects we have fields in which we stored the data and perform processing on that stored data after making objects .

❖ Making profiles and roles:-

Profile:- It is basically a object level access and field level access and It is required for the users and It will use to differentiate the functionality.

Role:- Role is basically a record level access and It is not required for users.

❖ Developing approval process :-

In developing approval process we simply put a condition that is if the invoice of a customer is more than a specific amount then the invoice is send to the higher authority for approval then It

will be approved by higher authority and then we will generate the invoice.

❖ Making 2 factor authentication for users (employees):-

Adding 2 factor authentication in our system so that non-authorized person cannot access the account and it will ensures high security in the system so there will be less chances of stealing data and made changes into existing data.

❖ Apex classes and Triggers (business Logic):-

Apex can be invoked by using triggers. Apex triggers enable you to perform custom actions before or after changes to Salesforce records, such as insertions, updates, or deletions.

A trigger is Apex code that executes before or after the following types of operations example :- insert, update, delete, merge, upsert, undelete.

❖ LWC components for front end :-

Lightning Web Components (LWC) is a stack of modern lightweight frameworks built on the latest web standards. It is a DOM (Document Object Model), element created through reusable code and is used to generate a dynamic interface without using JavaScript or building a Library.

LWC has three main keys: Lightning Web Component Framework: framework's engine. Base Lightning Components

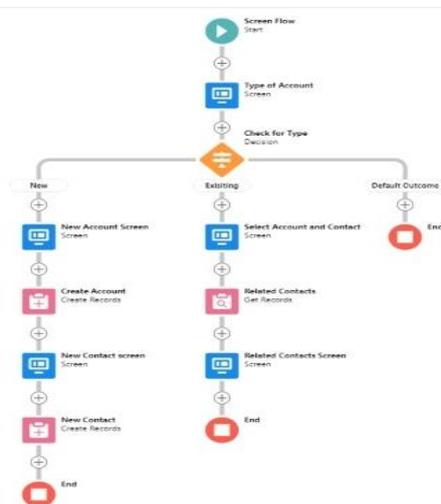
Result(s) & Discussion:-

- There is always the assurance that the application can be scaled up in tandem with growing customer demand. Therefore, consumers do not have to worry 7 about acquiring additional computing infrastructure. Notably, this is

one of the advantages offered by the multi-tenant architecture.

- Since SaaS customers only pay an ongoing subscription based fee for the duration of their contract term, providers are obligated to be more accountable than traditional software vendors. And because the SaaS providers' performance is a critical factor to their remaining in business, they undoubtedly would be committed to giving excellent service to their customers. On the other hand, traditional software vendors receive large upfront payments as license fees; and their responsibility is considerably reduced after software deployment.
- An invoice is a commercial document which contains billing information that derives from sales transactions between a supplier and a buyer. In other words, it represents a written verification of the delivery of goods and services from a seller to a buyer. Invoices are an important part of the bookkeeping and accounting processes of any business because they hold sales and transaction records.

Data Flow Diagram:-



Conclusion:-

The main goal of this project was to develop an online invoicing system based on the Software as a Service model. This has almost been accomplished, although wider distribution of the product has not commenced. The front-end website that will handle customer subscriptions is currently under development at the time of writing and bugs are still being fixed on the back-end administration panel. This is done in close cooperation with a few early customers whose ongoing use of the system exposed some previously hidden bugs.

References:-

- Maier, R. (2007). Knowledge management systems: Information and communication technologies for knowledge management: Springer Verlag.
- Maier, R., & Schmidt, A. (2007). A.: Characterizing knowledge maturing: A conceptual process model for integrating e-learning and knowledge management. Paper presented at the 4th Conference Professional Knowledge Management Marwick, A. (2010). Knowledge management technology. IBM systems journal, 40(4), 814-830.
- May, M., George, S., & PrbvGt, P. (2008). A closer look at tracking human and computer interactions in web-based communications. Interactive Technology and Smart Education, 5(3), 170-188.
- Mercer, N. (1995). The guided construction of knowledge: Talk amongst teachers and learners: Multilingual Matters Ltd.
- Moertini, V. S., Athuri, A. A., Kemit, H. M., & Saputro, N. (2011). The Development of Electronic Payment

System for Universities in Indonesia: On Resolving Key Success Factors. Arxiv preprint arXiv: 11 05.0 153.

- Nonaka, I., & Von Krogh, G. (2009). Perspective---Tacit Knowledge and Knowledge Conversion: Controversy and Advancement in Organizational Knowledge Creation Theory. *Organization Science*, 20(3), 63 5-652.
- <https://developer.salesforce.com/docs>
- <https://developer.salesforce.com/docs/?sevice=Force.com&sort=title>
- <https://github.com/trailheadapps/lwc-recipes>