

Instant Financial Update Provider Application

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Abstract

Department of Financial Services (DFS) oversees several key programs/initiatives and reforms of the Government concerning the Banking Sector, the Insurance Sector, and the Pension Sector in India. Therefore, the concerned officials need to be updated in respect of any news or changes that happen in these financial matters and the information should be available on mobile/email.

The proposed solution is a one-stop platform to connect different sectors and hierarchies of the banking system and government which can reduce the communication barrier and provides one-click information access and enables instant transmission of circular and information updates irrelevant of the holidays and working hours. The solution keeps data security as its top priority with the help of keystroke biometrics and also ensures 24*7 data surveillance.

Keyword

Mobile Application, Keystroke Biometric, Cloud Storage

1. Introduction

In this era of faster communication and lesser patience, everyone wants information within seconds. The information has become the most valuable thing and even a slight delay in information can bring major and impactful results. And if we put the financial sector in this scenario then this speed of information passing becomes more crucial as it can lead to huge losses. Due to these possible threats, the financial department needed a platform that can help in the faster passing of circulars among the different hierarchies and different sub-sectors.

Our goal while creating this application was to provide a platform which can not only circulate information but also capable enough to solve common doubts

and also to establish communication between officials. While creating such platform one of the biggest concern is Data Security as we know security is the most essential parameter to be checked so not only we have ensured security with Unique Login ID and password but also we have advanced it with Keystroke Biometrics.

2. Scope

Our application has a vast scope as it majorly covers the 3 most important sub-sectors of finance which are Banking, Insurance and Pension with further future possibilities of addition of more sub-sectors like Stock Trading and Mutual Funds.

This application is based on a hierarchical structure which allows its usage in different sectors also (with little modification) as every sector is comprised of different level of hierarchies and officials.

3. Purpose

The purpose of creating this application was to provide financial department a platform which can handle its major sub-sectors and be able to circulate information among them in the fastest time possible. The purpose was also to help financial department to make its information passing channel more secure so that information cannot be compromised and the department could be saved from the losses which can occur due to compromised information or delay in the time taken to pass-on the information to the concerned officials.

4. Existing Solution

There is no similar application in existence for the same purpose but there are applications which are used in the banking sector for banking operations and they do transfer information among officials but in an inconvenient way and sometimes restricted between hierarchies and sub-sectors and also are not able to solve common doubts or answer frequently asked questions.

One such application which is most common in terms of usage is Finacle. Finacle is actually a set of services which is under the control of IT giant- Infosys. Finacle provides a number of services which overall constitute to the functioning of all the banking operations and it also looks after the complex software structure involved. But what Finacle doesn't provide is that it is having circular passing in a kind similar to email and if we have to pass it to the lowest level official present then

we have to go through layers of multiple passing. Finacle has only basic level of security and information passing between two different sub-sectors is also difficult as well as access to the database is time restricted and multiple device compatibility is also an issue which is a drawback. Due to these flaws in the existing technology and absence of an application for the particular purpose we created this application to overcome all the difficulties and to provide a better and faster tool for the purpose.

5. System Architecture

MODULES

1. User Module User's logins are credentials based provided at the time of registration with the application and are divide into various sets based on their sectors and departments belonging to financial services. The senior official is responsible for information passing and modification updates to the junior official, and the junior official generates correspondingly
2. Admin Module Admin modules direct to the finance ministry of India, monitoring the whole process, and managing the login, information passing and updating and modifying systems, ensuring confidentiality, availability, and integrity of information, holding information security top preference

BASIC WORKING

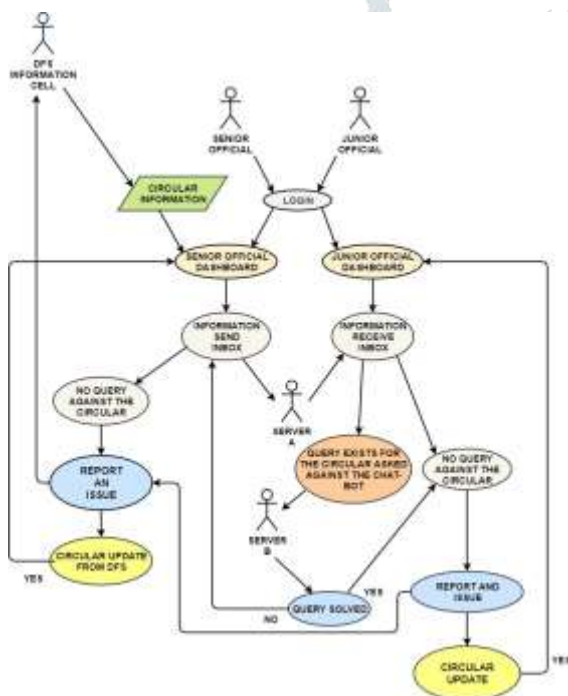
This app lets the user log in to the application based on their sectors and roles in the financial services hierarchy. If the user belongs as a senior official, then they'll be in charge to share information and crucial updates with junior officials under their responsibility.

