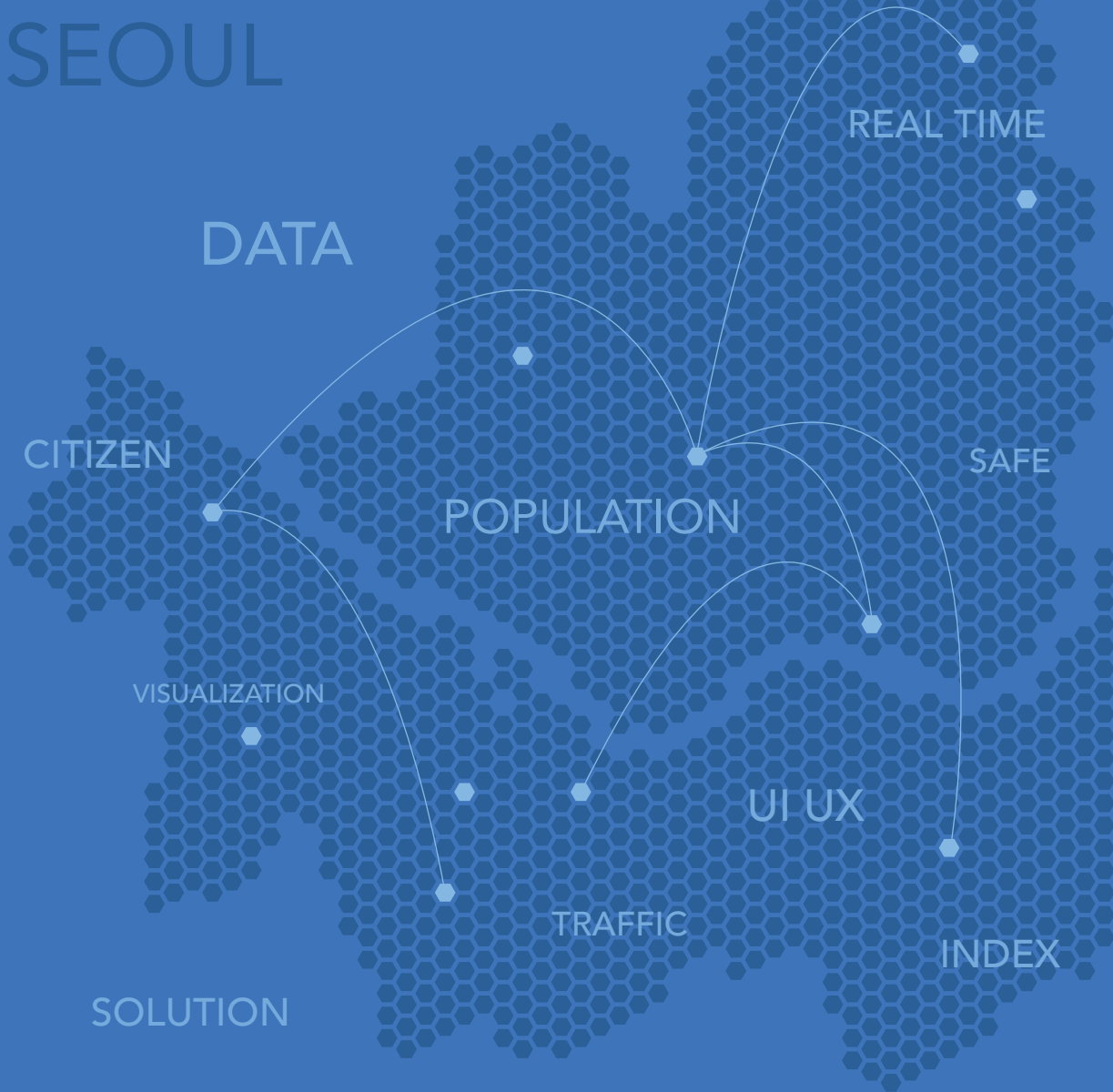


Seoul Smart City Platform White Paper

Smart City Manual for Citizens and Mayor

SMART CITY SEOUL



OPEN

Seoul Smart City Platform
White Paper
Smart City Manual for
Citizens and Mayor



강서구 재난	
재난	0건
화재	0건
구소	1건
구급	1건

자세히보기 >

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1. Preview

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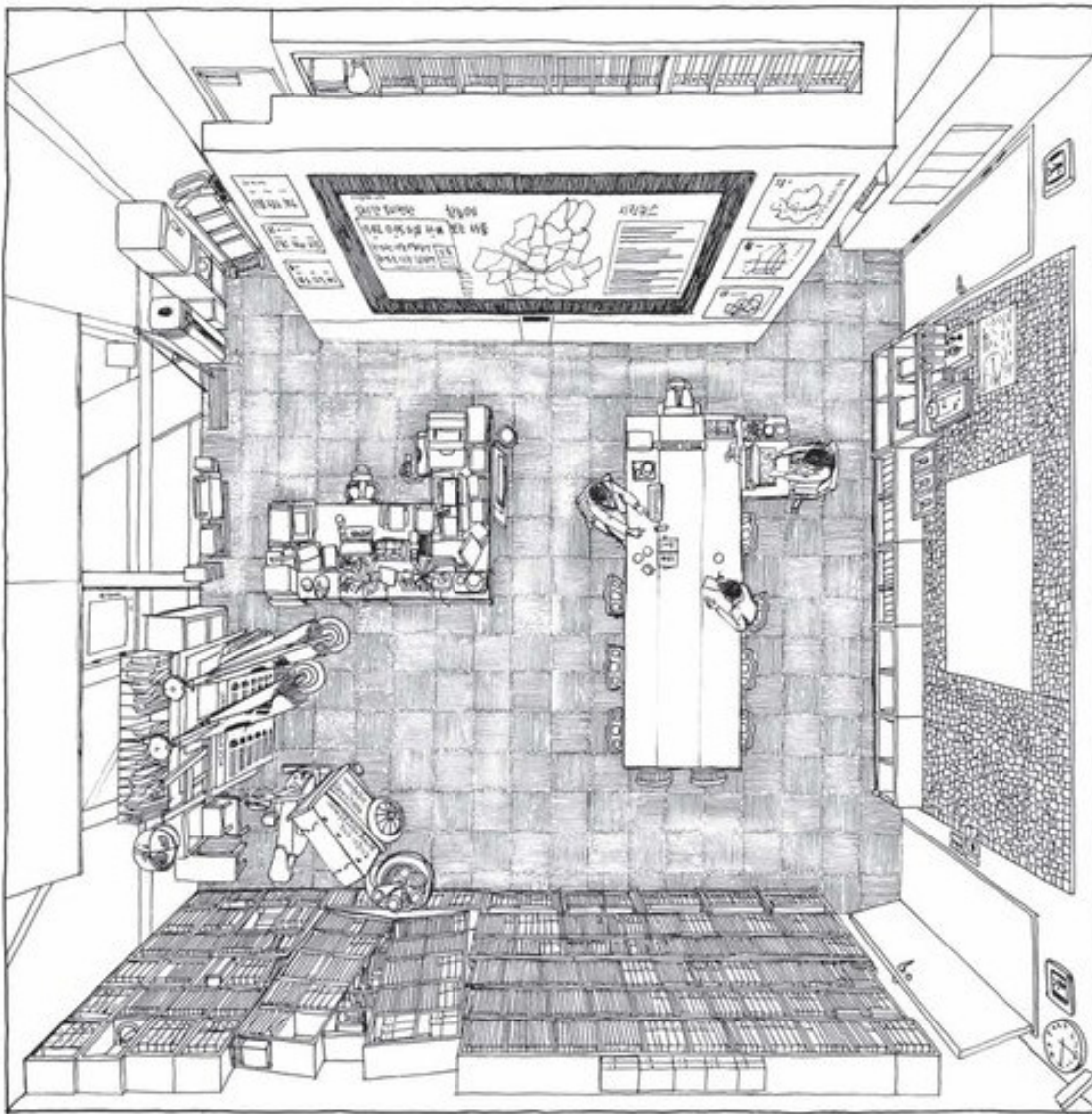


Image Source: The Mayor's Room

1-1

The Story of the Smart City Platform, A New Day in Seoul City Hall

Inside of Seoul you can find another Seoul. There are two Mayor's Offices inside of City Hall. The size of this Seoul is 3.53m in width and 1.67m in length. Its name is "Smart City Platform".

Where is the Smart City Platform? Perhaps it is hard to imagine the answer. This new mayor's office is not in the 'office' but on the 'wall'! The Smart City Platform refers to a large screen(3.63m X 1.67m) installed in the Mayor's office. A screen that allows you to see all 605.2km² of Seoul at a glance. It is not just about what you see. The screen can be touched, given voice or motion commands to access a plethora of information as well as perform tasks.

This state-of-the-art system was created for work efficiency and city management transparency for the Mayor's use. The Smart City Platform was designed to provide real time monitoring of incident scenes and situations, offering visualized information for the top decision maker in the city to navigate the integrated information intuitively. It improves the efficiency of administration by connecting video calls to officers in charge. In 2017 when it began, the core function was to improve the on-site disaster coordination and mobility as well as to allow quick access to the administrative information. For example, it can reduce damage of a big fire by allowing quick judgment calls to be relayed with instructions and is able to collect a variety of data and display it all quickly; this all leads to improved work efficiency from the Mayor.

In 2019, the Smart City Platform strengthened its already existing functions and made new additions; it became smarter and stronger.

A thought crossed the mind of the Mayor as he looked out onto the City Hall Square,

“Seoullo, 7017” he said.
 “Heading to Seoullo 7017”
 replied the Smart City Platform.

The Smart City Platform reacts to voices. The content requested by voice command appears on the screen quickly with pertinent information. It is fast and easy to call officers in charge as well as access desired information such as documentation reviews. The voice recognition capabilities have improved a great deal. With command recognition capabilities regardless of locations, it is possible to make easy voice commands in the Mayor’s room without being close to the screen.

It is possible to use the Smart City Platform not only with the screen in the mayor’s office, but also with a smart watch, tablet PC, mobile device and smart TV. Accessibility has improved. Additionally, the Smart City Platform recognizes human motions and can search various menus. If you perform a saved motion in front of the monitor the connected system recognizes it and navigates the screen as desired; this feature has become stable.

Stable call, voice, video and conference features that improve the quality of administration should be a priority. Seoul City’s main situation rooms and the Smart City Platform helps allow conferences to take place regardless of time and location which improves the speed, quality and the decision-making efficiency of administrative tasks. This is indeed an innovative feature that reduces redundancy and wasted time.

Seoul City enhances not only the work efficiency but also transparency and fairness of the City management by turning information into data and sharing that data with citizens. You can receive a status report on the Seoul City’s projects such as ‘Seoullo 7017’ and ‘Sewoon Again Project’ via the Smart City Platform.



Additionally, you can check project summaries, details, related documents, project progress and related news all at once. Not only that, it is also possible for the Mayor to check document approvals, pictures for policies and reports via DID and a smart TV.

There is technology and a vast amount of data secured behind the system by Seoul City. All digitized data including 16 million administrative big data from across over 300 systems such as Open Data Plaza providing public data of Seoul City, TOPIS and Integrated Safety Situation Room (300+ million of raw data), 1,200 units of CCTV video information across Seoul, 120 Dasan Call Center, social media and civil complaints from windows for civil petitions are reflected in the Smart City Platform.

The Smart City Platform is also a content platform that finds and makes up for the information which is essential and responsible for citizens and their safety. The real time city status that are closely connected to the lives of citizens such as air quality, water quality and price information are monitored and used to direct the right way for policies.

Applying these factors, the Smart City Platform's main screen is featuring four elements; ①Seoul at a glance, ②Real-time city status, ③Administrative status and ④ Administrative news. Additionally, you can change the location of the menu on the large wide screen by dragging, depending upon the user's body and work habits.

The Smart City Platform, introduced in May 2017 and publicly released in April 2019, quickly shares administrative data and enhances public accountability. Through the Smart City Platform, citizens become cooperative partners in city management, who can see the city at a glance and manage it quickly.



The new stories of Seoul are to be continued,
The new day of Seoul is ongoing, The new future of Seoul is coming soon.



1-2

Smart City Platform Preview

We dream of a fair world. A society that allows everyone to express and suggest their own opinion in an equal manner. The society we are living in now is built upon this premise. Is it possible for everyone to be a top decision maker? Perhaps it is an impossibility.

However, Seoul deliberates on a way to find a solution for the impossible matter. Seoul researches the most efficient methods and pursues them to get closer to the answer; the city for everyone.

After 2 years of attempts to make the Smart City Platform happen in various departments, the Mayor requested the Data & Statistics division in the Information System Planning Bureau (currently Big Data Division) to complete the platform. Since then, it took 1 additional year and was completed in February 2016. The development started with the request of the Mayor for the creation of something to communicate directly with the scenes of the city by collecting and utilizing technology and data secured by Seoul City.

First, Seoul City adopted the results of the public data research conducted since 2013 to integrate big data. Each department provided the required data



and participated in the content planning. After doing the groundwork, the initial model of the Smart City Platform was created on August 2016.

The foundation of Seoul City's data is "Open Data Plaza" (data.seoul.go.kr). Open Data Plaza, one of the websites Seoul runs, releases public data to the citizens and communicates with them. This service helps Seoul improve work efficiency and transparency as well as create new services and public value with active civic engagement. It includes highly utilized public data such as traffic, culture, education and health. The private sector, public institutions, organizations and academia gathered to engage and utilize the public data. The Open Data Plaza works as a sort of communication square, allowing participation and sharing.

The basic function of the Smart City Platform is to connect the generated data to the mayor's office in real-time. The collected big data is offered after being converted into comprehensive visual information formats about the status of the City and administrative activities. An equally important premise is that this whole project has been planned to ensure that the citizens have access to it. The digital transition of the City's information is also an indication of the transition of perceptions. Access to public services is available equally, the productivity has improved, efficiency, openness and accountability were strengthened.

Additionally, civic complaints, motions, opinions on administrative authorities and trends are collected as big data via social media. This way, public opinion is directly delivered to administrative authorities. The voice of the people are well listened to and permeate urban policies on a deeper level.



In terms of local governance, the Smart City Platform directly and meaningfully contributes to sustainable city and local communities. The immediate access to figures, real-time status of data, key projects and policy indicators increase the accountability of the city administration. The policy decisions take a few weeks to months in general; however, the Smart City Platform streamlines this escalation procedure, allowing its users to comprehend the process as fast as within 24 hours. With this source, Seoul citizens are able to quickly understand the relevant urban issues and disasters and deal with the problem in safe manner. This improves the trust between the municipal authorities and the citizens. Improved quality of life for citizens is closely related to having better trust in the city they are living in. This helps Seoul transform into a 'City for everyone' which we have all desired.

Smart City Platform's Online Housewarming

It's natural to get lost in a new place. You need to prepare in advance in order to become friends with a new city. First, you need to understand the structure of this new "Seoul" to utilize it more frequently and easily with your smart watches and tablet PCs. Check out the Seoul Smart City Platform to check structure, materials and finishings of your new house to move in.

