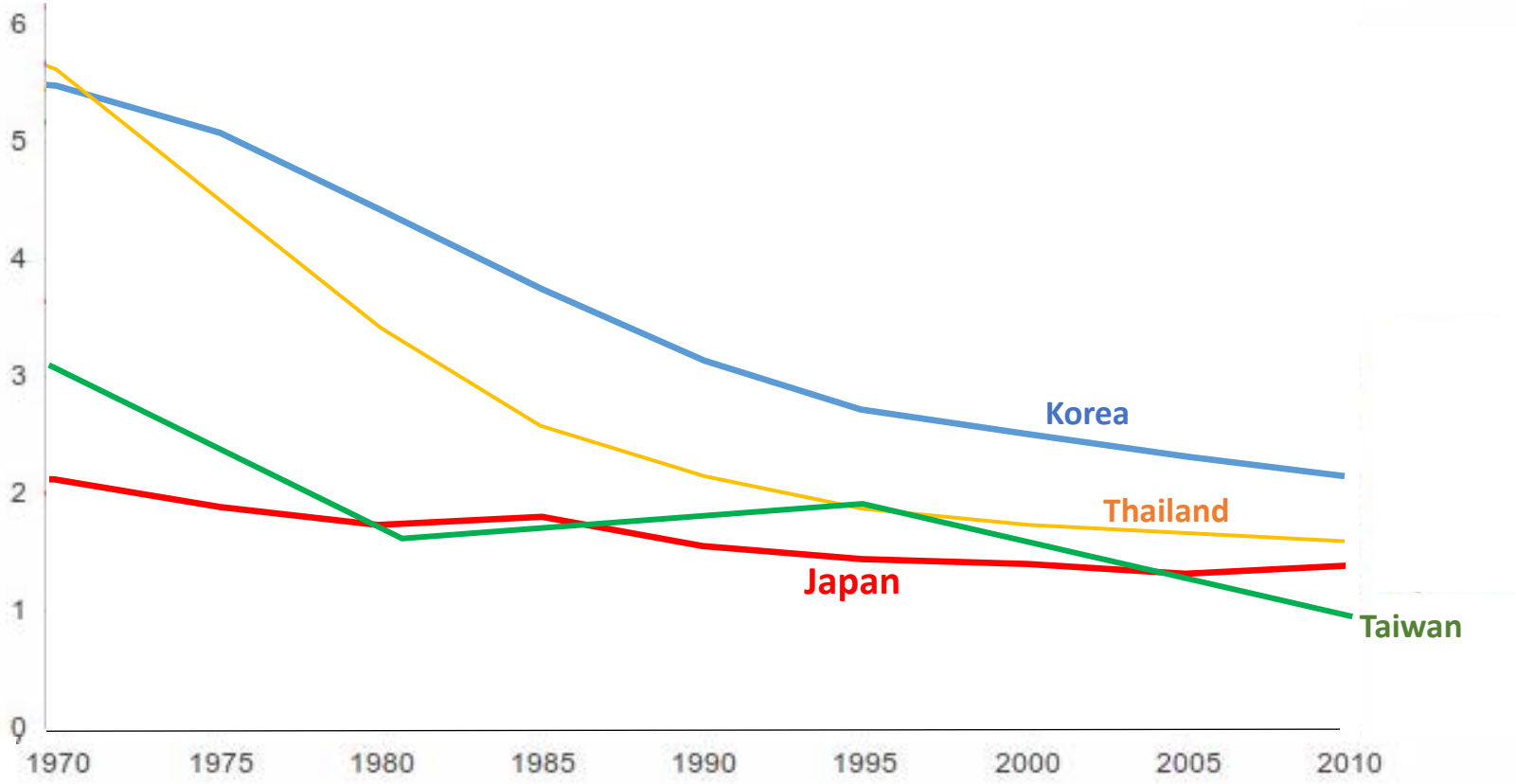
“STANDY”

AI Agents for kids
Forecasting emotions,
Recommending places to play,
And introducing like-minded friends.

