

## < Assignment #1 >

201935078 오정민

### 1. Key idea



The app called "Shazam" is a music recognition app. Let me give you an example of a common situation. You are at a cafe or walk down a street and hear a beautiful song playing. This song may be completely new to you. You really like this song and desperately want to know its title. So, you quickly turn on the Shazam, recognize the music that is currently playing for a few seconds. Through this short process, Shazam has given you not just the title of the song, but the song artist, album, released date, and other meta data. Furthermore, you can add the song to your playlist and keep hearing it<sup>1</sup>.

### 2. Technical point

Shazam use one of the algorithms of Automatic Content Recognition(ACR) known as Audio fingerprinting. Audio fingerprinting is the process of representing an audio signal in a compact way by extracting relevant features of the audio content. It works on the principle of human fingerprinting. It records the fingerprint of ingested audio content and later can be used to match with the recorded audio, TV or any other device. Audio fingerprinting allows monitoring of the audio independent of its format and without the need for metadata<sup>2</sup>.

### 3. Discussion point

- When you have a song stuck in your head that can be found only by humming, can Shazam recognize your humming?
- It's okay when the audio fingerprint of the song you are looking for is in the database, but what if it is not?

#### 4. Business strategy

- All songs that you search for are stored at in your library.
- By creating an account, you can check the songs identified by Shazam on other devices that are logged in with the same account.
- Even if you are not connected to the Internet, Shazam generates an audio fingerprint and find the song the next time the device connects to the Internet<sup>3</sup>.

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<sup>1</sup> <https://ehikioya.com/audio-fingerprinting-how-shazam-works/>

<sup>2</sup> <https://www.pathpartnertech.com/audio-fingerprinting-understanding-the-concept-process-application/>

<sup>3</sup> <https://support.apple.com/ko-kr/HT211913>

# Report



제출일  
과목명  
담당교수  
전공  
학번  
이름

! "

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The application uses sensors built into the smartphone to detect nearby cameras.

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몰카탐지기 supports three camera detection methods currently used by the government.

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It detects changes in magnetic field that can be seen around using electromagnetic field sensors in Smartphones.

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It uses infrared cameras to detect invisible infrared radiation from the camera.

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It detects the Wi-Fi signal that the camera emits to store the video in an external storage.

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Because smartphones are not specialized in detection, there is a limit to the performance of sensors. And this application is designed to explore all objects emitting electromagnetic waves, so even if a warning is displayed, a camera does not necessarily exist.

In fact, there was a review by users that it responded to metal objects such as refrigerators and sewer pipes, not cameras. The application's purpose and detection performance are not bad, but detection accuracy is still a challenge to improve.

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몰카탐지기 is an application designed to relieve people's anxiety about illegal filming. When users use detection, they watch short commercials. But many people doubt the accuracy of this application. In order to give credibility to users in the future, 몰카탐지기 need to increase accuracy.

물카탐지기



전자기 탐지



불법촬영은 범죄입니다!



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- \* 최초 실행시 전자기센서 초기화를 위해, 실행시킨 채로 기기를 위를 향하게 둔 채 8자 모양을 그리듯 2~3회 회전시켜주세요.  
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- \* 기기 뒷면의 상단부를 탐지할 지역에 접근시키세요.
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카트라이더 러쉬플러스

바로가기

Google Play

### Key Idea

It provides streaming services that allow users to watch various contents on Internet-connected devices, and provides one-on-one personalized services to all subscribers through user analysis.

### Technical point

Netflix is one of the most representative OTT platforms. OTT refers to a TV service that can be viewed through the Internet. The core of Netflix's OTT service is 'adaptive streaming'. Adaptive streaming is a technology that starts low-definition content and then gradually adjusts and streams the quality according to the user's device and communication environment.

The analysis techniques used in the recommended algorithms of Movies we think you will like include big data analysis, natural language processing analysis, and deep learning.

Big data analysis is extensively expanded to film evaluations, reviews, and metadata obtained by users and critics by collecting social media and web data. In order to increase the accuracy of the algorithm, content analysis experts watch and tag movies, and AI groups them according to users' tastes. At this time, tags that reflect human subjective emotions are converted into data that computers can understand using natural language processing analysis technology. At the same time, deep learning technology can be utilized to view content and bring users' tastes closer.