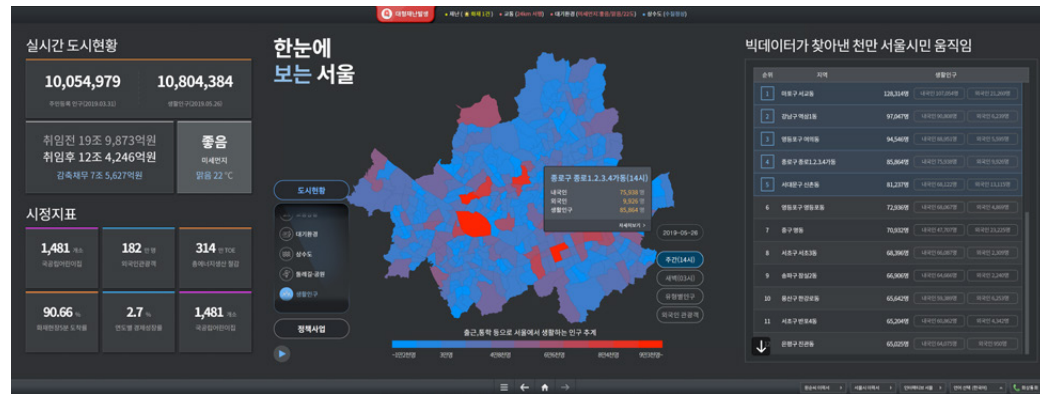


Step 1. Determining the Structure of House

Smart City Platform's **1. Main screen** could be considered as a "gate" or an "entrance" of a house. When you open the door you can see the whole structure of the house, with the main screen giving you a look around to see Dulle-gil(trails), Park, International Cooperation, Living Population Visual Information, etc.

Clicking the Real-time City Status on the upper left of the main screen shows the panoramic view of the city's status which includes Disaster Safety, Traffic Status, Air Quality, Waterworks Status, Prices and Financial Status. The page where you can listen to **2. Public Opinion** works as a "Guest room".

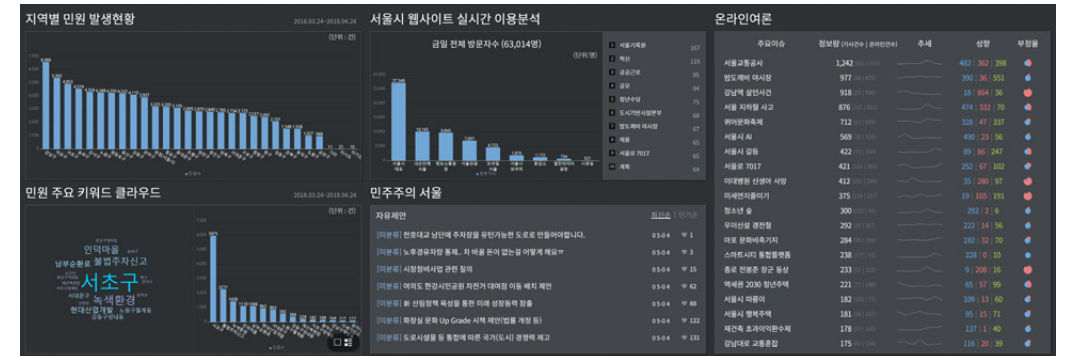
1. The Gate-Main Screen: You can grasp the entire structure and obtain access anywhere through a gate.



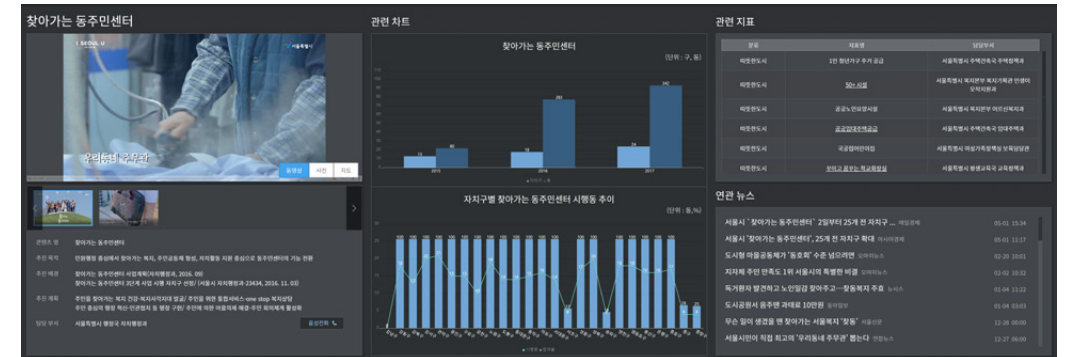
When you have general questions about 61 administrative indicators and 36 key project summaries by field, thematic administrative content, or international cooperation information, you can simply click **3. The Administrative Status**, which works like a "Living room". By click on Project **4. Seoul Résumé** to check Seoul's key indicators, global rankings and foreign press

reports – It indeed works like a 'veranda' that connects inside and outside. This house has amazing features; it works with video calls, voice recognition and motion touch. Mobile devices and smart watches are able to be connected so that you can check the inside of the house thoroughly while you are out.

2. Guest room - Public Opinion: Public Opinion where citizens' reactions and communication takes place is considered a Guest room.



3. Living room - Administrative Status: The Administrative Status is the living room that contains content and serves as a center for 61 administrative indicators and business overviews by sectors.

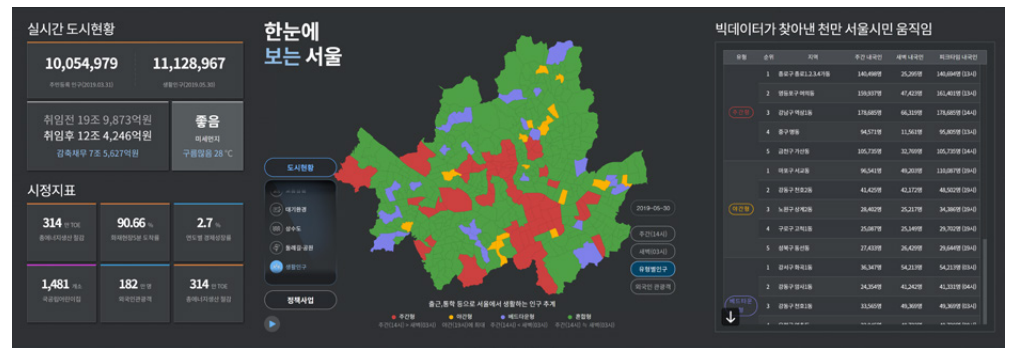
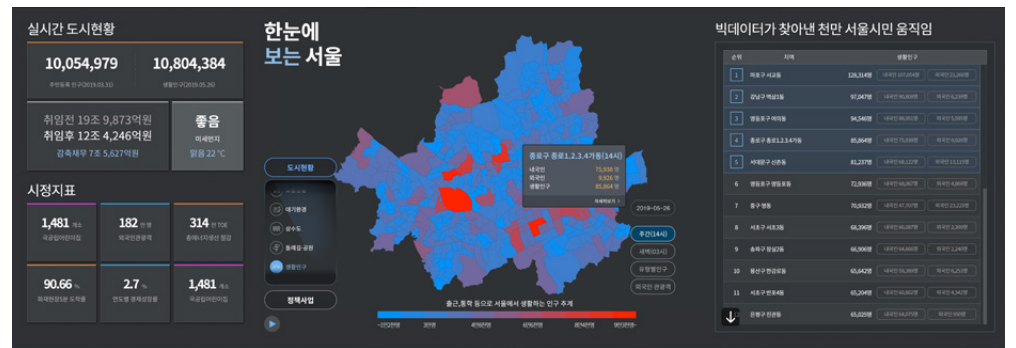
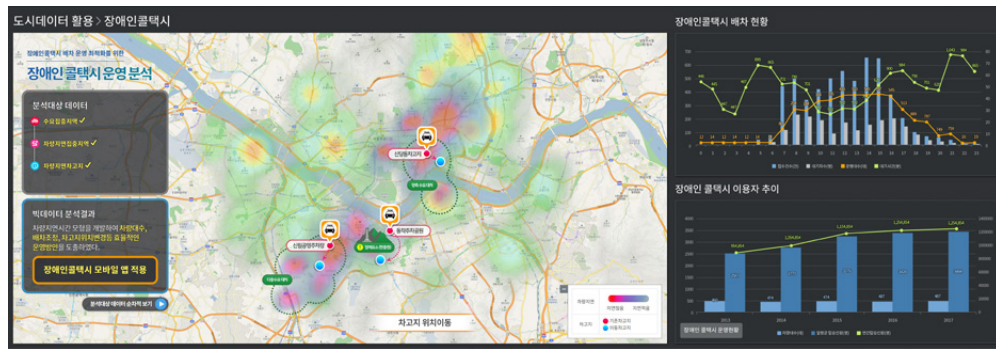
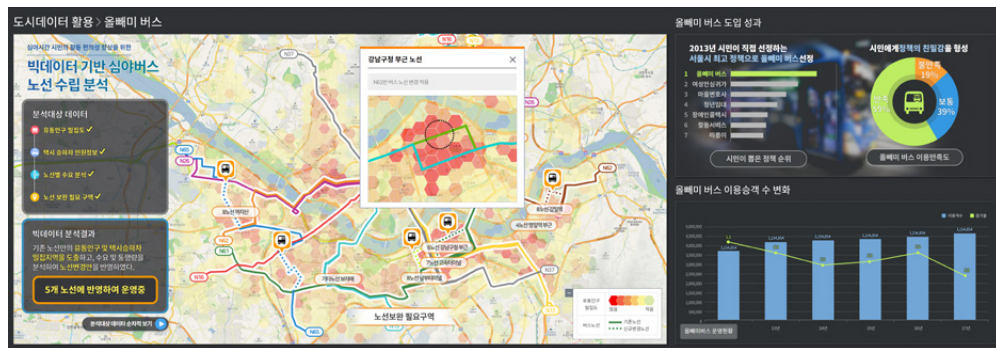
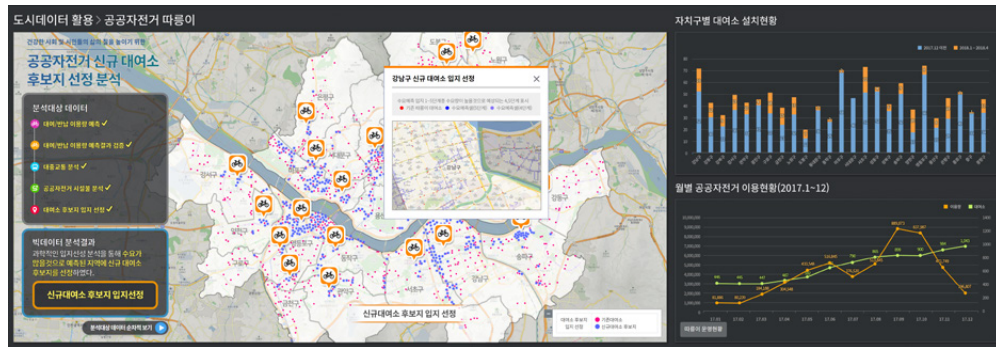
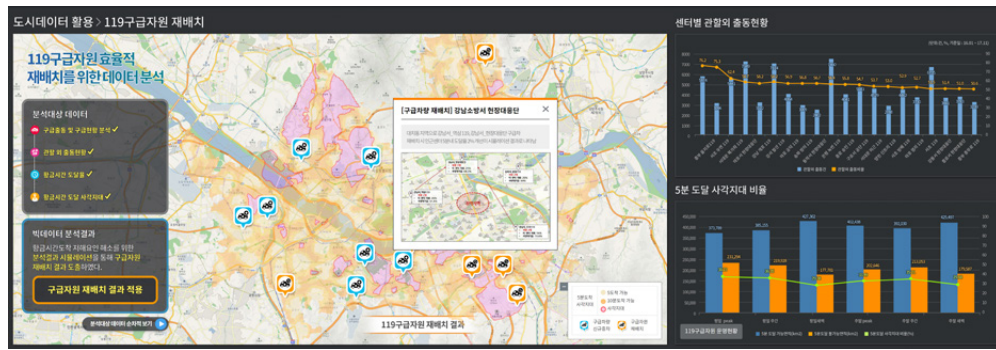


4. Veranda-Seoul Résumé: The Seoul Résumé Project is like a veranda; it connects inside and outside.



Menu	Compositions and Functions
Main page	Main administrative information such as Dulle-gil-Park, International cooperation, visual info, etc
Real Time City Status	Disaster Safety 1 Disaster Notification, Fire Fighting Drones, Earthquake Measurement, Flooding Vulnerability, CCTV, Information on Safety Facilities
	Traffic Situation 2 Real-time Bus/Subway Service Information, Subway Maps, Pedestrian Accidents, Etc.
	Atmospheric Environment 3 Weather by Borough, Rainfall, Snowfall, Air Quality Videos, Satellite Videos, Etc.
	Price Status Details of Highest and Lowest Prices of Daily Necessities, Lowest Market Price Information
	Financial Status Annual Expenditure Business Details, Current Revenue Budget Status
	City Data Utilization 4 The Owl Bus, The Business District in Our Village, Ttareungi Rental, Call-taxi for the Disabled, 119 Support
	Waterworks 5 Real-time Water Quality info to the Purification Centers, Distribution Reservoirs and Households
Dulle-gil Park 6 Main Points of Dulle-gil, Access Routes, Park Status, Current Utilization Status, Etc.	
Living Population 7 Daily/Hourly Living Population Status by Autonomous Region-Administrative Districts, etc.	
Public Opinion 8 Civil Complaints and its Details from Seoul Online Civil Complaints, Current State of Websites, Civic Suggestions/Pertinent Information	
Administrative Status	Administrative Indicators 9 61 Indicators by Sector, Relevant Chart Details, etc.
	Urban Projects 10 36 Key Business Summaries, Documentation, Schedules, Relevant News, etc
	Administrative Content 11 Categorized Information (Walking City, Visiting, Handsome, Job and Enjoy Seoul Projects)
	Map of Mayor's Pledges 12 Innovation, Citizens, Map of Pledges/Policies and Details
	International Cooperation 13 Friendship-Sister City Status, Policy Export Status by City
	Document Approval List of documents for the mayor to approve, Document view
Digital Reading Room for Citizens The lists and details of Administrative White Papers, Research Papers, Promotional Brochure, etc.	
Seoul Résumé 14 The Current State of Seoul's Key Indicators, Global Rankings, Foreign News Reports	
Common Features Video/Voice Call, Voice Secretary Service, Motion Mouses, etc	
Mobile Services Private Tablet and Mobile Linked Web Access for the Mayor's Office	
Mobile Services for Public Disclosure Web Services for Public Disclosure Compatible with Smartphones and PCs	
Kiosk Services for Public Disclosure The Services for Public Disclosure Available in Public Places such as Subway Stations	





8 Public Opinion

응답소(다산120) | 서울시 웹사이트 실시간 이용분석 | 온라인 여론

응답소(다산120)
 당일 방문 현황: 1,414건 (전체: 12)

서울시 웹사이트 실시간 이용분석
 당일 전체 방문자수 (68,668명)

