Big\_Data\_Application Project

Data Analysis of food services in highway rest area

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key words: rest area, sales, variation of food provided

1. Introduction

This project provides a thorough analysis of food services provided in Korea’s highway rest-stop. The data used in this project includes the official data inquired from Korea Expressway Corporation (<http://data.ex.co.kr/portal/fdwn/vi>

ew?type=ETC&num=R3&requestfrom=dataset#) and data collected from actual surveys.

The goal of the analysis is to provide a statistically meaningful result concerning the distribution of rest-area and variations of food preferences depending on consumer’s age.

2. Tables, Figures and Equations

2.1 Tables and Figures

**Table 1** contains 2 variables id and area. ‘Id’ indicates the primary key of area where the rest-stops are located. The area is divided into 9 parts grouped by states and variable ‘Area’ is the name of each grouped states.

Table 1 Area.

|  |  |  |
| --- | --- | --- |
| variable | type | annotation |
| id | integer | PRIMARY |
| Area | varchar |  |

**Table 2** contains 5 variables collected from real-life survey. It includes the age, name, sex and the category of food they mostly enjoy at rest\_stops.

Table 2 CustomerInfo.

|  |  |  |
| --- | --- | --- |
| variable | type | annotation |
| id | integer | PRIMARY |
| age | integer |  |
| Store\_type | integer | FOREIGN |
| sex | integer |  |
| Customer\_name | varchar |  |

Table 3 RestAreaInfo.

|  |  |  |
| --- | --- | --- |
| variable | type | annotation |
| id | integer | PRIMARY |
| name | integer |  |
| area | integer | FOREIGN |

Table 4 StoreInfo.

|  |  |  |
| --- | --- | --- |
| variable | type | annotation |
| id | integer | PRIMARY |
| Store\_name | varchar |  |
| Store\_type | integer | FOREIGN |

Table 5 StoreType

|  |  |  |
| --- | --- | --- |
| variable | Type | annotation |
| id | integer | PRIMARY |
| Store\_type | integer |  |

**Table 6** are mostly composed of FOREIGN KEYS from other tables. It act as a sum of rest of the tables.

Table 6 wholestore

|  |  |  |
| --- | --- | --- |
| variable | type | annotation |
| id | integer | PRIMARY |
| Ra\_id | integer | FOREIGN |
| Store\_id | integer | FOREIGN |
| Area\_id | integer | FOREIGN |

3. Related Work

The initial idea of the project was originated from an article[1] introducing top 10 rest-area delicacy around the country. We found out that despite the frequent use of rest-areas there weren’t enough data analyzed. So we used the official data and borrowed the idea to order the rest-area by sales. Also by modifying the top5 sales item of each rest-area we integrated sales data with customer’s age and their preferences together.

4. Requirements

5. System Design

6. Implementation

7. User Scenario

8. Conclusion

References

[1]https://www.korea.kr/news/cultureColumnView.do?newsId=148840288

테이블 : 휴게소, 매장, 지역, 매출, 소비자

제공하는 정보

1. 휴게소 종류

2. 휴게소 내 매장 정보

3. 연령별 선호 매장

4. 매장 종류별 전국 분포 (pivot)

5. 매장 별 매출 범위

6. 휴게소 내 매출 순위

🡪 휴게소를 새로 열려는 사람들 혹은 휴게소 내 매장을 열려고 하는 사람들에게 정보 제공

php

index 휴게소 정보 제공 페이지에 관한 소개

- 전국 휴게소 목록

~ 휴게소 내 매장 매출 순위 보기

- 전국 휴게소 내 매장 목록

~ 매장 종류별 전국 분포

~ 매출 범위별 매장 보기

- 연령별 선호 매장

~ 소비자 조사 참여하기

- 관리자 모드 ( 수정권한 )

~ 소비자 정보 수정

~ 휴게소 정보 추가

~ 휴게소 정보 수정