Netflix uses its own CDN (Global Content Transfer Network) to transmit various contents around the world. It is a way to transfer content to facilities installed around the world in advance and to transfer content from the local network closest to the subscriber. Thanks to this, content quality and appreciation speed have been further improved. In addition, high-definition content can be viewed with little data as it is applied with a technology that compresses and transmits large-capacity content in small capacity.

### Discussion point

#### - Strength

1. Content recommendation accuracy is high by utilizing not only viewing records but also storage, evaluation, and sharing functions for customized services.

# REPORT



과목	모바일프로그래밍 화목3,4
담당교수	정윤현
이름	박다정
학번	201835451
제출일	2021.03.10

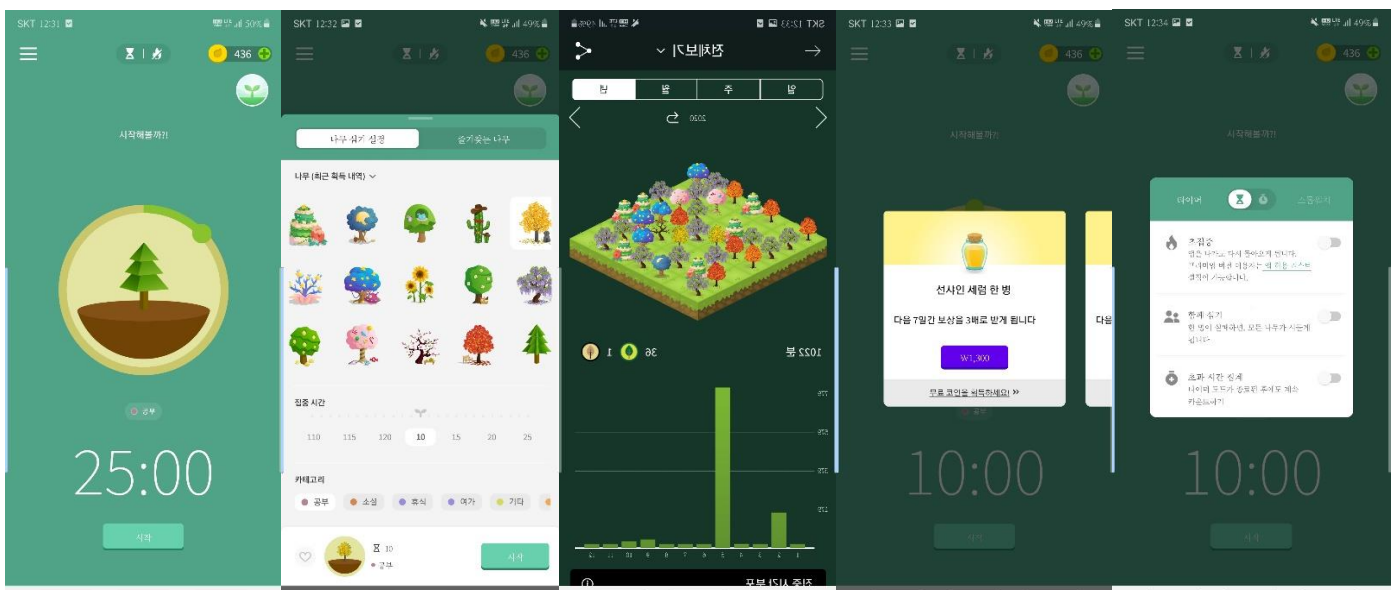
## 1) Information of 'Forest' application

### A. App Icon image



### B. Name : Forest

### C. Images



## 2) Key Idea

- A. Prevent smartphone addiction and improve concentration
- B. App that grows various kinds of trees and creates forests during timer time
- C. If you leave the app to use your smartphone, the tree will wither immediately.

## 3) Techincal point

### A. Timer

- i. CountdownTimer
- ii. Timer and TimerTask

### B. Statistics

- i. Pie chart



ii. Bar chart

C. Login / Device Interworking

i. Google Account Interlink

D. Payment System

E. Planting Trees with Other Users

#### **4) Discussion point**

A. In addition to planting various trees in image form, there is also a program to plant actual trees with coins collected by oneself.