온라인 여론

주요이슈	정보량 (다산120에의)	주제	상황	부담률	
취업문제	1,093	취업문제	1,530	202	1,200
서울교통공사	1,523	서울교통공사	533	495	495
서울시정	660	서울시정	342	40	272
구로역 사고	556	구로역 사고	26	32	148
서울 지하철 사고	482	서울 지하철 사고	39	30	75
서울로 7017	467	서울로 7017	337	62	68
서울시청	448	서울시청	39	41	53
서울시의회	384	서울시의회	270	5	109
태권도 특성 지역	377	태권도 특성 지역	9	34	29
벌레발 사살단	360	벌레발 사살단	225	13	102
유아보육장 운영	322	유아보육장 운영	200	60	60
서울시 공원지	306	서울시 공원지	250	20	18
서울시 예산	284	서울시 예산	65	175	44
서울시 공립	266	서울시 공립	65	91	110
서울시 체육관	256	서울시 체육관	245	11	20
경기수업	254	경기수업	19	136	49
종교유산	250	종교유산	203	1	143
서울시 2030 청년주택	244	서울시 2030 청년주택	225	21	19
서울시 전선 지류 사업	203	서울시 전선 지류 사업	144	9	48
한민회 미술가 작품	175	한민회 미술가 작품	148	17	10

자유재판
 [국민회] 동원동 15구에 대해 그중... 0.5% 0.5
 [국회] 도시 계획도 중요하지만, 여객지구 같은 전체의 위치와 zoning에서 생각해가... 0.5% 0.5
 [국회] 도시 계획도 중요하게 간주하지만, 여객지구 같은 전체의 위치와 zoning에서 생각해가... 0.5% 0.5
 [국회] "국회헌법" 법안도 검토한 규격과 처벌을 정했습니다. 0.5% 0.5
 [국회] 서울의 경우 부활되고 있을 때의 경우 내용을 수정해 주시면 어떻게... 0.5% 0.5
 [국회] 소벌시를 개선 사항 0.5% 0.5
 [국회] 기타(다산120)의 후폭과 관련해 너무 고맙습니다. 0.5% 0.5

9 Administrative Status, Administrative Indicators

시장 현황 | 공공데이터 활용

시장 현황

58.4%	688개	10,774개	664,100개	359,710개
11,666개	96.0%	461개	50.1%	86개
72,232개	167개	5.6%	2.7%	2.0%
2,622개	77개	4.3%	182명	10,704명

공공데이터 활용
 공공 데이터 활용 수(API) (19.06.04)
 공공데이터 개방 현황 (2019.06.04)

10 Administrative Status, Urban Projects

시장 현황 | 도시프로젝트 목록

도시프로젝트 목록

부종	사업명	주요연도
도시개발	도곡 도시개발 사업사업	20190315 - 20181231
서울특별시	신정1기 도시개발 사업사업	20131201 - 20100731
도시개발	가평 도시개발 사업	20140601 - 20101231
서울특별시	계동 도시개발사업	20140301 - 20101231
문화체육관광부	국립중앙도서관 신관 및 업무동	20190601 - 20191231
문화체육관광부	남산 역사박물관	20190601 - 20191231

연인뉴스
 부활 '스타워킹' 열매 - 김형수 회장... 06-04 13:07
 일대일 인성교육 '제로 MIT' 도입으로... 06-04 13:04
 박종민 '도시재생 사업' 주안점으로... 06-04 13:02
 수도권 연합 개최는 DG대규모... 06-04 13:00
 문화 인성 교육 '스타워킹' 열매... 06-04 13:00
 국한도 5월 25일 신기... 06-04 12:55
 문화인성교육... 06-04 12:54
 이화여대... 06-04 12:52

11 Administrative Status, Administrative Content2

시장 현황

시장 현황

걷는 도시 서울 | 찾아가는 서울 | 잘살겠다 서울 | 일자리 서울 | 즐기는 서울

11 Administrative Status, Administrative Content2

시장 현황

시장 현황

걷는 도시 서울 | 찾아가는 서울 | 잘살겠다 서울 | 일자리 서울 | 즐기는 서울

12 Administrative Status, Map of Pledge

공약지도

공약지도

민선7기 공약이행률은 2019년 하반기에 게재 예정입니다.

구분	의제별별시	상생별시	사람별시	안전별시	공약내용	공약수	서약률	이행률	추진	정확	일부	진행	완료
의제별별시	1-1 4차 산업혁명의 메카, 6대 융합신산업단지 조성	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-2 벤처육성펀드 1조 2천억원 조성	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-3 스마트택시로 구축으로 도심제조업 활성화	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-4 세계 최고수준의 관광산업 육성 및 MICE 유치	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-5 청년창업과 도시재생의 허브, 캠퍼스도시 조성	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-6 민관공동 벽대면도 플랫폼 구축	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-7 대학교들의 혁신, 서울우정기반 조성	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-8 IoT기술을 활용한 공유주차 도입	0	0	0	0	0	0	0	0	0	0	0	0
의제별별시	1-9 공공서비스 기술혁신으로 공유형택 추진	0	0	0	0	0	0	0	0	0	0	0	0

13 Administrative Status, International Cooperation

국제협력

국제협력

정적수출국가

순위	국가	협력분야	사업명	주요연도
1	미국	문화관광	미국도시개발 협력 (2018)	20180101 - 20181231
2	미국	문화관광	미국도시개발 협력 (2018)	20180101 - 20181231
3	미국	문화관광	미국도시개발 협력 (2018)	20180101 - 20181231
4	미국	문화관광	미국도시개발 협력 (2018)	20180101 - 20181231
5	미국	문화관광	미국도시개발 협력 (2018)	20180101 - 20181231

14 Seoul Resume

서울 관련 각종 지표 및 순위

서울 관련 각종 지표 및 순위

Lee Kuan Yew World City Prize
 Municipal E-Governance World 1st
 Best of MICE CITY
 Luxury Travelers City World 1st
 Sustainable Cities Index, 2017 World 1st
 International Meetings Statistics, 2016 World 3rd
 Safe Cities Index, 2017 World 1st
 Destination Cities Index, 2017 World 1st
 The Global Financial Centres Index, 2017 World 2nd

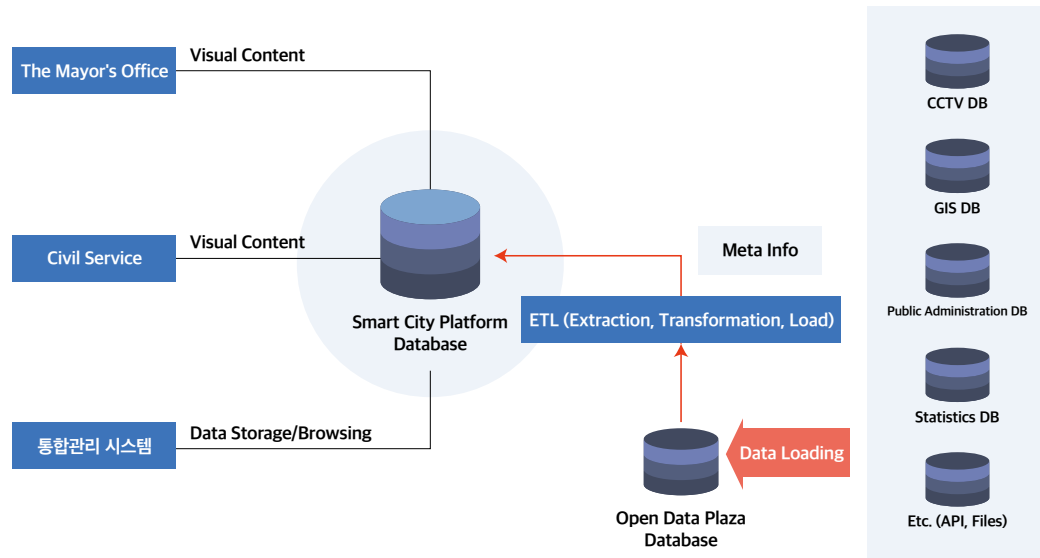
서울시 주요 수상 내역

Lee Kuan Yew World City Prize
 Best of MICE CITY
 Municipal E-Governance World 1st
 Luxury Travelers City World 1st

서울시 도시경쟁력 변화

외신도 주목한 박원순 시장의 혁신도시서울

Step 2. Understanding the Foundation of the House

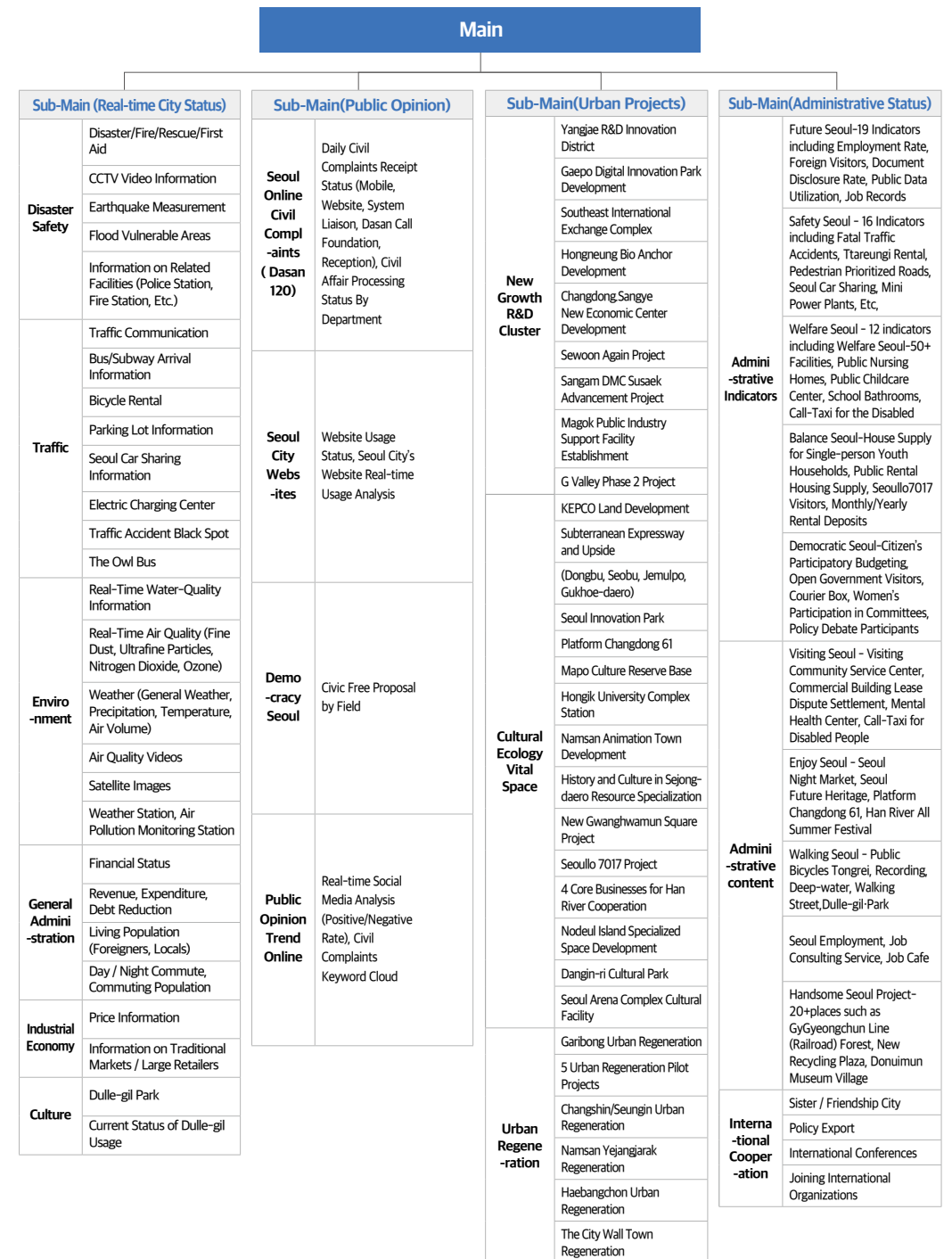


As we now understand the structure of the house called 'Smart City Platform', let's move forward to examine the foundation of the house. Smart City Platform built its pillars upon the vast amount of data collected by Seoul. CCTV video information, real-time city status data, public opinion trend data, space data, map of pledges and Seoul statistics are the foundation supporting the pillars. Open Data Plaza (based on the Act on Promotion of the Provision and Use of Public Data) and Information Communication Plaza (based on the Act on Disclosure of the Public Data) are utilized as the policies that the Smart City Platform and its service infrastructure are built upon.

Open Data Plaza, Seoul's Public data website, first collects the raw data that is gathered by 1,200 CCTV videos as well as Seoul Online Civil Complaints, Democracy Seoul, Social media and categorizes them. The information serves as a database of the Smart City Platform. After visualization is complete, it turns into

the data that the mayor, the civil servants and the citizen mayor can use.

With this process, the distributed information from single point of views and current status data that is scattered across multiple websites are linked and integrated so that anyone can check the policy and current state of the information at a glance. This big data is managed by the Big Data Division. The Big Data Division handles the data integration and its system while the City Planning Division oversees the indicator selections and navigates the opinions amongst data management divisions. Also, the General Affairs Division sets up and manages the required equipment for the operation.



Intersection: Project 'Wonsoon's Résumé', 'Seoul Résumé', Document Approval, Video Call

Step 3. Looking around the Interior

Now that we have reviewed the structure and design, it is time to explore the interior. How was the Smart City Platform designed? The Smart City Platform is based on UI·UX. UI and UX are the user-interface designs for easy-use and data visualization. Seoul City has long been considered the most effective way to visualize the data of the Smart City Platform. So, it was necessary to study the Mayor who would use the Smart City Platform more than anyone. Under what circumstances will the mayor use the Smart City Platform? What would be the first thing the Mayor needs to know? In which part of the Mayor's office would he mainly work? How would the Mayor use the office? The division created the best design, size and location through these various questions and answers.

However, a professional touch is always necessary to perfect the interior. UI/UX experts and business professors from 22 headquarters gave the advice to

solve the issues. There are 2 experts who contributed in particular, Professor Oh Dong-Woo and Han Myeong-Su, COO(The Chief Operating Officer) of Baedal Minjok. Professor Oh Dong-Woo grasped the characteristics of the top decision maker of Seoul and reviewed the improvement plans according to 15 various user scenarios. The data visualization guide was made out of his efforts and it became the principle rule for the whole design. Further, COO Han Myeong-Su suggested to decide the main menu composition, information expression strategy, design elements and data expressions first, so that the Smart City Platform could provide the visual motifs with a sentimental language and simplify the complex information.

The result? The Smart City Platform that searches the requested information quickly and accurately was made with an optimal design considering the adequacy of the data and usability.



A. Design Concept

It is designed with a sentimental visual motif in accordance with the nature of each piece of information so that it can offer the complex information in a simple way.