Low birth rate is a common problem



Data by Google and Valcan Post
https://vulcanpost.com/4278/something-bizarre-is-happening-east-asians-are-having-lesser-babies/

A lonely kid needs a companion
like Winnie the Pooh

A friend
who can understand him,
who can take him to play,
who can introduce many friends to him.

We implemented “STANDY”:
AI agent for kids

who forecasts the kid’s emotions,
recommends places to play
based on weather and regional
Information provided as
Open Data from the government.

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We implemented “STANDY”:
AI agent for kids

Kids can meet each other
at the recommended place to play
finding each other's
companion characters.

STANDY also suggests topics
for conversation
between parent and child

How STANDY works

What is the relation between weather and the activities of children?

I spoke with my wife,
who is a teacher at an elementary school.

she feels
that some relation between them exists.

For example,
children become very noisy
after rainy days.

We also discussed this idea
with a weather forecaster.
She suggested that
low atmospheric pressure
is also an important key indicator.

We thought about
defining that feeling
as an index, named “**UZU UZU index**”.

"UZU UZU" is a Japanese word
meaning a child’s feeling of raring to go.

OPEN DATA from Japan Meteorological Agency

Date	2016.9.1	2016.9.2	2016.9.3	2016.9.4	2016.9.5	2016.9.6	2016.9.7
Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Atm. Pressure	1005.4 hPa	1009 hPa	1011.3 hPa	1011.6 hPa	1009.6 hPa	1004.1 hPa	1001.4 hPa
Daylight Time	10.1H	4.9H	7.4H	4.5H	9.6H	9.6H	2.3H
Precipi-tation	0mm	0mm	0mm	3mm	0mm	0mm	4.5mm
Humidity	68%	76%	77%	84%	76%	74%	85%
Ave. Temp	27.0℃	26.7℃	27.2℃	26.7℃	28.4℃	28.8℃	27.1℃

learning and predicting through an **AI technology (Machine Learning)**

UZU UZU* Index	2.2	1.9	1.7	7.6	4.0	2.0	4.6

* "UZU UZU" is a child's feeling of raring to go

Measuring the UZU UZU index

Recording the noise volume
in class rooms

But in this hackathon,
instead of spending
a lot of time and money,
we made a **simulation algorithm.**

And build an AI system
that is capable of modeling it.

This is **“a Hacker’s Approach.”**

Simulation algorithm for the UZU UZU index

$$\sum_{n=0}^{2} LowPressure(n) * (3-n) \ * Holiday(n) * Urban\ Index$$

Where $LowPressure(n)$ is a value ranged from 0 (high pressure) to 1 (low pressure) calculated by $\varsigma_{0.2}(AtmospherePressure(n) - AveragePressure)$ for n days before

$Holiday(n)$ is a value of 2 if the day before n days is a holiday or weekend day, otherwise 1,

$Urban\ Index$ is a value is decided by the proportion of forest area to urban area in the city and ranged in 0 (rural area) to 1 (urban area)

(this value is obtained from RESAS API)

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Learning and Predicting by Machine Learning

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Initial Training Phase

Inputs :

JMA csv — Weather Data (historical, sequential)

RESAS API — Urban Bias by location (gps)

