



## Rayquaza Centralized Billing Application

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### ABSTRACT

In the current situation where, contactless transaction is of much importance we are able to provide a solution to ensure that all your bills and receipts are stored under one App without having to keep a physical copy. The market is filled with Apps in which customers have to manually scan or type in the bill details. With the introduction of our centralized app, these bills will be directly sent to your registered account. Keeping a soft copy also comes in handy when you have to return or replace something that you have bought. The App is built using Android Studio and SQLite.

**Key words:** Android studio, Application, OCR, Transaction.

### 1. INTRODUCTION

Rayquaza centralized billing app is a centralized billing system that brings all your day-to-day bills and receipts under one application. The purpose of the project is to build an application program to reduce manual work for managing the bills and payment mode by the customer. The main objective of this application is that the customer can store their bills online. After each purchase the bill or receipt will be directly sent to the customer. It is difficult for customers to keep their bills in a safe place and as you all know most of the shops do not accept a return without a receipt. So, by storing the bills and receipts in an application it is convenient for the customer to access his bills whenever it is required. Another advantage is that paper waste can be reduced by going digital. Most of the people will throw the paper bills that they are receiving from a shop to the surroundings which will increase the paper waste. And by going digital the customers can have a contactless shopping experience. During this current pandemic situation, it is preferred to have contactless shopping. Expense report is generated using this application so that the customer can analyse his spending pattern. By analyzing the expense report the customer can understand in which area he is spending more money and so he can control spending money in that area next time. In the existing

applications you can only scan and store the soft copy of the bills. Our system creates a safe and secure environment for handling bills and receipts online. During the initial stage of

the project, it is not necessary that every store the user visits is able to send the receipts online. So as a countermeasure our app will also provide OCR [1] technology by which users can scan and store physical receipts directly to the app. This application will be a completely user-friendly application for the customer. The customer can easily study the functionalities of this application and it will be a very helpful application for the customers. By using this application, the customers can stop bothering about where they kept their day-to-day bills as all their bills are securely and safely stored at our application. With new innovations and proper usage, financial technology can be the key to successfully managing one's money.

### 2. RELATED WORKS

#### 2.1 How to Grow a (Product) Tree Personalized Category Suggestions for eCommerce Type-Ahead

In an attempt to balance precision and recall in the search page, leading digital shops have been effectively nudging users into select category facets as early as in the type-ahead suggestions. In this work, we present Session-Path [2], a novel neural network model that improves facet suggestions on two counts: first, the model is able to leverage session embeddings to provide scalable personalization; second, Session-Path predicts facets by explicitly producing a probability distribution at each node in the taxonomy path [3]. We bench-mark Session-Path on two partnering shops against count-based and neural models, and show how business requirements and model behavior can be combined in a principled way.

#### 2.2 Mobile Applications Recommendation Based on User Ratings and Permissions

Nowadays a large number of portable android applications are coming into the market. So, it has become a very difficult task for the user to ensure the security [7][8] of the mobile

applications that he wants to install. So, to simplify this, we propose a mobile App recommender system [4] with popularity and security awareness. The design aspect is to recommend mobile applications by evaluating the security risks of mobile apps and popularity based on user ratings. We use a web crawler which indexes the applications and stores them in a database. Then the applications are clustered based on its popularity and user ratings [6]. Whenever a query executes the proposed android application lists out apps from Google Play Store with its security rating. The security risk of the applications mainly depends on permissions [5] that the application uses and its user popularity. The objective of this paper is to provide an effective recommendation system without compromising security aspects and popularity

### 2.3 Design and Implementation of an electricity on-line billing payment system

Electricity consumers are often faced with the problem of inaccuracy and delay in monthly billing due to the drawback in reading pattern and human errors. Thus, it is essential to have an efficient system for such purposes via electronic platforms with consideration to proximity. The proposed system automates the conventional process of paying electricity bills by visiting the Electricity Board which is tiresome and time consuming. It is also designed to automate the electricity bill calculation and payment for user convenience. The system is developed with Microsoft Visual Studio using C# as the base programming language which can be used to develop websites, web applications and web services. The Microsoft Structured Query Language (SQL) server [2] is also used for creating back-end databases. The system would be having two logins: the administrative and user login. The administrator can view the user's account details and can add or update the customer's information of consuming units of energy of the current month in their account. The admin has to feed the system with the electricity usage data into the respective user's account. The system then calculates the electricity bill for every user and updates the information into their account every month. Users can then view their electricity bill and pay before the month ends.

### 3. PROPOSED SYSTEM

Initial stage of creating any application is to choose the right development environment and database. Android studio was chosen as the development environment and SQLite as DBMS.

The first module of developing an application is to create a sign-up portal. In this app there are two portals available, one

for the customer and one for the retailer both having different functionalities after signing in.

If a retailer is signing up, initially he or she will have to add basic details such as name, email id, phone number after that a verification link will be sent to the registered email address. After verification he is taken to a module where he is able to add the shop name, shop address, GST number, and upload the shop's logo. If it is a customer who is signing up, they will have to add their basic details including their name, email id, phone number. A verification link will be sent to their email address after verification they will be able to enter the home page. Where they have the ability to view bills, generate expense reports and view spending patterns and scan for storing bills they receive offline. The next step is to set the bill generation module for the retailer. There are different categories the retailer will have to choose from depending upon the store. After this they will be able to add items, quantity and price. After all the items have been added they can add the GST rate and the total will be calculated. Then the bill can be sent to the customer via Phone number or via email. The customer receiving the bill will be able to view the bill in the app and store it. With the included payment option built into the app the customer will be able to pay the retailer via PhonePe, Google pay, BHIM, Amazon pay, Paytm. In case if the store doesn't use our application, they have the option to use OCR implemented using Tesseract React-Native in the app where they will be able to scan the physical copy and store the bill online.

### 4. RESULT

Rayquaza is able to generate, send and store bills that we receive in our day-to-day from different stores into a single application. And this is of utmost importance in the current situation where everyone is preferring contactless transactions. This app also helps you manage and keep track of your spending pattern to ensure that you are not spending more than you want to. With the ability to pay the bill via app helps you ensure that this single app is the most capable companion that will help you in your shopping. A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

### 5. CONCLUSION

This research paper introduces a centralized billing system that brings all your day-to-day bills and receipts under one application. Now in this current pandemic situation using this application, Customers can make a contactless transaction

and after each purchase, the bill or receipt will be directly sent to the customer. By going digital, paper waste can be reduced, which will lead to an eco-friendly environment. It is difficult for customers to keep their hardcopy bills safe, so using OCR Technology customers can scan and store physical receipts directly to the app. Other special features are promoting stores with offers and discounts, sharing bills and receipts with friends and family members. And by going digital, the customers can have a contactless shopping experience and analyze the expense report, so the customer can understand in which area he is spending more money. By using this application, the customers can stop bothering about where they kept their day-to-day bills as all their bills are securely and safely stored under one application. With innovations and proper usage, financial technology can be the key to successfully managing one's money.

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