01. Digital Administration based on Location Info

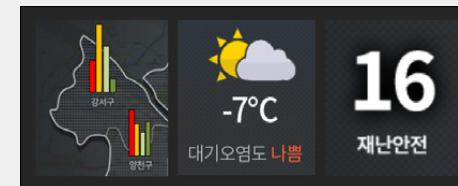
- The main visual is the map of the entirety of Seoul, implementing the Seoul at a glance based on location information.
- It turns the complex information of Seoul into the simply-lined map using visual tricks to express core information (data).
- It represent the real time information and Seoul's urban projects such as Disaster Safety Response Status, Traffic Information, Atmospheric Environment on the map, so that the Mayor's office can manage and monitor the overall situation of Seoul municipal administration by utilizing 'digital administration based on location information'.
- It puts the priority on the location information for disaster situations (map) and citizens' content as a digital communication reader.

02. Simplified Provision of Information

- Simplify the complex information via interactions.
- Explore the various map expressions based on the type of data via sentimental elements such as three-dimensional effects, motions and colors.
- Implement the interaction to offer the information with pop-up, typographic, icons, motions and reactions.

B. Design Elements

01. Material design : Taking advantage of the flat design, It should amplify the three-dimensional effects with paper-shadow effect as per the light.



02. Representation of location information : It should introduce a simple-line-based map and utilize the visual tricks that make it appear to be an easy and simple way to control the complex information of Seoul.



C. Data Representation

01. Representation of data through interactions 1

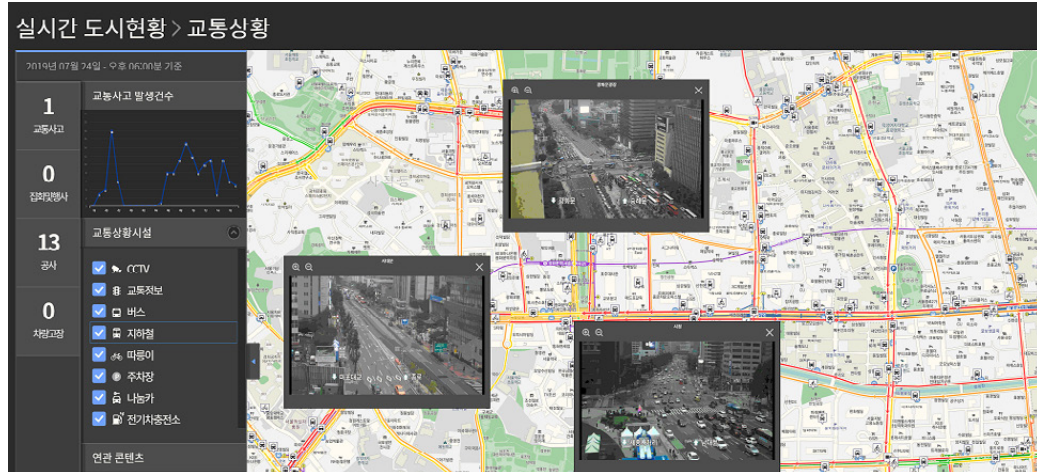
- The complex and various information was simplified by interactions.
- arranging the design elements such as titles, text and icons with a good sense of dynamics, it implements a robust screen and adjusts the amount of the key information according to the scales.

02. Representation of data through interactions 2

- By grouping the main information by category, it is available to move to the target information.
- The screen changes with a time gap.

Step 4. Who is living in the house?

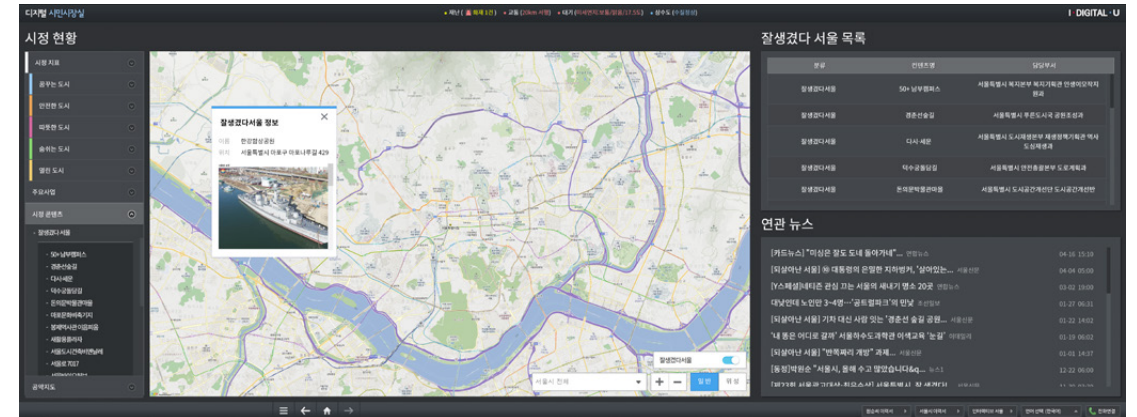
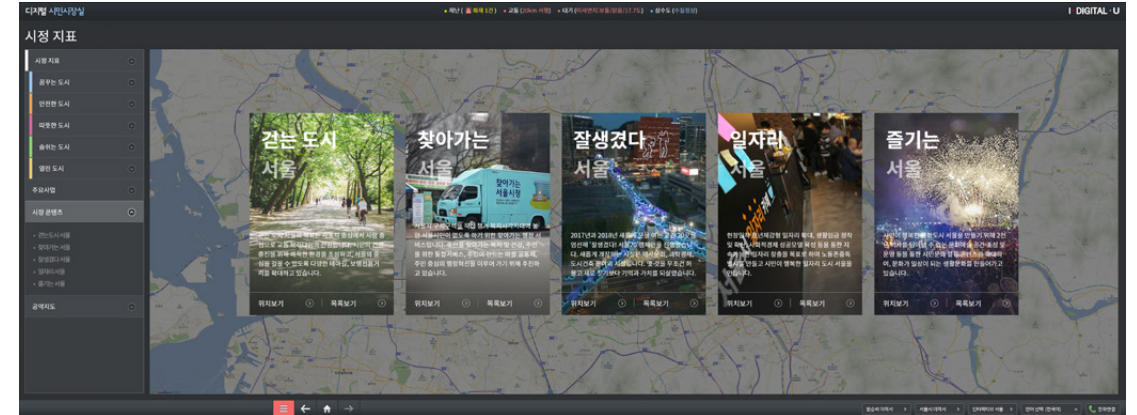
The nicer the house, the more we wonder who lives there. As you get to know the Smart City Platform, you will be curious about it, “So what’s in it?” The main contents of the Smart City Platform is real time data and administrative policies such as real time city status, urban projects, the administrative status as well as public opinion. The information is a combination of 300+ information systems and websites; it includes real time city scenes, administrative news, social media and current city status (disaster safety, traffic status, atmospheric environment, price information, financial status, waterworks, etc). New visualized content such as living population has been added recently.



The main content for administrative operation is all on the main screen which prioritizes the user’s intuitions. By selecting menus from the main screen, the data view showcases the screen that would be usable for practitioners. This is the data-intensive content that shows data as it is. The detailed content information that citizens would want to utilize starts on the next step, the detailed screen.

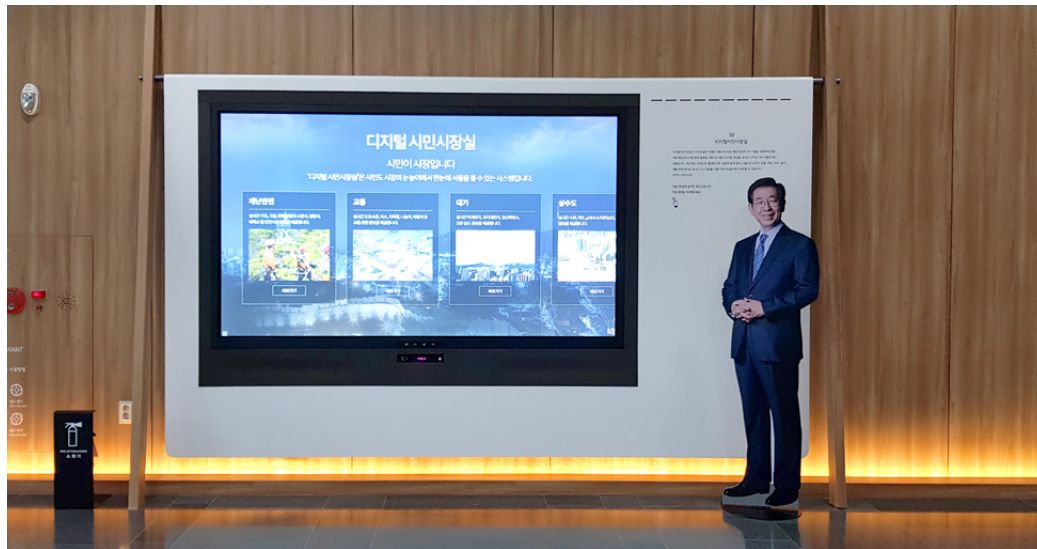


Smart City Platform went into the citizens’ lives with the content that is close to daily life. It offers the information that is closely related to the citizens’ everyday life with the 5 administrative categories; ‘Visiting Seoul’, ‘Enjoy Seoul’, ‘Job Seoul’, ‘Handsome Seoul’ and ‘Walking City Seoul’. Each project contains the information that the citizens would need in their real lives; Dulle-gil, pedestrian-exclusive streets and Ttareungi in ‘Walking City Seoul’, Visiting Community Service Center, Commercial Building Lease Dispute Settlement and Visiting Nurses in ‘Visiting Seoul’, Job Cafe for the rising generation and Job Consulting Service for Women in ‘Job Seoul’, 20 handsome places in Seoul that were created by the urban regenerations in ‘Handsome Seoul’ and cultural events as well as Seoul Future Heritage in ‘Enjoy Seoul’; it allows citizens to get the information they need for their real life.



Step 5. Public Disclosure

The Smart City Platform that went public via Social Mayor's Office (<http://mayor.seoul.go.kr>) is here for the citizens all the time. Sympathizing and communicating on administration by opening more data and content is the ultimate goal of the Smart City Platform. Expanding data and services from the citizens' angle and introducing civil engagement and discussion functions are the major results. It also displays press releases and the list of presentation data.



Smart City Platform on Public Disclosure in front of the mayor's office



The Smartphone version of Smart City Platform on Public Disclosure

In particular, the public disclosure version was designed considering that there is active communication through mobile/social media in real life. It allows web level data access on mobile environments, making it easier for citizens to share the content that interests them on social media. Using visibility indicators, the trend of the chart can be predicted and compared with the actual graph.



Scan the QR code and access the smartphone version of Smart City Platform.

The Mayor's Office on Transfer Stations

Additionally, Seoul City showcased the world's first open-to-public mayor's office 'Smart City Platform'. This is to offer the web and mobile environment to anyone on the spot to increase the accessibility and usability of the Smart City Platform. Further, the division has installed the touch screens on 5 different subway stations to guarantee the right of access for those in need and is planning on expansion of the touch screen in 15 public places by 2020. This is expected to bring innovation to digital administrative operation with citizens.



Yeouido Station Public Disclosure



Changdong Station Public Disclosure



Hongik University Station Public Disclosure

2. Review

- 2-1 A Close Look: Smart City Platform 2016 to 2018
- 2-2 A Looking Beyond: News and Assessment
- 2-3 Additional Looks Smart City Platform, Goes Abroad

2-1

A Close Look: Smart City Platform 2016 to 2018

Revealed in 2018, the Smart City Platform was upgraded once from the initial private version building upon numerous reviews and needs. The main goals of the initial version were to solve the social problem with big data analysis and give administrative support in a scientific manner, while having urban projects and administration archives as well as understanding public opinions as main functions.

The new 2018 Smart City Platform evolved the system for the Mayor's office that allows the complex analysis, having the 'analysis-oriented and public disclosure' as the biggest features. This phase prioritized public disclosure which is why the Mayor's office screen was shared with the citizens, so that the citizens could grasp the administrative status at the same level. It also contains strategies for sharing and spreading content so that users can predict the progress of the policies. Here is a quick look of constant flux of trends from 2016 to 2018 with simple information.

DAYS

The Smart City Platform began development in June 2016 and took **683 days** before officially launching on April 30th 2018. It took an additional **337 days** for optimization and public launch.

Development Status

Comprehensive Development and Launch	16. 6.17. ~
Basic Planning/Implementation of OGP	16.11.30 ~
Pilot Launch (Real-time City status, public opinion)	17. 5.20.
Advancement Planning Development	17. 9. ~
Advancement Planning Application and Launch	18. 4.30.
SCP Public Disclosure on the Web/Subway	19. 4.1.