In case, if junior official finds and issue with the information or notice being shared they can raise query correspondingly in CHAT-BOT, if still unsolved they can continue to ping the senior official for solving the raised issues. Junior and senior officials can continue to discuss issues using a simple message inbox as well.

If the finance ministry finds similar queries related then they are responsible to modify the CHAT-BOT corresponding the information passed accordingly.

In case of no more relevant updates to be shared or to be accessed user can log out of the system.

USE CASE DIAGRAM



TECHNOLOGY MODULE

- AWS Cloud Computing - AWS Cloud Computing is used to store and access information from the AWS server database. The reason for using this was

to ensure the usage of the database and its features as per requirements only. CHAT-BOT - CHAT-BOT is used in the application for query solving raised in concern with any circular passed. We have used Dialog Flow to create CHAT-BOT as it is easy to integrate. And comes with easy to train feature

- Keystroke Biometrics - An authentication method that uses the rhythm of a person's typing on the computer. This rhythm is recorded when typing in username and password and compared against future logins. We have selected this method for login procedure, as it is considered as one of the world's most secure biometrics method
- Flutter Mobile Development - SD Kit for Mobile Application Development. It benefits in creating a single code base for Android and iOS based operating platforms. The whole UI of application and its functioning is based on Flutter Development.
- MySQL - Relational Database Management System. Used for handling Database of Mobile Application. We have set an interaction between MySQL and PHP for Database Working.
- PHP - We have used PHP to handle website Database. It works effectively, and is best for maintaining security aspect of the application.

6. Key Features

- Platform Independent : The application introduced using Flutter and dart, and a website version for the same plan, ensuring platform and accessing time independent of the application
- 24 * 7 Data Surveillance : Applications keep track of users accessing the information for any

purpose 24*7 making sure that no information exposure, enables mail notification, helping users getting notified whenever any log-in made using their credentials.

- Authenticate and Authorize User : Unique user-id and password generated at the very first for accessing the platform, credentials are created based on email-id or unique number provided to DFS at the while getting registered for the platform.
- Query Solving CHATBOT : For every circular or information shared, if any issue raised can be solved using CHAT-BOT attached corresponding to the circular and if still unsolved can be shared with senior officials or experts
- Cloud Based Data Storage : AWS Cloud Computing - AWS Cloud Computing is used to store and access information from AWS server database. The reason for using this was to ensure the usage of database and its features as per requirements only.
- Typing dynamics : An authentication method that uses the rhythm of a person's typing on the computer. This rhythm is recorded when typing in username and password and compared against future logins.

7. System Evaluation

ADVANTAGE

1. Keystroke biometric use for login purpose, assuring the most secure login method
2. Cloud-based database hosting, most reliable solution for maintaining and tracking information in the system
3. Cloud-based CHAT-BOT for query solving, and training and regular modifications ensuring consistency in working
4. Mobile application designed to work on various devices irrespective of their specification

5. Various security majors established to guard the whole process of the application

APPLICATION

1. Used by the finance ministry of India for communication set between various sectors and hierarchies available
2. System with a similar hierarchy can implement for information sharing
3. Reliable and secure system for communications

8. Conclusion

The system will reduce the time for communication set up and generates a channel for information passing. The application will overcome various requirements of the finance ministry for information passing. Keeping security at this top priority, the application ensures solving raised issues at various levels, ensuring loads distribution and efficient working of the application. It will discretely manage various departments, and no information cross-over unnecessarily.

Acknowledgement

We want to extend our faithful appreciation and gratitude to our mentor Prof. Upendra Kumar Tiwari, for his precious supervision and for giving us valuable inputs and support and repeatedly, which inspired us to work more enthusiastically.

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