Constructing and Opening of Safety and Environmental Data According to Population Distribution

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1. Background

- ## Business Background

  The background of this project is that NIA(National Information society Agency) tried to enhance their vast amount of public data annually, hence they hired many companies to do so. RodaIT took the task and poured best effort on this task.

- ## Technical Background

  Data maintenance and construction for unstructured data is necessary to secure more useful data.

  Need to be more robust and open to current data.

  It is necessary to secure convergence data from various perspectives by using data from not only our district but also other institutions to secure base data for policy.

  Need to open up high-quality, high-demand data.

2. Project Goal - in summary…

- Enhancing bad data

    Such as… 42)1234567 -> 042-123-4567

- Constructing meaningful data

    Electronic car register data + Electronic charge station data = Proportion of them.

- Opening data to the public

    Making API services for that purpose.

3. Targeted Data

- Safety   … CCTV, Flooding River Alarm

- Environmental   … Open Toilet, Air Pollution Status

- Population   … Registered Citizen and Foreigners

- Accident Status   … Traffic Accidents, Fire Status
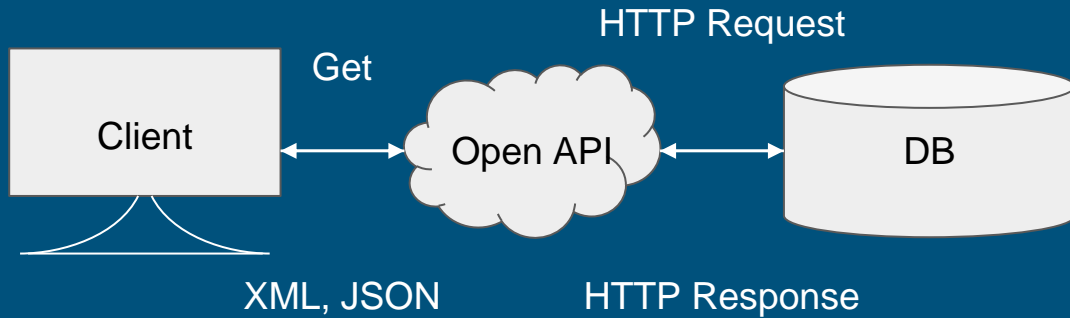
4. Project Schedule

Planned

수행기간(월)

세부내용	8/4	9/1	9/2	9/3	9/4	10/1	10/2	10/3	10/4	11/1	11/2	11/3	11/4	12/1	12/2	12/3	비고
1. Data Generalization	O	O	O	O													
2. Data Refinement	O	O	O	O	O	O	O	O									
3. Data Integrity Verification	O	O	O	O	O	O	O	O									
4. Data Mart Extraction	O	O	O	O	O	O	O	O	O	O	O	O					
5. DB Design and Deployment					O	O	O	O									
6. Data Loading					O	O	O	O	O	O	O	O					
7. Open API Design	O	O	O	O	O	O	O	O									
8. Open API Development	O	O	O	O	O	O	O	O	O	O	O	O					
9. System Test									O	O	O	O	O	O	O	O	
10. Open Data													O	O	O	O	

Actual

수행기간(월)

세부내용	8/4	9/1	9/2	9/3	9/4	10/1	10/2	10/3	10/4	11/1	11/2	11/3	11/4	12/1	12/2	12/3	비고
1. Data Generalization	O	O	O	O	O	O		O									
2. Data Refinement	O	O	O	O	O	O	O	O		O							
3. Data Integrity Verification	O	O	O	O	O	O	O		O	O							
4. Data Mart Extraction	O	O	O	O	O	O	O	O	O	O	O	O	O				
5. DB Design and Deployment				O	O	O	O	O				O					
6. Data Loading				O	O	O	O	O	O	O	O	O					
7. Open API Design	O	O	O	O	O	O	O										
8. Open API Development	O	O	O	O	O	O	O	O	O	O	O						
9. System Test									O	O	O	O	O	O	O	O	
10. Open Data													O	O	O	O	