MONEY

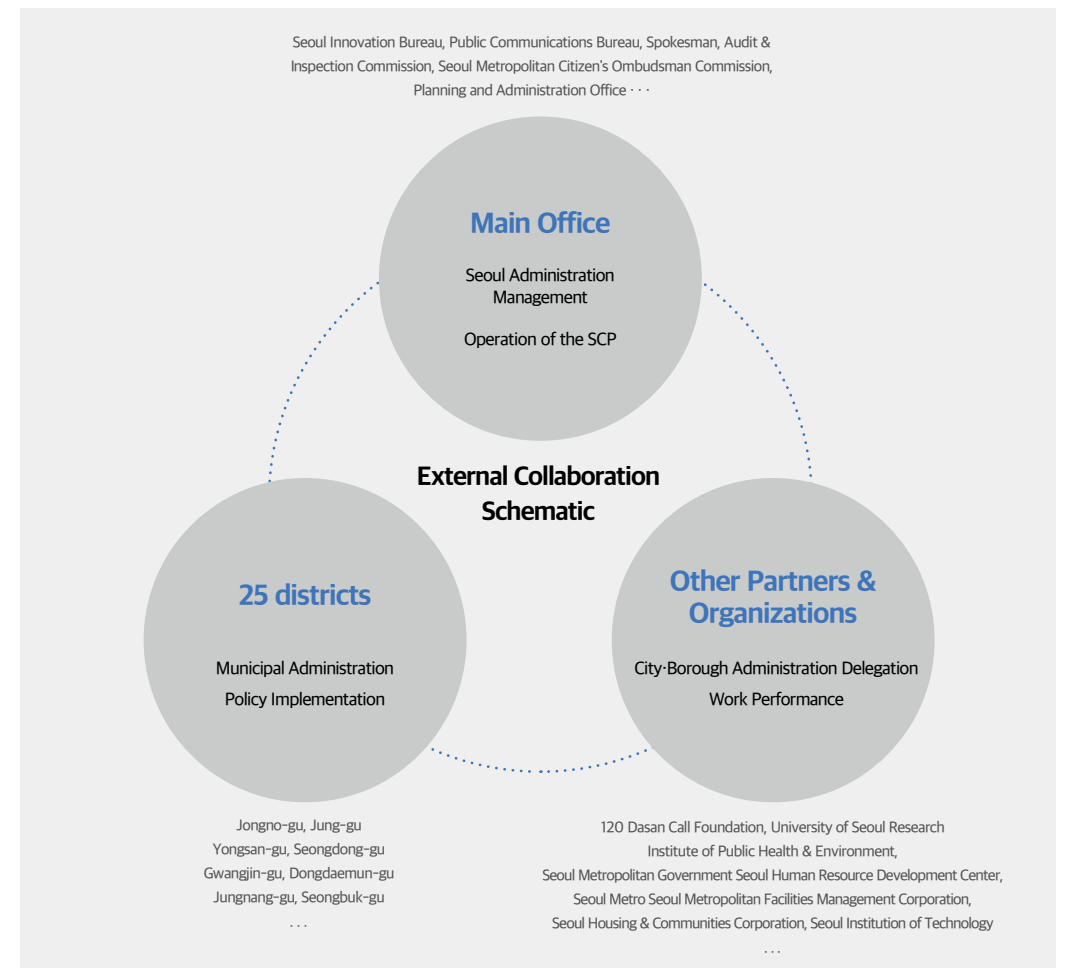
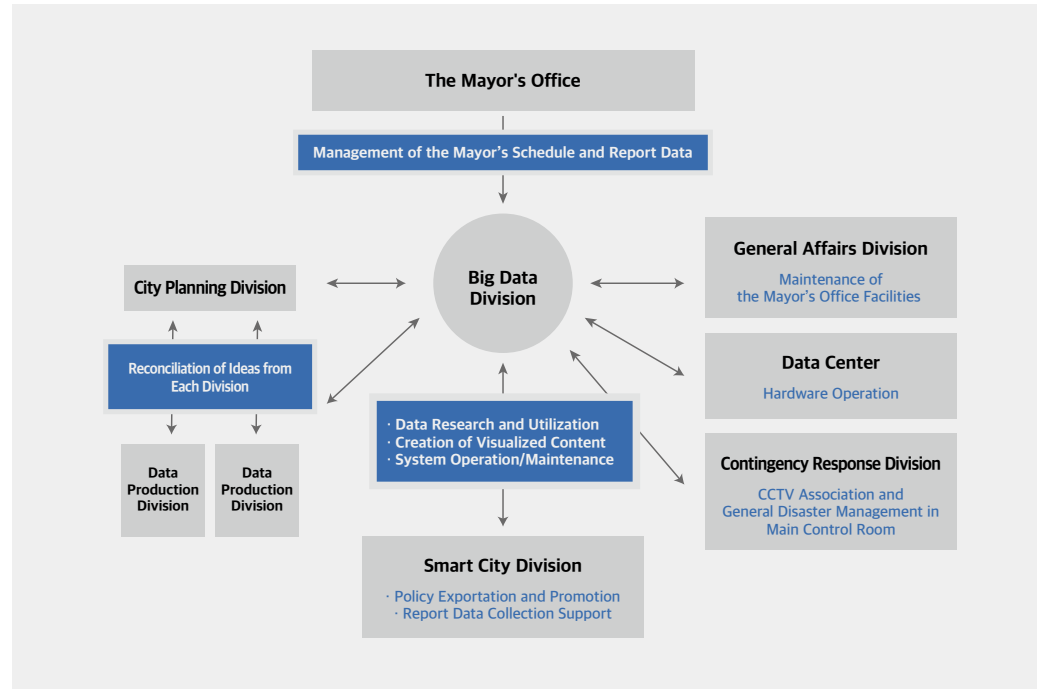
The cost for the initial implementation of the Smart City Platform was respectively **\$430,000 for program development and \$80,000 for the Mayor's office installation**. The cost of the hardware is hard to estimate since the infrastructure was shared with Open Data Plaza(<http://data.seoul.go.kr>). The Open Data Plaza is the data sharing system operating since May 2012 and the initial construction cost was **approximately \$850,000**.



WHO

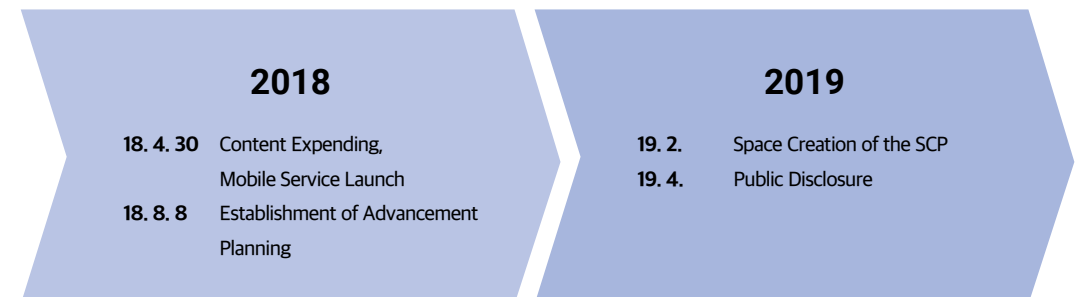
The divisions that effectively operate and manage the Smart City Platform listed below.

1. **The Mayor's Office** Administrative operation utilizing the Smart City Platform
2. **Big Data Division** General management, Data Integration & System Development
3. **City Planning Division** Review of selected indicators and reconciliation of ideas from the data management divisions
4. **General Affairs Division** Constituting the operating equipment and monitors, management of the facilities in public space



HISTORY

The development process of the Smart City Platform is shown below.



Interactive Communication with Citizens #1

2017. 8. 22 The Asia Business Daily
Park won-soon Made 'Smart City Platform'
Starts a 2 Phase Update

Seoul Metropolitan City updates and expands the Smart City Platform that was released last June. Seoul City is aiming to build a forum where anyone in Seoul can check the administrative information as a whole in real time and communicate with Seoul civil servants, including Mayor Park. According to Seoul City on 21st, they recently ordered a service of 'Expanded Construction of the Smart City Platform (phase 2)' worth 540 million won. This service which will be conducted in December is meant to share the Smart City Platform with citizens by offering two-way communication services and expand on it.

Seoul will upgrade this system one step further with this service. First, two-way communication services will be built to implement the Mayor's office that is 'owned by the citizens.' The plan is to offer the link service between internal channels such as Seoul's websites and Open Data Plaza to external channels, while also offering customized information to users. It also suggests a way for citizens to participate in the assessment and to leave comments directly, giving them the opportunity to fill out a questionnaire in relation to the achievements of administrative indicators and comparing the answers to the expected answers.

Existing data such as the current status of the City and key businesses will be upgraded/expanded upon, while new visualized data content and data such as living population will be added. Customized information is provided for urban regeneration projects such as lists and current status of a specific businesses and their classifications. Citizen Dashboards will be implemented utilizing personalized content. In other words, Mayor Park is making a customized version of the Smart City Platform utilizing the user-preferred content, akin to the services the Mayor's office is currently using.

2-2

A Look Beyond : News and Assessment

Interactive Communication with Citizens #2

2019.01.10. The Financial News
[CES2019] "Hancorn's Business for the Next Generation is Smart City"



"Voice recognition and AI will be the core features of the smart City integration platform in the future."

At the International Electronic Products Fairs (CES) 2019, Hancorn said "smart cities need to change the automatic driving cars, air quality system, etc and AI will have a part in that process". Hancorn participated in CES with the Smart City Integration Platform as they decided on Smart City as their next-generation flagship business.

Hancorn is the company that is working on the Smart City Platform with the Seoul Metropolitan Government. Hancorn along with various other businesses formed a consortium to export the best practices of the Smart City and relevant technologies.

What they are doing is building a customized smart City for a City, which is of interest in Vietnam and Uzbekistan. In fact, a lot of countries visiting Seoul to benchmark have a natural encounter with the Smart City Platform. Hancorn said the Smart City Platform is the outcome of 20 companies' efforts and 'the goal of the year is to advance the ecosystem of the Smart City while adding new companies to participate with'.

Interactive Communication with Citizens # 3

2019.03.31. The Kyunghyang Shinmun

Citizens get to use the information of 'Smart City Platform' of Seoul City

- Real-time grasp of City traffic, disaster, air quality to administrative indicators became possible.
- Mobile sharing and emergency responses are available.
- e-Government boasts its smart technologies... Cities abroad are interested to introduce

Now citizens are allowed to see the information on the big screen called 'Smart City Platform' on the 6th floor of Seoul City Hall where the Mayor's office is. According to the Seoul Metropolitan Government, beginning in April the information from the Smart City Platform is going to be shared with citizens via computers, smart phones and screens in the subway stations.

The Smart City Platform, which started in 2017, is the digitized system that utilizes data such as Open Data Plaza, 16 million administrative big data from TOPIS, video information from 1200 CCTV's in Seoul, civil complaints from 120 Dasan Call Center, to name a few.

The Smart City Platform offers real-time safety information such as disaster scenes, traffic information and air quality to citizens. In addition, 5 key administrations and 61 administrative indicators such as Seoul Dulle-gil, Ttareungi public bicycles, Commercial Building Lease Dispute Settlement, Job Cafe for rising generation and more are available as well. Citizens can use the Smart City Platform by accessing Seoul City's website 'Social Mayor's Office (mayor.seoul.go.kr)' with PCs, mobile devices and tablet PCs.

Social media sharing functions have also been implemented to deliver the preferred content

to the others. Seoul is expecting for citizens to respond quickly as the system offers on-site CCTV videos and relevant news when emergencies happen.

Yeouido Station, Hongik University station, Changdong station are the 3 transfer stations that have large (100-inch) screens where the citizens can meet the Smart City Platform. Considering that these are high-traffic locations, the screens offer core information such as traffic, air quality, and disaster safety.

Park Won-Soon's affection for the Smart City Platform is unique. Anytime journalists visit the Mayor's room for the first time, he introduces the system right away. He also demonstrated the Smart City Platform in front of City representatives from 110 cities at the General Assembly of 'WeGo' in June of 2017. Recently, representatives from Beijing, China and Belgium who visited Seoul stopped by the Mayor's office and got the news about the Smart City Platform system.

Seoul explained that more cities are considering introducing the system as well. "The Smart City Platform is an innovative system that combines the smart technology of Seoul, the world's no.1 e-Government City, which is an outcome that contains the philosophy of Seoul's administration where the citizens are the Mayors" said Mayor Park.

Human Rights and Convenience

2017. 9. 20. Korea Joongang Daily

Moscow is jealous of Seoul, Park Won-Soon gives a special lesson on 'Urban Policy'



The hot topic of discussion was the 'Smart City Platform' that Seoul introduced for the first time in the world. After watching the video of Mayor Park demonstrating the Smart City Platform for the public, an attendee said "this is an essential function for Moscow" and went on to say "Mayor Park has visited Moscow and demonstrated this good feature, we hope for Moscow to have [a similar system]".

A CEO of the media said, "[If Moscow introduces the system] the citizens can be monitored. Maybe this function will make the administration man-less?". Mayor Park replied, "All accumulated information can cause human rights violation issues

and we are aware of that. I think it is applicable to other cities as well. The only differences among those cities are IT infrastructures or digital technologies; that's why Ulyanovsk is holding the WeGo General Assembly, to overcome the problems".

Regarding concerns about the reduction of administrative jobs, he mentioned, "it is expected that 5 million jobs will disappear and 200 million will come because of the 4th industrial revolution... even though the number of jobs will decrease, we can overcome the issue with new creative jobs based on future predictions".

Technology Meets the City, Smart City # 1

2017. 11.07 The Economist
 "Introduce Smart City Platform-Traffic Information Center",
 Seoul got spotlighted as 'Digital Innovation City'

"Seoul is one of the most well connected, digitized cities in the world. Seoul sees data utilization as a key to solve urban life problems. Seoul grasps the administration and subway operation with advanced technologies to innovate."

The Economist introduced Seoul in their 'Tech&The City' video series from 'The Disrupters' part of the media section on the 3rd. Examples of innovations they mentioned as City changers were the Smart City Platform and TOPIS.

The Economist stated that "In previous decades, cities have experienced population slum-ism, housing shortages, traffic jams and environmental issues due to fast urbanization... So today, City leaders, businesses and individuals are taking a new approach

because of this." The video added, "This is the point that the technologies and imagination meet to create a new type of City. They introduce technologies and change it completely".

... It also stressed that the Smart City Platform is indeed at the pinnacle of innovation, "Traffic is just the beginning. Seoul utilizes data to understand the more difficult tasks... There is a guy who is taking care of the issues from air quality to roaring housing prices, His name is Park Won-soon".

The Economist described Mayor Park as a 'human rights activist and political outsider', explaining that "he has been working as a mayor last 7 years... the leaders who governed the community for thousands of years were the strong leaders like



him". It continues, "The SCP can import real time information from almost any field. Sitting in the office, you can check the info from police calls, street protests to real-time apple price".

They also introduced examples of sharing economy through data disclosure. The economist said, "this data treasure can develop an industry by itself. One business connects the young people looking for

housing and old people with spare rooms using this open source data... By 2020, 'Smart City' business is expected to be worth about \$1.5 trillion".

Technology Meets the City, Smart City # 2

2017. 9. 10 Oh My News

A professor of Harvard Univ. surprised by a screen in the mayor of Seoul's office, praised the 'Smart City Platform'

The US monthly IT magazine Wired praised Seoul's Smart City Platform, saying that "it could be a sprout of democracy". Wired released an article on "How Seoul has turned into a Technology Utopia" on June 6th after Professor Susan Crawford from Harvard Law visited Seoul City Hall in person last year.

The professor said that "the screen shows how safe the City is, how well the elderly and children are cared for, as well as how eco-friendly and open-minded the City is". He pointed out that the Smart City Platform shows the number of sports facilities, senior welfare facilities and public data disclosures with different colors, "Media might love this feature, but it is not very functional; it's just colorful cards".

However, she said that there is real usefulness when it comes to the status board; when Seoul staff demonstrated the Smart City Platform, it recognized the fire situation in real time and it showed the process of putting out the fire.

The professor mentioned that most of the Smart City Platform information will be disclosed to public and this will be a potential "the sprout of democracy". When the information goes to the public, the citizens will understand why they need to trust the government since they get to see how the government takes care of a multitude of factors including the air we breathe everyday, the price of apples all the way to traffic jams we encounter in our daily lives.

Professor Crawford finished the article by saying 'If Seoul can do it, the great cities in the U.S. will be able to do the same'.



I arrived in Seoul, South Korea at the same time that President Trump was warning North Korea—just 35 miles away—that it may "face fire and fury like the world has never seen." It gives a special flavor to a research trip to look around and ask yourself, "Are these the people with whom I'm going to be incinerated?" I wasn't researching nuclear policy, though, but rather something that will be of vital importance if the peninsula doesn't turn to ash: data. The Mayor of Seoul is taking steps that may be important to the development of more genuine democracy in South Korea.

Technology Meets the City , Smart City #3

2017.07.26. EBS Science Documentary film 'Beyond'

Future of the City



What would the future of current cities, Smart cities and cities of the future look like?

Jeong Seok, Professor of Urban Engineering at Seoul National University, had this to say "Cities are a living creature that embrace the rapidly evolving life of humans". The Smart City we pursue might be different from that of Europe, but we share the same goal of being a City that is open and sharing, co-existing and sustainable. The future of cities are being developed for their inhabitants and Smart Cities are only possible when it's a sustainable story that has been developed with science and technology.

In Seoul, Korea the world's first Smart City Platform was released. This made it possible to comprehend the current situations of Seoul at a glance and allowed direct communication and work orders. With this system, it is possible to understand a fire or disaster scene without visiting the actual site and control the situation with touch, voice and motions.

