Final project – Technical Report

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Application URL

I have hosted application on Heroku

URL: http://projectmd1.herokuapp.com/login

Full GitHub URL

I uploaded the application source code to github

URL: https://github.com/SangzunPark/DataScience

Project Summary

Through Data World's Part D insurance data from 2011 to 2015, users can learn about the use of drugs in the United States and investigate the needs for specific drugs and the reasonable price accordingly. The project targets consumers of medicines and national decision-makers.

Project Objectives and Usefulness:

- **Objectives:** Research drug consumption trends and prices and analyze whether the drug prices are reasonable considering the public interest. Also, think about optimal drug prices for the public.
- **Usefulness:** The target users of this website are patients or patients' families and national policy makers. A patient with a specific disease or a patient's family can use this data to find out if the price of the medicine they are consuming is appropriate, and through this, they can try a more reasonable purchase. National policy makers can know drug consumption trends and, by making direct or indirect adjustments to specific drug prices, find the optimal point for public interest and free market economic systems.

Technical Description:

Data: Dataset for and from the drug-spending channel in the Data for Democracy community. (https://data.world/data4democracy/drug-spending) and is created in 2018. The purpose of this dataset is finding ways to make Medicare drug spending data more consumable. The format of the data is 'CSV' and its column count is 12 in each year and row number is 4498.

Tools: I have implemented application with MVC(Model View Controller) architecture pattern and Java language for server-side programming.

Model: I used Mysql Database for storing data.

View: I used Java Script for Front-end.

Controller: I used Java for Back-end.

Deployment Platform: Heroku platform supports build and deploy web application.

Tools Used:

> **Front End:** HTML / JavaScript
>
> **Back End:** JAVA (Sping)
>
> **Database:** Mysql
>
> **Tools:** IntelliJ / Workbench

User Functionalities:

	Create ID/PW	Read and search record	Set record number to the current page	Sort (by clicking a column)	Chart	Modify, Delete, Insert record
General User	O	O	O	O	O	X
Admin User	X (default setting)	O	O	O	O	O

Evaluation (individual project)

What went well: I think the back-end work including the database part went well. And I think the logo was also well done.

What could be improved in the future: If I had more time, I think I could have made more useful column entries through feature engineering. And it would have been nice to create a level for the authority of general users.

Did you find any particular task interesting/useful to work on: Building the database was the most fun. I chose Mysql for the database considering the time required, but if I could have more accurately estimated the time required for the project, I would have challenged MongoDB. Because the database I was most interested in during this class was MongoDB. Also, implementing the application through the spring framework was both challenging and interesting.