Google API — distance to nearest parks / play areas

Prediction Phase

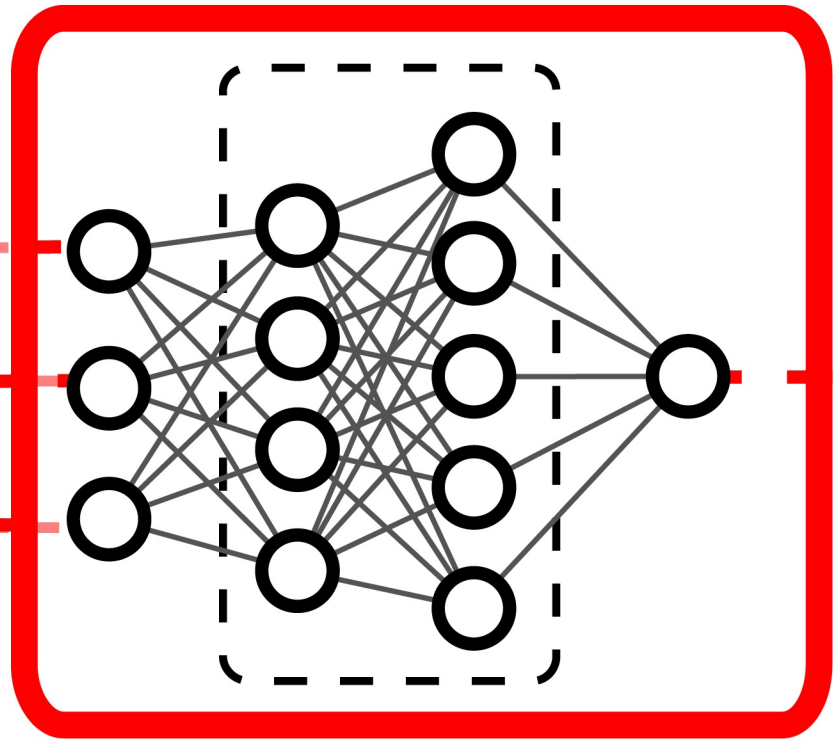
Inputs :

JMA csv using Solace API — [weather data (current)]

mobile device — [location (gps)]

mobile device — [current day and time]

Machine Learning using
"Deep Learning on **Neural Networks"**
(AI Technology or Data Science)



input 12 — hidden 20 — 30 — output 1

Output :