With the Smart City that solves the urban issues with a variety of services and technology and improve the quality of people's lives, we will explore the possibility of the City of the future.

Additional Looks : Smart City Platform Goes Abroad

World Smart Sustainable Cities Organization (WeGo), launched in 2010, is an international City-based organization aiming to bridge digital divides among cities and achieve sustainable urban development by cooperation and exchange of e-governments in smart City sectors. Seoul has taken the chair of the organization for 3 consecutive years. Seoul introduced its cutting-edge smart City technology from startups to large corporation to the world, at the 4th general assembly held in 2017. The 4th general assembly where 18 cities including Seoul and Moscow participated decided to expand 2 regional headquarters to 4 locations and changed the name of WeGo from 'World e-Governments Organization of Cities and Local Governments' to 'World Smart Sustainable Cities Organization'. It revealed the will to build a 'sustainable smart City' that goes beyond the existing e-government concepts.

Seoul conducted sessions related to the Smart City and introduced best practices focusing on Seoul's policies along with two startup technology cases and digital foundation operation cases. Additionally, 7 corporations including KT and ITU participated in 8 promotion booths. Seoul's digital policies including the Smart City Platform were showcased and introduced by Mayor Park.



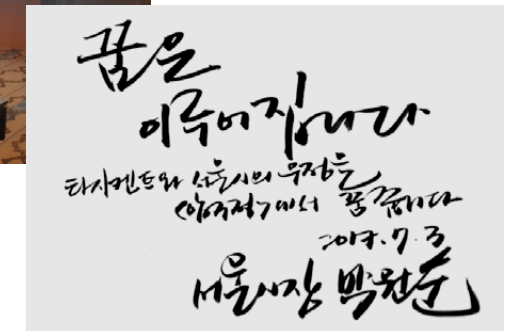
Mayor Park's Eurasia tour took an important part in introducing the Smart City Platform to the world. When he visited Moscow, Russia, he signed an agreement to strengthen the relationship between the two cities. In Ulyanovsk, he hosted the WeGo general assembly, WeGo Award and Round table for Global City Mayors. In Tashkent, he participated in an event related to Koryo people (80th anniversary for commemoration ceremony, round table conference, etc) and had a face-to-face talk with the Mayor.

Ever since Seoul first introduced the 'Smart City Platform', more representatives have been visiting Seoul to explore this 'smart City'. The visitors admired Seoul's information power, safety and coping ability and are looking for the way to apply the 'Smart City Platform' in their country or City.

1. Visitors From Abroad

One of the most interested cities was Tashkent, Uzbekistan. In 2017, the partnership between Korea and Uzbekistan was strengthened as it was the 25th anniversary of diplomatic relations and the 11th year of Seoul-Tashkent's sister-City relation. Seoul decided to organize the Seoul-Tashkent TF Team and pass on experience and know-how in a gradual manner to provide the best support. Tashkent is putting a lot of effort into establishing the Smart City Platform, installing an 'information screen' within each district and building infrastructure for video conference between the mayors.

The second interested City was Chongqing, China. Chongqing invited Mayor Park to 'The 1st Smart China Expo' that was held from August 23rd to the 25th of 2018. The expo aimed to expand the national big data strategy, the acceleration of smart society construction, data China, as well as the international exchange and cooperation in the sphere of big data smartization. Chongqing selected Seoul as an excellent example of establishing a high-end exchange platform amongst organizations, corporations and experts in the global smart business. Seoul and Chongqing continue to cooperate and exchange to date.



2. Seoul Goes Abroad

Seoul participated in various events to promote the Smart City Platform. These events included The 3rd OECD Champion Mayors for Inclusive Growth Initiative in 2017, African Development Bank Annual Meeting, OECD World Forum in 2018 and CES2019. The Smart City Platform was introduced as a best policy in the sector of future environment, solution to global inequality and public data.

“The 3rd OECD Champion Mayors for Inclusive Growth Initiative” was an event to select the mayors who play a leading role in solving urban inequality, which is intensifying around the world and leaving room for the ‘Champion Mayors’. Seoul shared the policies of Seoul’s democratic economy with the cities around the world as those policies are focusing on resolving the inequality/imbalance of societies. Seoul gave a presentation partnered with ICLEI Korea, pledging to take action together against climate change. During this process, the shared information and response methods were presented via the Smart City Platform.



In the African Development Bank (AfDB) Annual Meeting, Seoul operated a ‘smart City’ theme hall as a topic to be applied in African countries. Korea promised a deep cooperation with African countries in the field of smart infrastructure while sharing the experience and know-how of economic growth in Korea.

CES2019 was the world’s largest ICT exhibition held in Las Vegas, USA from January 8–11th 2018. Seoul introduced Seoul’s best policies and consortium through the event. The chairman of Appia Group presented the real sized ‘Smart City Platform’ that showcases Seoul’s digitized public data and makes it easy to check. He also introduced the core technologies of SCP combining artificial intelligence and voice recognition technology that allows effective urban management.





Additionally, The Smart City Platform was showcased in OECD World Forum in 2018. OECD World Forum on Statistics, Knowledge and Policy is an important debate to expand the evidence-based policies and share the relevant knowledge and experience to build a better world for everyone. Thousands of people including policy makers, scholars, statistical experts and civil society representatives discussed the new concept and approach related to measuring well-being and how they could be linked to governmental policies. Among various factors, they focused on 'Digital Transformation, the changing role of governance and newly emerged private sectors' as important subjects for well-being..

3. Export Support Cases and Types

The technology and policies of the Smart City Platform are attracting attention from cities around the world, so how is it all exported? We will explore the cases, types and the process.

Here are Seoul's best policy export cases and types: There are 4 types of countries and cities that wish to import policies, depending on their needs:

A. Pilot Project	Content	Administrative Indicators, Urban Projects, etc.
	Budget	\$200,000 ~ \$400,000 *Excluding system infrastructure (H/W) costs
	Strengths	Low investment cost, short term construction
	Weaknesses	Poor content, No benefits for citizens
	Duration	4-5 months
B. Disaster Safety + Traffic Conditions (CCTV)	Content	Building Administrative Indicators, Urban Projects, Disaster Safety, Traffic Information (CCTV) Construction, etc.
	Budget	\$600,000~\$800,000 *Excluding system infrastructure (H/W) costs
	Strengths	Provides real-time information on disasters, safety and traffic conditions
	Weaknesses	Increased cost for investment
	Duration	6-7 months
C. Disaster Safety + Traffic + Finance + International Cooperation	Strengths	Real-time Information on Disasters, Safety, Traffic, etc., Allows the current administrative status to be grasped at a glance.
	Weaknesses	Increased investment costs, increased construction period
	Content	Administrative Indicators, Urban Projects, Disaster Safety, Traffic, Finance, International Cooperation
	Budget	\$1,200,000-\$1,500,000 *System Infrastructure (H / W) costs not included
	Duration	8-9 months
D. Full + data disclosure	Strengths	Provides various content and service information to citizens
	Weaknesses	High investment costs, long term construction
	Content	Administrative Indicators, Urban Projects, Disaster Safety, Traffic Information, International Cooperation, Finance, Data Disclosure System Construction, etc.
	Budget	\$1,800,000~\$2,200,000 *excluding system infrastructure (H/W) costs
	Duration	10-12 months

*Please contact to inquire (Smart City Policy Bureau or Global Urban Partnership Division)

4. Planning & Performance: Partner Leverage for System Building

1. Seoul Appia Consortium

Seoul formed Appia Consortium to meet the demands from the numerous cities around the world are requesting consulting to venture into the administration and technology of Seoul that are linked with cutting-edge ICT. Seoul Appia Consortium is a public-private consultative body consisting of Seoul Metropolitan Government, World Smart Sustainable Cities Organization (WeGo), Seoul Urban Solutions Agency (SUSA), Hancorn Group, Korean Smart Card and Korean Small&Medium ICT Business Export Cooperative (KOSMIC). They are cooperating for Seoul's smart City policies and corporate technology to go abroad, offering the best smart City solution while customizing the policies and technologies to meet the needs of each City.



2. Participation Support from the corporations who built the actual system

The technology review and system construction will be supported with the priority of the corporations who built the actual SCP system.

3. Smart City Platform that can choose from 2 types of OSS based solutions

It is possible to install/implement either the current version of SCP that was built in '16~'17 or the upgraded version that was converted for solutions for cities abroad.

Ver 1.0 ('16~'17)

Prototype Smart City Platform Developed with Open Source Software (OSS)

Ver 2.0 ('18~'19)

Completed Smart City Platform combining Voice Recognition Artificial Intelligence Assistant Solution and Data Archiving System

5. Export Support Procedure

Seoul Metropolitan Government, World Smart Sustainable Cities Organization (WeGo), Seoul Urban Solutions Agency (SUSA), Hancorn Group, Korean Smart Card and Korean Small&Medium ICT Business Export Cooperative (KOSMIC) are involved to support the export.



기관	분야	역할
Seoul City (Smart City Policy Bureau)	e-Government	Assistant
World Smart Sustainable Cities Organization (WeGo)	International Organization	Commissioner
Seoul Urban Solutions Agency (SUSA)	Policy Export	Commissioner
Hancorn Group	Smart City Building Technology	Chairman
Korea Smart Card Co., Ltd	Transportation Card	Commissioner
Korea Small & Medium IT Business Export Cooperative (KOSMIC)	Public WiFi, Civil Complaint Management System, Messenger, Garbage Disposal Monitoring, Electronic Document Distribution, Electronic Approval System, Governance Real-time Intelligence Platform (GRIP), IoT Communication Device, Spatial Information, CCTV Control System, Security System	Manager

In addition, there are funding opportunities available from the Government of Korea. The details of funding opportunities are made available through relevant departments upon request.

Name of Organization	Classification	Subject	Scale of support
National IT Industry Promotion Agency(NIPA)	F/S (Feasibility Study)	Government	\ 90 million
National Information Society Agency(NIA)	F/S (Feasibility Study)	Government	Approximately \100 million
Korea International Cooperation Agency(KOICA)	F/S (Feasibility Study)	Government	\ a few millions
	Development Business	Government	\ a few billions - 10 billion
Ministry of SMEs and Startups (SMTECH)	Development Business	Public & Large corporations and more	Up to \ 400 million

3. Interview

- 3-1 Interview, Dreaming of the Future: Conversation with the Mayor
- 3-2 Interview, Talking about Today: A Conversation with the Smart City Policy Bureau
- 3-3 Essay, Illustrating Tomorrow: Practitioner's notes

* This chapter has been processed in an interview form for ease of explanation.

3-1

Interview , dreaming of the future : Conversation with the Mayor



It has been 3 years since the Smart City Platform was developed.
What were the reasons and needs you came up with?

Since being elected, I have asked for the ability to 'check Seoul at a glance'. Management was difficult since each division reported individually which created inefficiencies and judgment delays. It takes a few days to a month for a division to prepare a report. Due to the nature of the Mayor's work, it's hard to sit in the same spot for a long time as there are many people visiting and lots of events to attend. That's the reason why I asked for the SCP so that I can check the current state of Seoul anytime in an intuitive manner. The platform can effectively reduce the reporting system and I can review the relevant information without asking the person in charge. As a result, it can increase the understanding of work and work skills. I wanted to show accountability for projects, and how policies are realized and implemented by gathering the information of Seoul in one spot.

It is not a technology that you can just create in a day. I wonder what department, with what process it has developed.

The Seoul Metropolitan City data project has been in motion for a long period of time. The main tasks were to produce data, collect & refine the data and offer it back to citizens so that it can generate new values. A series of effort started to get recognized since it offered the Open Data policies, Open Document Disclosure, Public Documents and Open Raw Data, etc. There has been a growing consensus that the projects we proceed with are valuable and needed for Seoul City.

It was very insightful that you recognized the importance of data and started the relevant projects early on.

Seoul has been thinking about the value of data. The Smart City Policy Bureau has had a data center as a business ever since its inception. The data center managed hardware or networks. Looking over the data spring up everywhere, I thought we should integrate the valuable data rather than leaving it all scattered.

The reason why Seoul was able to start the data business before any other cities or governments was because there are over ten million citizens of Seoul. There are 10 million sets of data and infrastructure for 10 million people and the annual budget of Seoul is not a small scale so it was natural to consider data utilization.

If so, how is Seoul utilizing the Smart City Platform at this phase?

Its biggest role is to monitor the current state of the City and showcase the administrative indicators. The current state of the City such as air quality, traffic and disasters are reflected every 10 seconds. It is also possible to utilize the system while away from the Mayor's office as It is connected to mobile or tablet PCs. This is a great help for grasping the current state of the City.

When there were big fires in KT Communication Base Station or Gangnam-gu Office, I was able to check the situations at the office in the moment. In addition, with regard to the atmospheric environment, I was able to check the daily air quality through the Smart City Platform; this became fuel to push through the policies such as 'Free Bus Operations'. It enabled the ability to check the current state of each department directly, simplifying the reporting system. It has been proven that it is a necessary and effective system for both the viewer and provider.

Additionally, it helps promote the City of Seoul. A lot of visitors from advanced and developing countries have come to the Mayor's office. We have been able to meet people from over 200 countries and practitioners from more than 50 countries to deliver in-depth introduction and explanations. WeGo (World Smart Sustainable City Organization) is a committee having approximately 150 countries as members, Seoul is the chairman. The Smart City Platform has been introduced many times at the committee as well. OECD also showed deep interest in this project, participating in the WeGo events more than five times. It is expected to be a system for cities and countries in the future.

The infrastructure and current City state must be different from City to City that is visiting. What do you think the reason is for their interest in the Smart City Platform?

Each country has shown different interests. For developing countries, the highest concern is in the 'Safety' sector. Meanwhile, advanced countries get policy-motif from the case of Seoul that 'they can do the same job'. They think that it is the technology that they can help show their agendas. A lot of cities have the ability to develop the Smart City Platform already. The point they are interested in is rather 'how did you think of installing such a thing in the mayor's office?' or 'What kind of organizational power does Seoul have to do such a job?'

They seem to admire the action we took to apply such an idea to policies rather than the difficulties faced implementing the new technology. 'What was the budget for this project?', 'What kind of legal system do you have to make this possible?' and 'What organizational system do you need to make it possible?' Are the frequently asked questions as well.

What kind of Smart City is Seoul dreaming of?

The Smart City should be made out of connections between the individuals, not recognizing and managing the individual elements such as urban regeneration, traffic and environment. The Smart City Platform has features such as Seoul Online Civil Complaints, but it has not yet implemented a specific function to allow civil engagement. I hope for the SCP to build a network connecting the Smart City Division, as well as other divisions with citizens so that everyone can participate in the decision making process.



Interview, Talking about Today: A Conversation with the Smart City Policy Bureau

What is the final look of the Smart City Platform?

It is machine learning that showcases the current status, improves work accountability and digitizes the policies and data by itself. It also includes the ability to have a conversations with the mayor by integrating AI. Wouldn't the Mayor be able to use this for administration as if it's his own? We cannot talk deeper about the utility value until we reach that level.

