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Project 2 Final Writeup

ZIPSTER

Abstract

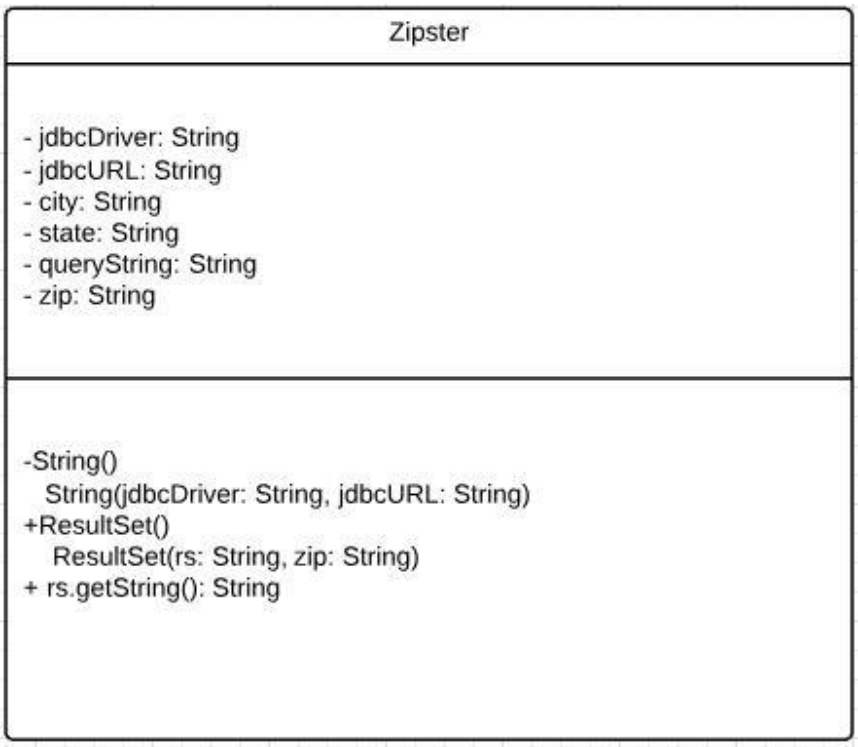
Zipster is an interactive program that draws from a database running in the background. With the application running at its full potential, a user will be able to input the name of any city and state in the United States, and the program will output all the corresponding zip codes. For the purposes of this project, however, the program will run a sample list of cities and zip codes created in Microsoft SQL Server.

Introduction

This program is designed to ease the process of typing a full address into text messages, GPS systems, etc. It takes away the hassle of having to search for zip codes on the Internet, and it puts them all into one application. Zipster uses a combination of Java and SQL Server Databases to link compile the data.

System Description

When the user inputs a city, the background database will gather the information. The portion of the application written in Java will allow the user to interact with the system while the SQL portion will select the zip codes from various tables and link them back to the user interface backed by Java. The two languages link together to create one harmonious application.



Requirements

Zipster addresses the problem of time. With this world running at such a fast pace, it is important to save time where we can. Zipster allows users to cut down time where they would not necessarily think time is wasted.

Literature Survey

The United States Postal Service has a software that uses a map of the United States. Users can zoom in and out of the map, and it will display the various zip codes according to geographic area. The map also shows the different districted lines that divide different suburbs. It also has an Excel software where the user can input a zip code, and the program will output the city, county, and coordinates.

Even though the United States Postal Service has a premade zip code search database, I took it upon myself to create my own data sets. Without a previous knowledge in database, I had

to educate myself on how to write and run queries. In Microsoft SQL Server, I created two tables: a city table to hold the names of cities and states and a zip code table to hold the city_id and zip codes for each city. I then ran one query to join the two tables together, using the city_id as a foreign key in the zip code table to link the two. The joining of the two tables created one cohesive table that possessed three columns: city_name, state, and zip. This is the data that runs in the backend of Zipster.

In my Java IDE, Eclipse, I then wrote my Java code to create the user interaction aspect of the application. I first had to find a way to connect the IDE to my queries in SQL Server. I connected the JDBC Driver to SQL Server by inputting the connection code; I then inputted the JDBC URL and added the port number and the name of my database into the URL. This linked Eclipse to SQL Server.

After the connection was established, I then prompted the user to enter a city and a state. I used a queryString to input the lines form my SQL query into Java; Java then searched through my database to find a match and print the corresponding zip code. Once the zip code was printed, the database connection was then terminated, and the program printed a message saying it eas finished.

User Manual

The system should be used to quickly search data. The user will simply input the name of a city into the program, the program will then ask for the user to input the name of the corresponding state, and Zipster will output various zip codes for a large metropolitan area. There are some multiple cities around the US that have more than one zip code for the city. In a newer version of Zipster, there will be an additional option where the program will prompt the

user to enter a specific suburb or cardinal direction. For better results, users should input the name of specific suburbs and towns rather than a large city.

Conclusion

The program seeks to combine the user interaction of Java and the background power of SQL. The goal of Zipster is to save time, save battery, and save anger for all of its users. It is an application that will be a large addition to the world and better the user technologies market.

References

https://www.unitedstateszipcodes.org/