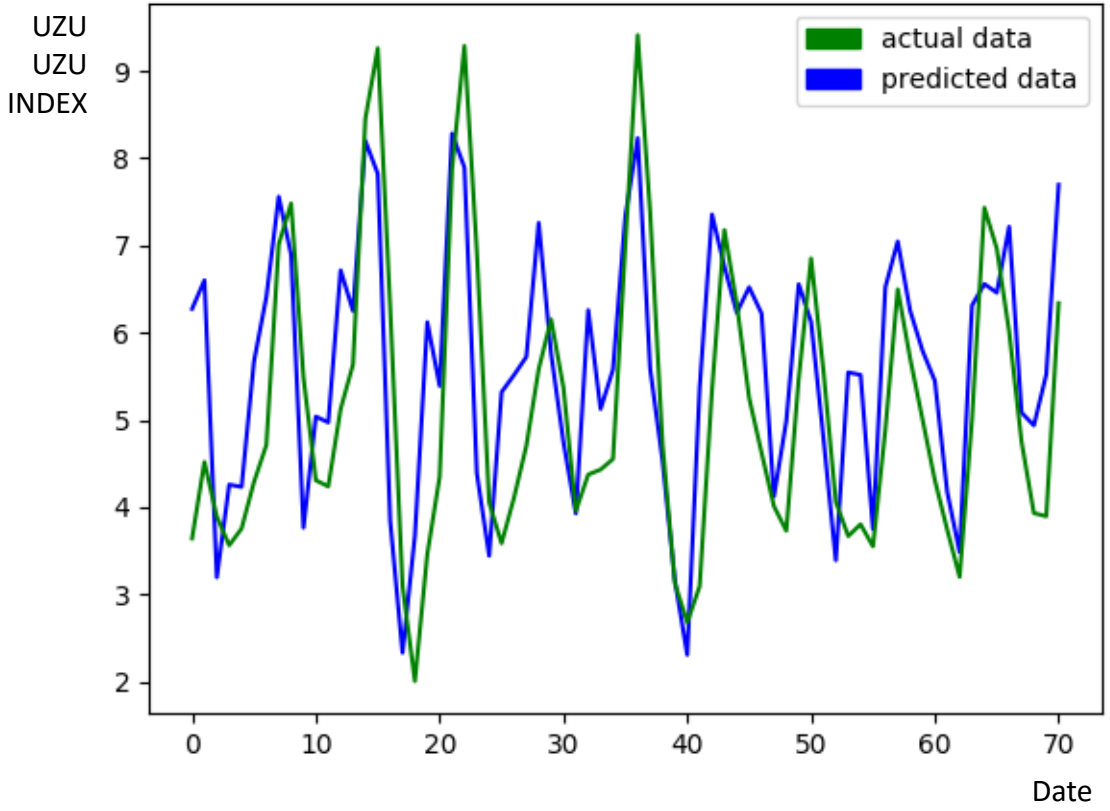
UUI

Uzu Uzu Index

Implemented

Future (currently hard-coded)