5. Architecture for API Service

6. Inside Logic in Open API

API info

Dispatcher Servlet ←→ Controller ←→ Services ←→ Mapper

DB
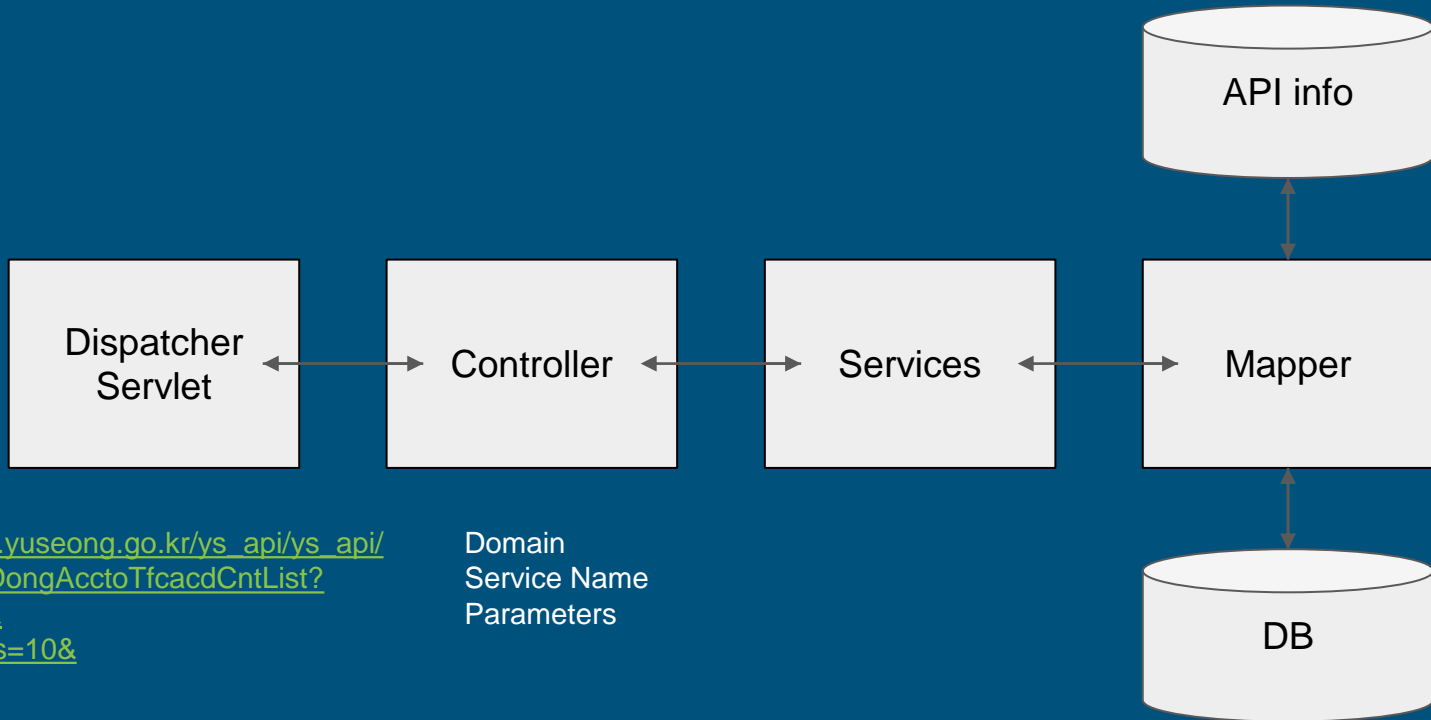
https://www.yuseong.go.kr/ys_api/ys_api/
getMnthngDongAcctoTfcacdCntList?
pageNo=1&
numOfRows=10&
rstTy=xml

Domain
Service Name
Parameters

7. More Examples

Electronic Car Charge Station Data in Yuseong-Gu: 892 rows

https://www.yuseong.go.kr/ys_api/ys_api/getElctyChrstnSttusList/?pageNo=1&numOfRows=10&rstTy=xml