Isn't it also a necessary service not only for the mayor but also for administrators?

That's right. Seoul City becomes the supplier and beneficiary of data at the same time. With the Smart City Platform, the citizens and the Mayor can watch how the City operates in real time. This stimulates the administrators and strengthens their accountability. The biggest benefit is that it contributes towards the

transformation of the administrative process in an innovative way. It simplified the reporting process that took a few days to a month which reduced the time and opportunity costs. However, the practical value we primarily planned when we started has not yet been revealed. It seems like it needs more time to reach the original goal.

I heard that there were many visitors including some from abroad. Are there any cases that SCP has been applied in different cities or countries?

We are cooperating with Tashkent City, Uzbekistan. It is not fully complete yet so there is no solid case. However, there are some cities that come to certain development stages after visiting multiple times. As for China, Beijing and Chongqing represent cases. For Beijing, some practitioners who visited Seoul for other work happened to see the Smart City Platform and the

Mayor of Beijing visited again. The related divisions and businesses subsequently took a trip to Seoul. Chongqing also visited Seoul three or four times and they invited Seoul civil servants, so we took a return visit.

For Korea, the government, public institutions and 7 cities came to see the SCP. Some businesses also visited several times. The most prominent cases are Suwon City and Songpa-gu Office, and Songpa-gu Office opened in March 2019. The ministry of Labor developed it for public disclosure purposes, many cities such as Gyeonggi-do, Suwon or Gimhae also have plans for development.

It seems like it has the noticeable effectiveness in showcasing the direction of the administration as well as its actual value of use.

I agree. It is a good system to be considered as a good intention from the point of view of governments or administration. It could be a tool to showcase and emphasize the symbolism of hard work and the transparency of the relevant divisions.

What is your biggest concern now?

The public disclosure. It is designed for the policy makers' views not citizens', it has lack of intuition for citizens to utilize. The concept allows citizens and the Mayor to check the City at a glance from the same point of view, yet It requires extra effort to be disclosed to the public.

What do you think should be improved to be better utilized by citizens?

We are considering offering a personalized dashboard to citizens. I think the citizens need to keep receiving proper data as they are the observers of the City as well. Like the original plan, we wish to accord economic and social values and widen the point of view by offering the data. Ultimately, we wish that what we offer to citizens be used as 'references', not a 'service'. We hope there are more citizens who benefit from the data in this world of information imbalance.

It is a side question, but suddenly I am very curious. What happens to the accumulated data when another Mayor is elected?

It may seem like a personalized system, but it is not. I figure it is possible to think that way because there are lots of photos of the Mayor using the platform. However, the voice and facial recognition can be replaced within hours. The history of the data can be archived and utilized as it is. It is a system that is specialized for Seoul City, and the Mayor of the City.

I wonder about what you expect for the future of the Smart City Platform.

I hope the Smart City Platform captures all aspects of Seoul and thinks by itself. I would like to develop it until not only it shows the current situation, but also analyzes the data by itself and can handle any situation. I wish it becomes a system that predicts the policies and makes communications smoother, not only in between the divisions but also with the citizens. I want to increase the accountability and the transparency with these methods. Instead of exaggerating that Seoul is doing well, it should reveal the shortcomings so that we can continue to supplement and correct them. That's how the City should evolve. I hope for the Smart City Platform to be a system that reflects Seoul as it is.

Essay, Illustrating Tomorrow : Practitioner's notes

Manager Yong-Hyun Cho



You should look back on the past to look into the future. The primary thing to help illustrate the future of the Smart City Platform is to look back over the past 3 years. The policy maps, the City Statistics maps and policy bands are the forerunners of the SCP. The Smart City Platform is the system that Park Won-Soon, the Mayor of Seoul, wanted to establish from the moment he was elected. What he desired to achieve was to be able to check the policy indicators and review everything about Seoul at a glance. The mayor was elected in June 2010, I was assigned to work in March 2016. The previous divisions tried with similar attempts many times, they concluded that it was impossible or too difficult to do. Other divisions started the development of the system under the name of 'Policy Band'. This Policy Band shares the same concept of the Smart City Platform now; It shows the policy indicators gathering statistical and indicator-oriented information. A separate Policy Band menu was created in the administrative portal, the common work system utilized by Seoul civil servants, so that the mayor could use it by clicking the menu – but the utilization rate was zero. In other words, it was a total failure. The reason behind it was accessibility. To start the system, you have to sit on a chair, log in, access to the website and click 'Policy band'; The willingness was required to utilize the system and it was not suitable for the Mayor who has a lot of external calendars obligations many requiring travel.

The next trial after the failure of the Policy Band was 'Interactive Seoul', a system that expressed the data visually. It was an interactive program that visualized the data with a very creative design. The 'Interactive Seoul' that was on the 6th floor of Seoul City Hall with an 85-inch screen is now in Seoul Citizens Hall with 2 30-inch kiosks. The difference between the Smart City Platform is that 'Interactive Seoul' offers the daily data of financial information. It visualizes the 12 financial spending parts as hour/minute hands, expressing the amount of annual budget reflected on the design of a clock. It also offers the content in a way that you can see the air quality and the changes of Seoul on a yearly basis. I personally think that 'Interactive Seoul' was partially successful. This is proven by the Mayor still utilizing the program. The downside is the time it takes to produce. It takes a lot of time to build as it has to be 'creative'. It takes about a year to produce 4 pieces of content with an understanding of the business and expressing them creatively. Nevertheless, I think it was a great system. Even the mayor said, "Good job, I like it, I am moved".

But the mayor asked again, "What I want to see is the whole City, not the information fragmented like this". For instance, he wanted to see the situation rooms that are scattered throughout the City such as Gwanghwamun, Seoulo or the subway at a glance. He said if that's too difficult, it's okay to display them on 4 different monitors. The division which took the system development work was the Planning and Administration Office. Perhaps it was obvious as the job of the division was to see the policy

as a whole and to offer a system to a designated department. Opinions were, of course, divided within the division. Not only was it hard to develop, but also it was obvious that maintaining it in a constant manner was a big deal. Nonetheless, the work was undertaken.

The history of failure was long, but we learned a lot of things during that time and were able to grasp the shortcomings quickly. Finally, the two-year comprehensive development plan had passed, and 3-month planning process was confirmed with 2 duty divisions in March and June. What followed was the organization of the TF team. As a person in charge of the designated division, I decided on the equipment installation for the mayor's office, the direction of equipment maintenance, as well as ensuring cooperation from the previous practitioners of the infrastructure.

The previous practitioners gave us absolute cooperation throughout our work together, and the moderating ability of the data generation divisions was very helpful as well. Some even voluntarily did great work getting cooperation from over two-hundred divisions which we are very thankful for. With such great support, we were able to create 6 55-inch screens and build the digital environment for the Mayor's room including large screens and digital



equipment. Once the system was up and running, we held several meetings about design with UI, UX experts. The ultimate purpose of UI, UX design is to create a user-friendly environment, so the most important task was to get to know the Mayor. I chose to follow the Mayor's every schedule and learn about him. We checked his twitter, understood his routes and analyzed the data set of white papers, research papers and reports for the Mayor's office. We tried to figure out the Mayor's propensity while studying what kind of data was classified in which of system in his office. Additionally, we got to study the projects and the strategies while considering what sort of issues were mentioned. The current Smart City Platform is based on the research we did at that time.

There were some issues while we were constructing the actual system. We were developing an unprecedented system, no one has done this before. We met a lot of companies and made a lot of mistakes, extending the plan for 4 months to complete the system development.

There is a long way to go of course. We should not stop the utilizing and developing so that the Smart City Platform transforms the internal administrative process in an innovative way. We need to refine the real-time connections with department heads. We also need to be able to offer the personalized systems for each decision maker. With these methods, we can innovate a new way to report which will simplify all tasks. We wish we can reduce the wasteful ways and increase efficiency. We also wish for the Smart City Platform to illustrate everything in Seoul and furthermore, we wish the Smart City Platform can think on its own. If the system itself can utilize the collected data and make decisions instead of just showing the data, it will smoothen the communication between divisions and with citizens on a whole new level. We can move forward to the expectable City with the utilization of data, not the accumulation of data.

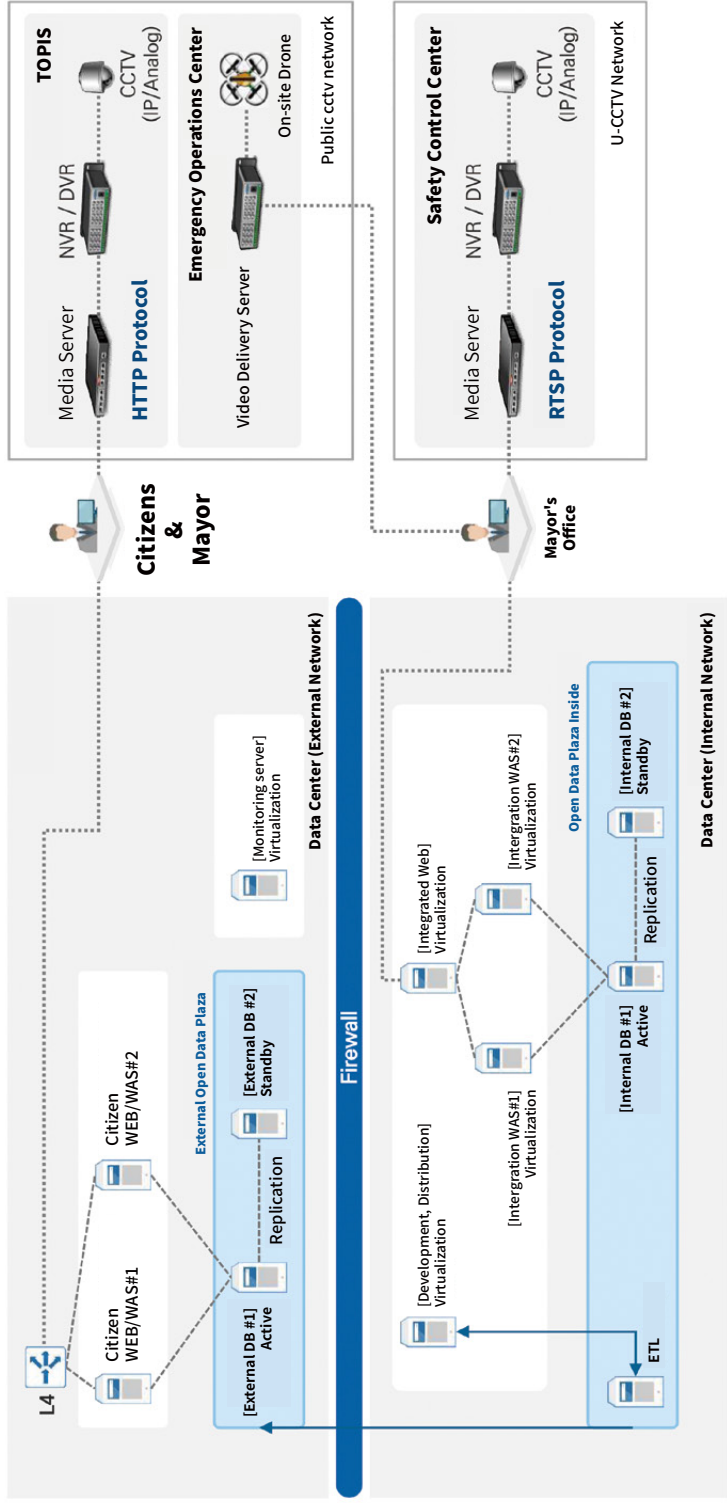
4. Appendix

- Architecture Specifications
 - 1) System Architecture
 - 2) Application Architecture
- Reference URL

