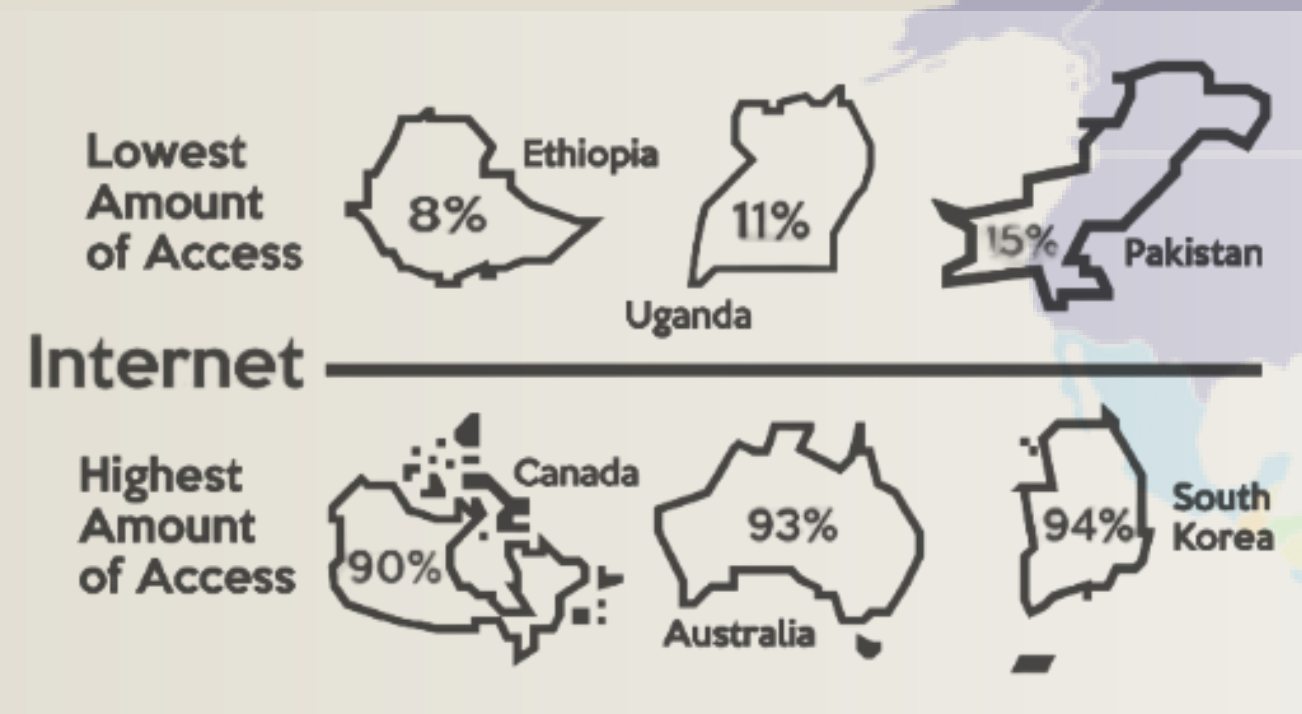


# smartphones for the illiterate



**Product :** A Low-end Smartphone That Can Help Illiterate People

**Background :** Digital Divide + Educational Gap

There are countries where more than half of the people are **illiterate**, and the **educational gap** is widening.

The most fundamental problem to be solved for **sustainable development is "education"**.

**Objective** \* **Preventing disadvantages or dangers** caused by not being able to read the text.

\* Solving the **fundamental problem** of poverty by allowing illiterate people to learn **basic languages**

\* Developing smartphones by **recycling waste cell phones or mobile phones in use.**

**For services** \* Extract and recognize character on signboards and documentation, read recognized characters and read that text, even if people can learn about that text. (use OCR & TTS)