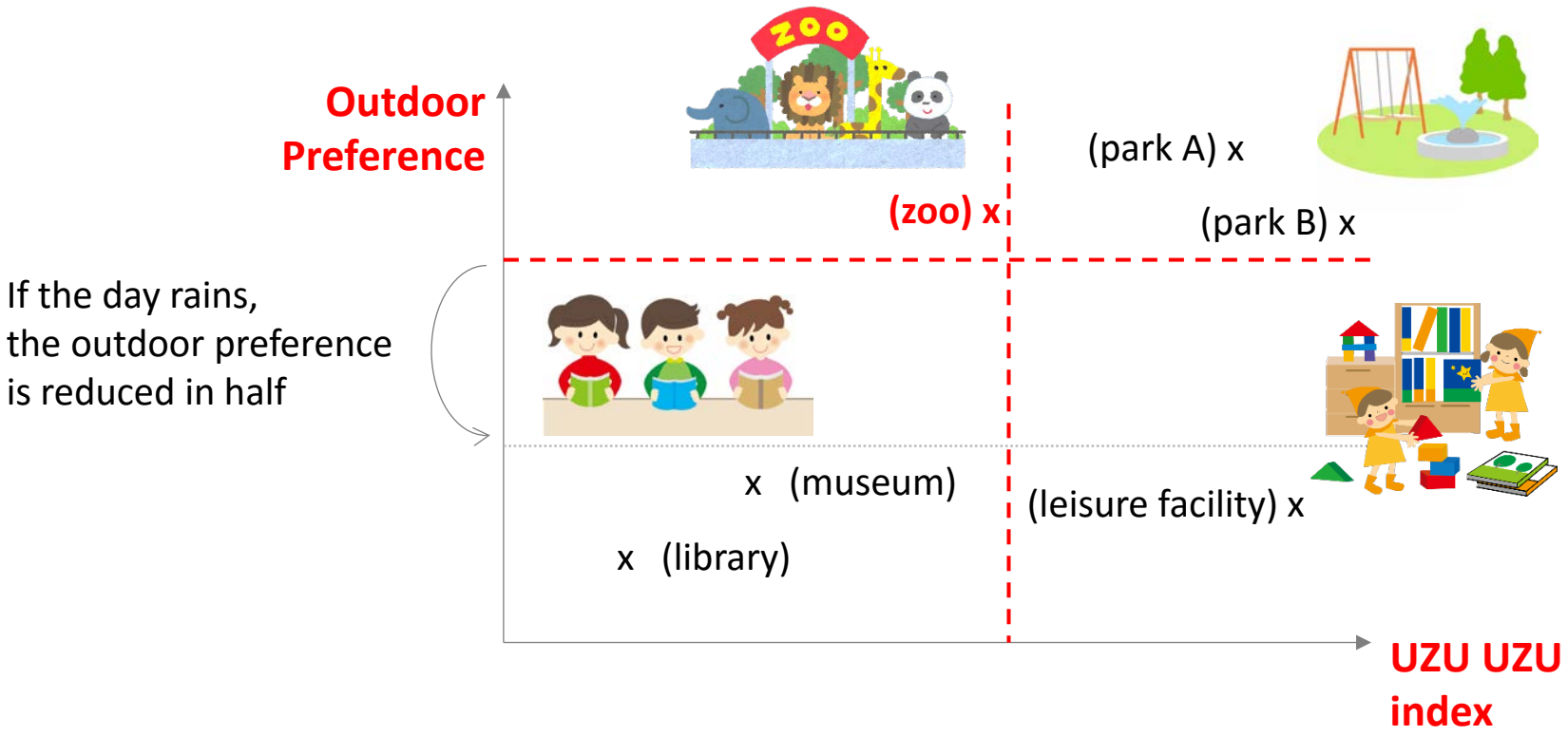
Our model got the accuracy of 88%



The merit of machine learning is that it can predict the UZU UZU index even if we cannot understand its **internal theory**.

This kind of AI technology is **more intelligent** than us humans.

Recommendation of places to play and like-minded friends



STANDY recommends places to play based on the UZU UZU index and outdoor preference of the child. The outdoor preference will be updated if the recommendation works well by requesting for feedback.

Significant
Business Possibilities

The agent collects **data about children.**
That data can be used as marketing data.
Recommendations can also be related to advertising.

“STANDY” can be a Google for kids.

on “**Parental Control**” :
Problem or Opportunity?

Parents can potentially decide
If children from different economic backgrounds
should be friends with their kids.
(we can use the open data
like the data provided by the **Korean** government)

To decrease the social gap
we should recommend
that different kinds of kids
hang out together.

How will you control your kids?
Do you contribute to the society by allowing the child
to have friends from different environments?

Why we named “STANDY”

Summary

STANDY:

AI Agents for kids
forecasting emotions,
recommending
places to play,
and introducing
like-minded friends

(1) Completeness
- **sufficient neural network prediction accuracy (88%)**
- **Through the trial, kids actually love to talk with STANDY !!**
  (Moreover updated since then! More interactive!)

(2) Utilization of Data
- 1 year of **weather data** from the Japan Meteorological Agency
- forest area ratio from **RESAS API**

(3) Creativity
- using **Data Science** and **Deep Learning**
  to **predict children's emotions** defined as **UZU UZU Index**
- **user interface like a child's favorite doll**
  (fluffy, cute appearance and cute movement and voice)

(4) Technical Difficulty and Application Value
- We used **"A Hacker's Approach"** to perform **Deep Learning**
  with a **simulation algorithm.**
- **business possibilities** of recommendation as a
  advertisement and marketing data obtained from children

(5) International Open Data
- considering Parental Control according to regional
  wealth data provided by the **Korean** government

Why we named “STANDY”

GUCCI

if it's hip, it's here

COOL
JAPAN?

COOL
ASIA

Respect All Art

and

Hack Social Issues!