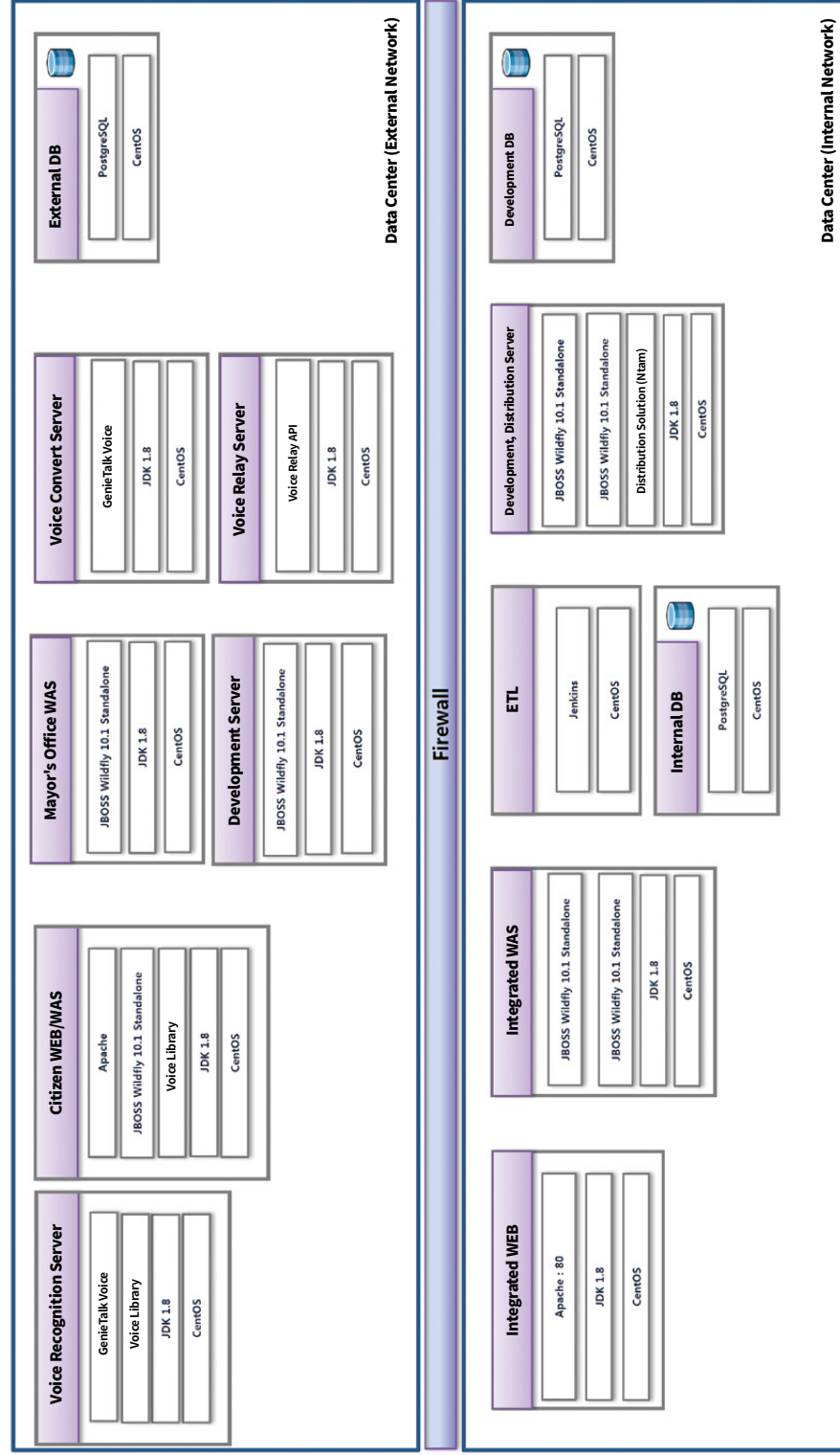
Architecture Specifications

1. System Architecture

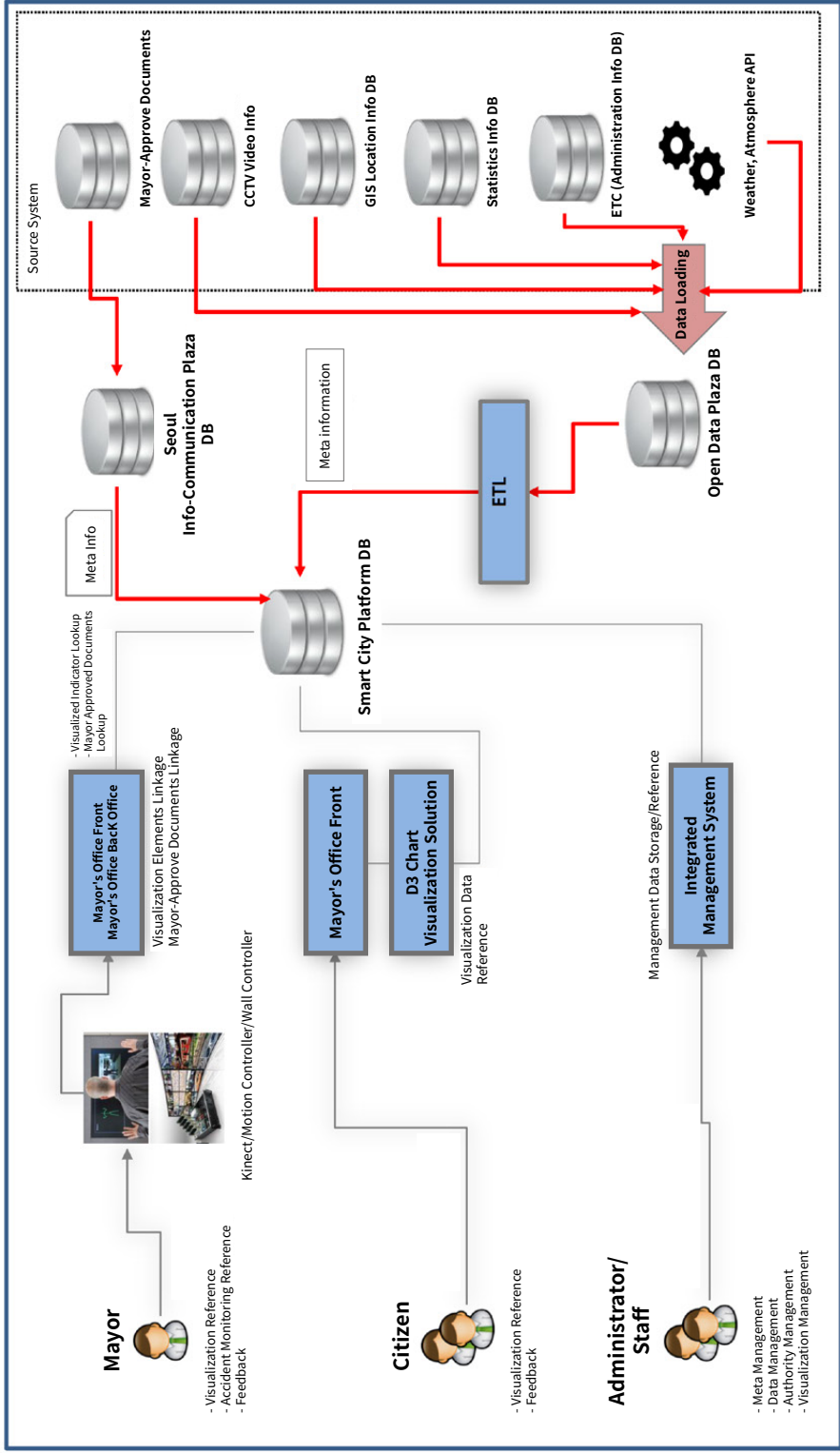
(1) Server Diagram



(2) Application Arrangement

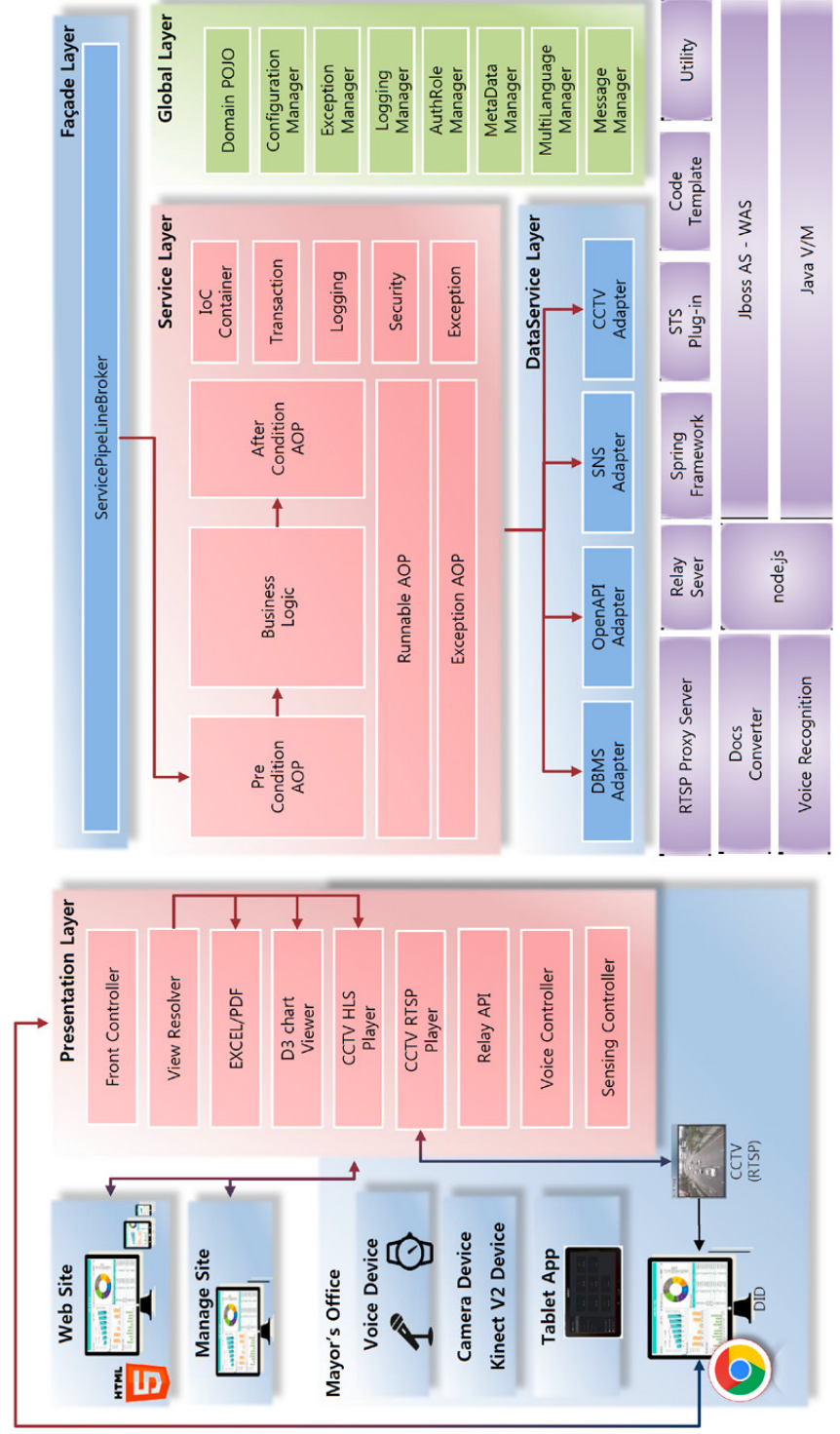


(3) Context Diagram

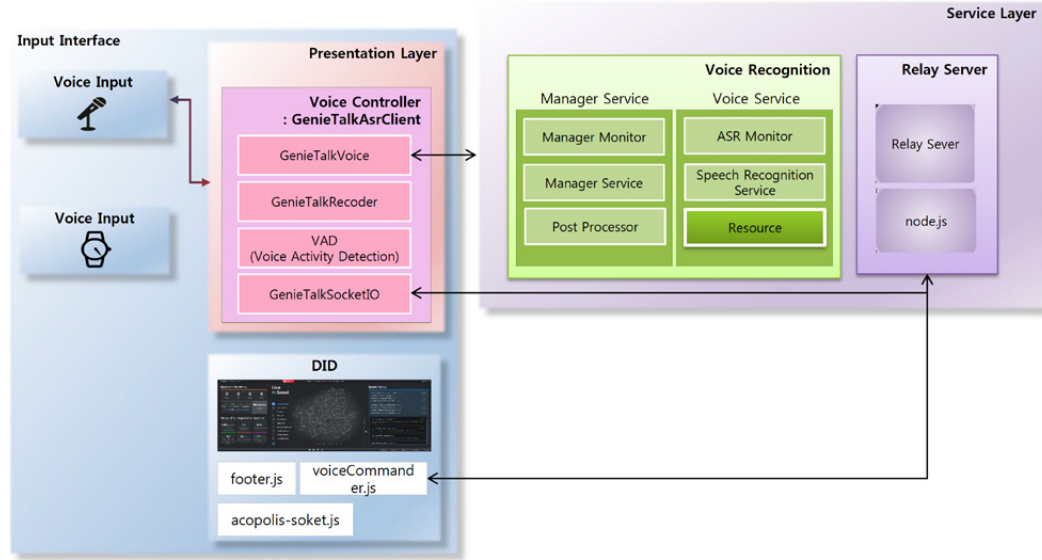


Application Architecture

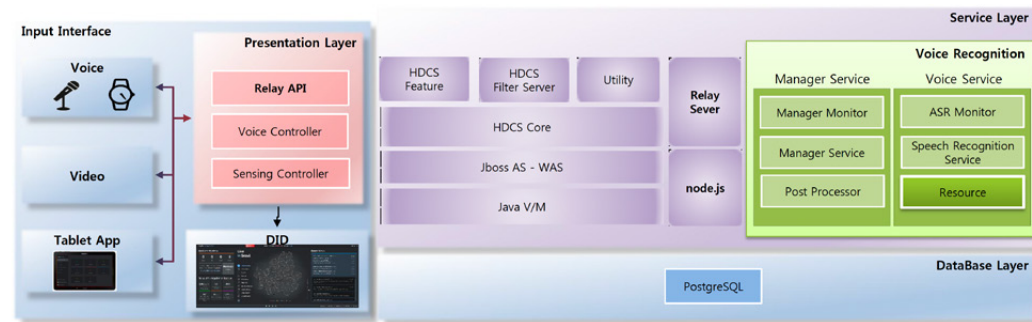
(1) Full Layered Style



(2) Voice Layered Style



(3) Tablet & Smart Watch & Camera Layered Style



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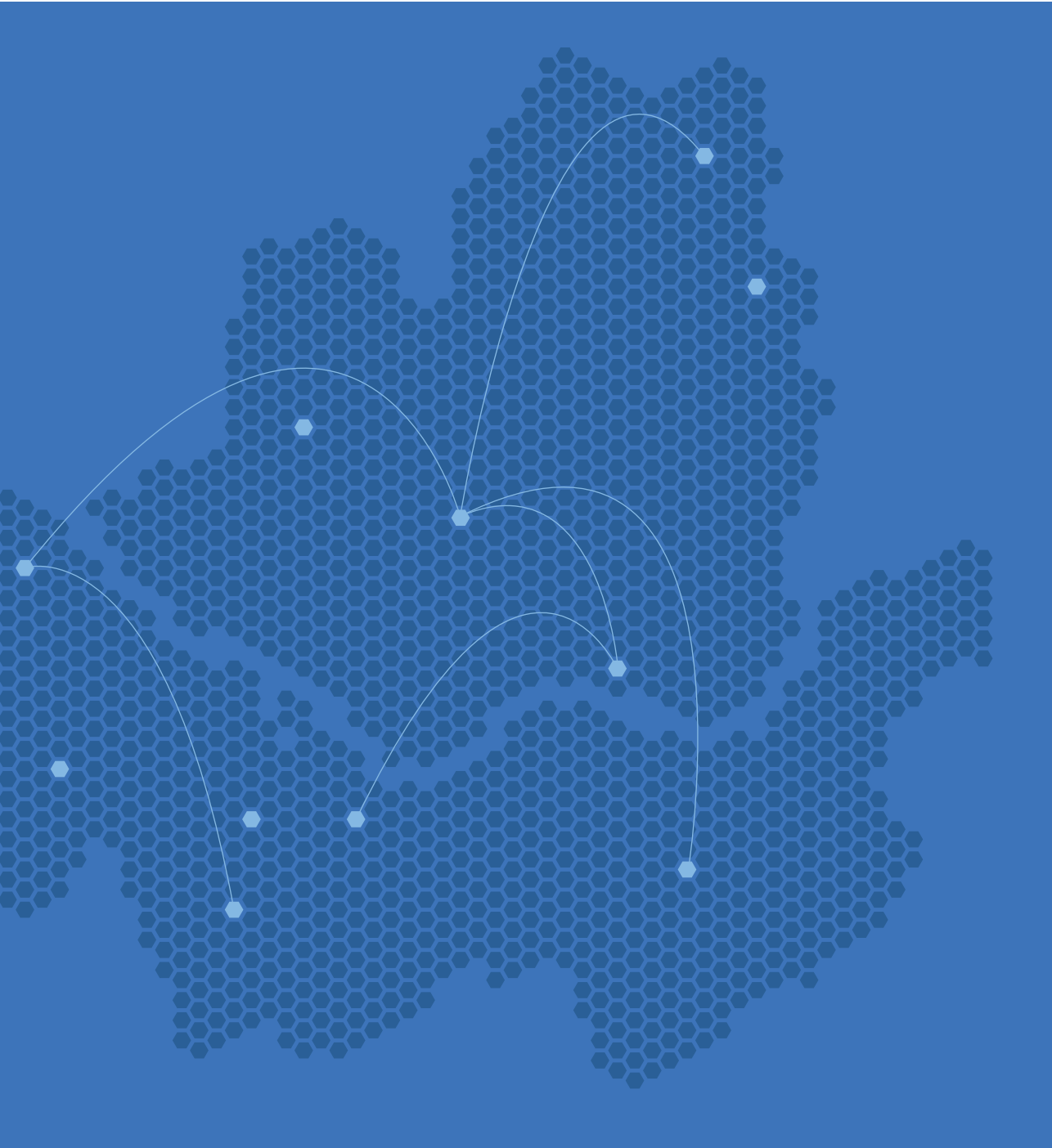
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