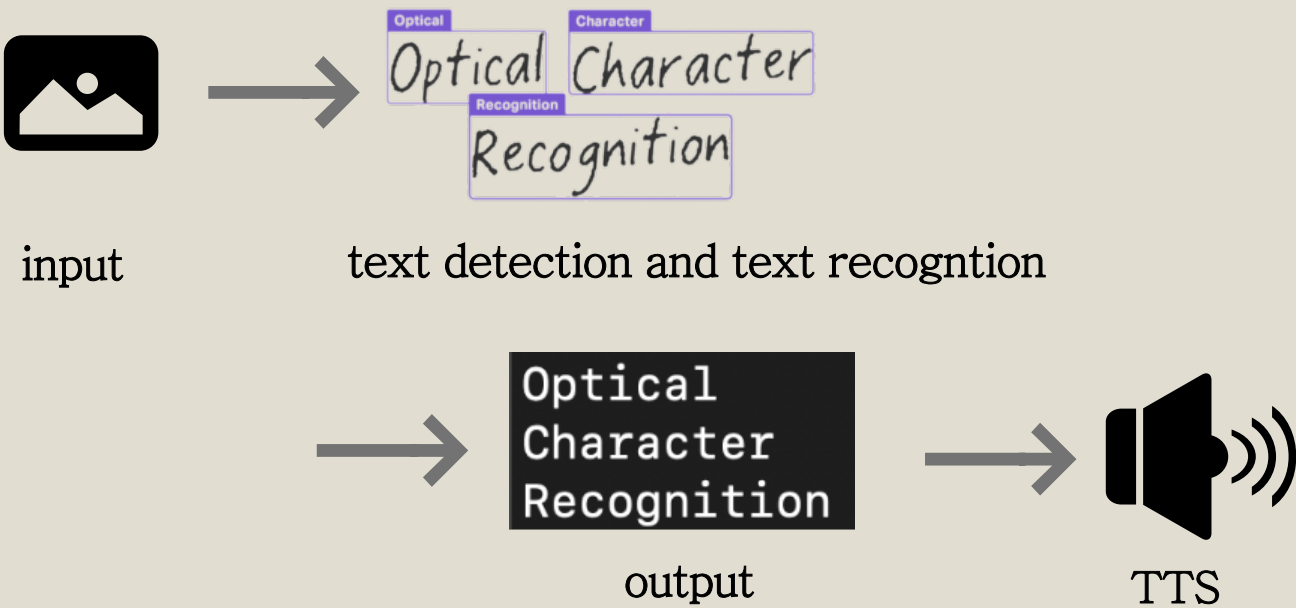
\* Basic alphabets and Language education programs using images.



# Our smartphone has this function

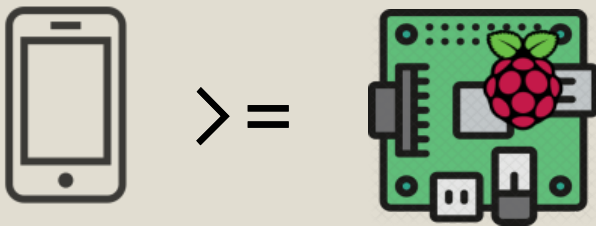
## [ OCR and TTS ]

Optical Character Recognition & Text to Speech



## [ Using low-end smartphones ]

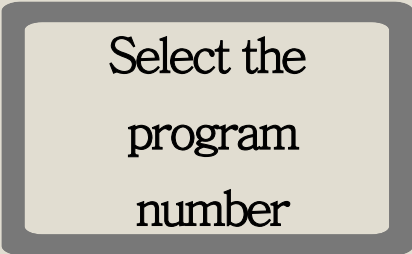
We use waste cell phones or mobile phones in use.



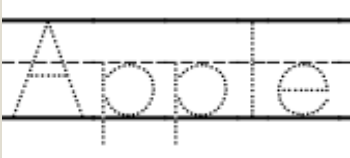
Functional Level

Therefore, we use Raspberry Pi to create executable files that can work on a low-end smartphone.

## [ An Educational Program Using Python ]



The theory of alphabets



Alphabets Review test



Daily + safety related English words

Words Review test

Output a word as a voice

+

Output the corresponding image



```
minyeong@ubuntu:~/ict$ python3 education.py
Program lists
1.Theory of alphabets
2.Alphabet test
3.Daily + Safety words
4.Words test
Select the number : 1
```

# Our smartphone has this function

## PEOPLE WHO?

For the illiterate person

## HOW TO USE?

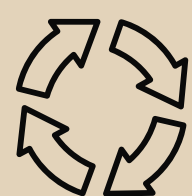
Photo of the sign received  
by the camera

1



Input

Run the  
ocr  
program



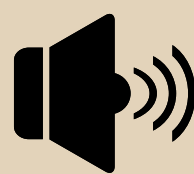
2

3

DO NOT  
ENTER

Output

Text  
to Speech



4

Show  
Image



5

"ENTER"

Word  
extraction



Technicians  
will be  
update soon!

## WHERE TO USE?

Anywhere, even if  
the internet doesn't work.



### Expected Effects:

Reduce the digital gap  
by allowing the poor  
to enjoy the technological benefits  
of the Fourth Industrial Revolution

## WHEN TO USE?

If you want to read sign  
or instruction manual.