Public Toilet Data in Yuseong-Gu: 391 rows

https://www.yuseong.go.kr/ys_api/ys_api/getPbctltSttusList/?pageNo=1&numOfRows=10&rstTy=xml

Yuseong-Gu air-pollution status per stations: 11396 rows, and rows are loaded on db even now

https://www.yuseong.go.kr/ys_api/ys_api/getCtprvnList/?pageNo=1&numOfRows=10&rstTy=xml

we can check today's air-pollution grades by put another parameter: &schYmd = 2022-12-16

8. Project Resul...

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Gatherings
Traffic accident status
Traffic accident count based on type of accident
Traffic accident count based on gender and age
Monthly traffic accident count per Dong
Fire count based on competent fire station
Monthly fire count per Dong
Fire count based on fire types
Fire status
Foreigner register status based on nationality and gender
Foreigner register status based on gender and age
Registered population status
Registered population status based on Dong, gender and age
CCTV install status
Civil defence shelter status
Emergency bell install status
Disaster forecast/alarm facility status
Yuseong-Gu air-pollution station status
Yuseong-Gu air-pollution status per stations
Uninhabited house status
Monthly electronic car registered count
Car registered status
Electronic car registered status
Electronic car charge station status
Open toilet status
Public toilet status

Constructed
Electronic car charge station status
Electronic car registered status
Monthly electronic car registered count
Car registered status
Charge station per Dong status compared to electronic car registered count
Electronic car status per Dong compared to car registered count
Electronic car registered count status per Dong compared to population
Yuseong-Gu air-pollution status per stations
Yuseong-Gu air-pollution station status
Monthly average per air-pollution station
Public toilet status
Open toilet status
Public and Open toilet counts compared to population per Dong
Security lamp rate compared to population per Dong
Emergency bell install status
Emergency bell rate per Dong compared to population
CCTV install status
CCTV install rate per Dong compared to population
Disaster forecast/alarm facility status
Civil defence shelter status
Uninhabited house status
Uninhabited house rate per Dong compared to population
Traffic accident status
Monthly traffic accident count per Dong
Traffic accident count based on type of accident
Traffic accident count based on gender and age
Traffic accident rate per Dong compared to population count
Children traffic accident rate per Dong compared to children population
Traffic accident rate compared to registered car count
Fire status
Monthly fire count per Dong
Fire count based on fire types
Fire count based on competent fire station
Registered population status
Registered population status based on Dong, gender and age
Foreigner register status based on gender and stay qualification
Foreigner register status based on nationality and gender

Open
Electronic car charge station status
Charge station per Dong status compared to electronic car registered count
Electronic car status per Dong compared to car registered count
Electronic car registered count status per Dong compared to population
Yuseong-Gu air-pollution status per stations
Yuseong-Gu air-pollution station status
Monthly average per air-pollution station
Public toilet status
Open toilet status
Emergency bell install status
CCTV install status
Disaster forecast/alarm facility status
Civil defence shelter status
Traffic accident status
Monthly traffic accident count per Dong
Traffic accident count based on type of accident
Traffic accident count based on gender and age
Traffic accident rate per Dong compared to population count
Children traffic accident rate per Dong compared to children population
Fire count based on fire types
Registered population status
Registered population status based on Dong, gender and age
Foreigner register status based on gender and stay qualification
Foreigner register status based on nationality and gender

9. Future

- Develop applications that based on our data.

  By using Electronic car charge station data, we can think about a map application for electronic car owners to find the charge station easily.

  By using Air pollution data, we can think about an application that alarming bad weathers to users.

  By using Civil defense shelter data, we can think about a service that delivering shelter's location to citizen's phone at the time when it is needed.

- Local governments can use these data for generating new policies for citizen.

  By using Monthly traffic accident count per Dong data, local governments can easily see the difference between the best and the worst dong, and try to modify policies for preventing traffic accidents as the best Dong did.

Thank you