TRY STANDY ON YOUR PHONE

Download Monaca

Download on the App Store

GET IT ON Google Play

id: project.standy@gmail.com

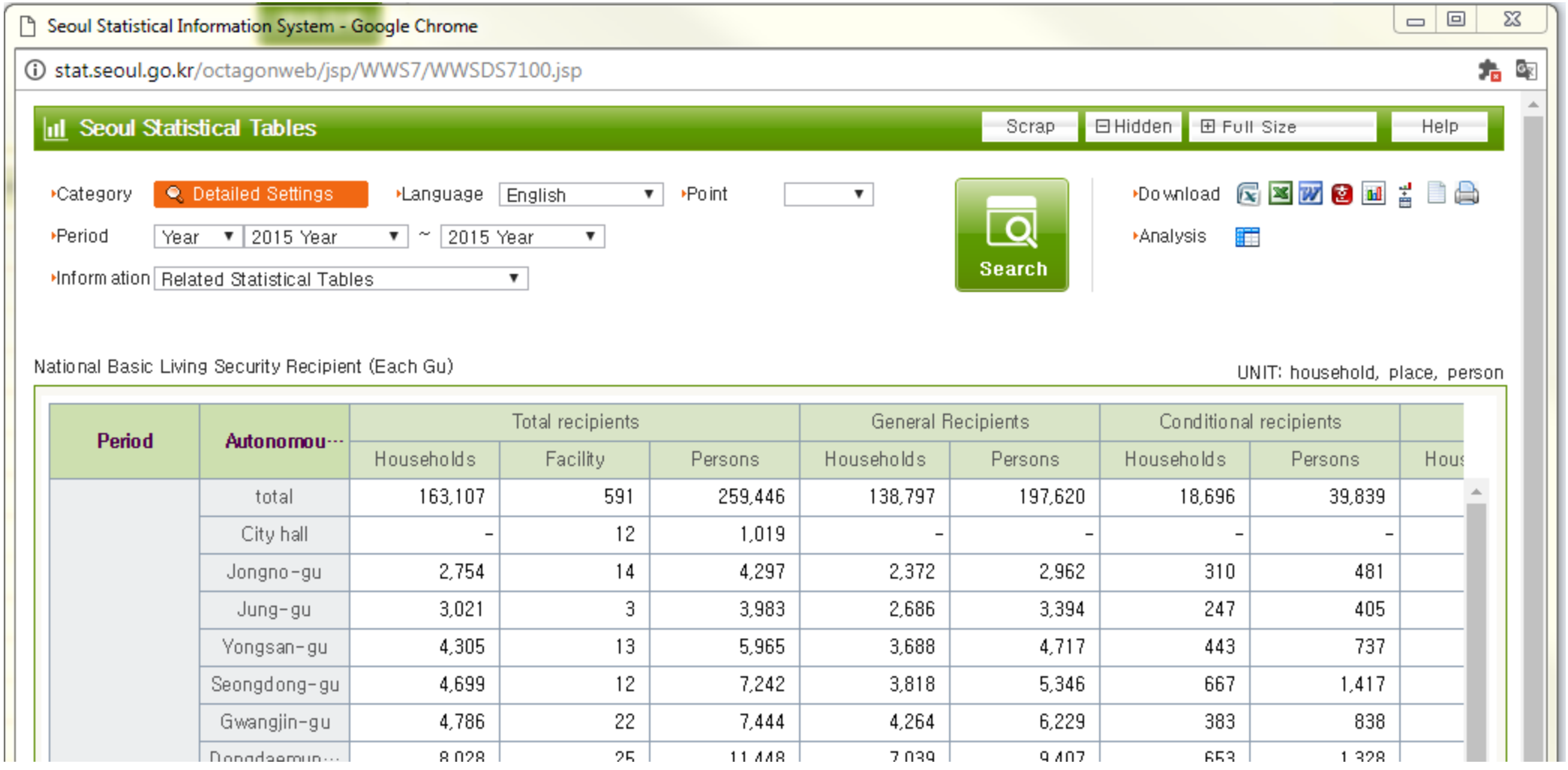
pw: project.standy

References

Regional Wealth Index obtained from the Korean Government

Source: National Basic Living Security Recipient in each region

We can estimate the wealth index by calculating recipients per capita in each region.



Period	Autonomou···	Total recipients			General Recipients		Conditional recipients		
		Households	Facility	Persons	Households	Persons	Households	Persons	Hous
	total	163,107	591	259,446	138,797	197,620	18,696	39,839	
	City hall	-	12	1,019	-	-	-	-	
	Jongno-gu	2,754	14	4,297	2,372	2,962	310	481	
	Jung-gu	3,021	3	3,983	2,686	3,394	247	405	
	Yongsan-gu	4,305	13	5,965	3,688	4,717	443	737	
	Seongdong-gu	4,699	12	7,242	3,818	5,346	667	1,417	
	Gwangjin-gu	4,786	22	7,444	4,264	6,229	383	838	
	Dongdaemun···	8,028	25	11,448	7,039	9,407	653	1,328	