#### **5) Business strategy**

A. Coin and performance can be expanded. Planting and growing trees is possible if you have time, but if you want to "plant real trees" soon or buy trees or background music from stores, you can move up the time at a cost.

i. Planting real trees program is collaborated with 'Trees for the future'



B. Additional purchases can be made by tripling the rewards over a certain period of time.

C. Upgrading to a premium version will motivate you to plant trees with other users and provide more detailed time distribution statistics. (need to pay)

2. There's not much change in the screen. You can choose another video with preview turned on.

#### - Weakness

1. There are many contents from various countries, but they do not have many contents from one country.

2. Usually, it focuses on contents in the English-American region, so it also acts as a disadvantage for Korean users.

3. The amount of contents of movies and dramas in Korea is smaller than that of Whatcha Play, an OTT platform.

4. The service may be terminated in the middle of viewing the content. Although the number of self-produced content is increasing, Netflix has a license agreement with existing works to retain popular content, so you can't see the work again on Netflix after the contract period is over.

#### Business strategy

##### 1. Original content creation

In order to predict difficulties in securing competitive content due to competitive heating of streaming services and strengthen content acquisition, it has produced its own original series to provide differentiated and high-quality content that cannot be seen anywhere else. The probability of box office success is high because it closely analyzes the user's taste data before producing the original content and decides whether to produce it.

##### 2. Netflix doesn't do everything with AI.

They doesn't just rely on AI, but human experts are in charge of the vulnerability of AI.

##### 3. User-centered management policy

The reason why they analyze data and increase screen is for user convenience. Their management policy is to think from the perspective of users so that they can appreciate the works they want at the time and place they want.

## Assignment #1

201935948 Park Juni (박준이)



### QANDA : Artificial Intelligence Problem Solving Application

It solves more than 5 million problems on average every day. Can get an average answer within 10 minutes. It has accumulated more than 26 million downloads worldwide and has about 7.7 million monthly active users.

- Key idea

It provides a solution to problems that were filmed using artificial intelligence. It started with mathematics and is expanding into English and other subjects.

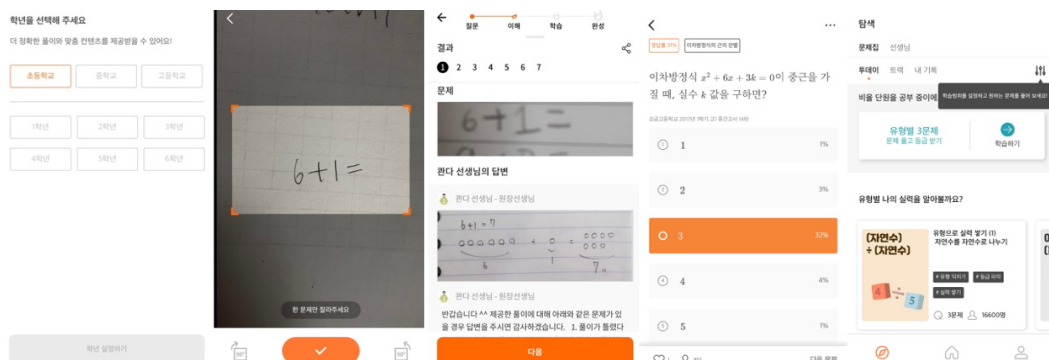
- Technical point

When a user films a problem that he or she does not know, he or she provides a solution and shows similar problems. It is interesting to recognize handwriting.

Users can learn more clearly by recommending artificial intelligence problems after checking the solution. Customized lectures and concepts are also provided.

Questions that users don't know even if they see the answers can be answered in 1:1 chat.

It also provides what problems others have searched for.



[Example of use]

- Discussion point

The big advantage is that users can solve problems they don't know anytime, anywhere, regardless of time and place. It is a very appropriate app at this time when demand for non-face-to-face education has soared. Since there is a big merit in that it is not restricted by time and space, it will not be hit hard even if the covid-19 situation is over and the face-to-face class market is revitalized.

- Business strategy

Qanda is an Edu-Tech app launched by startup Masspresso in 2015.

It has topped the education app charts in Japan, Vietnam, Thailand and Indonesia since it began its overseas expansion in 2018, and is set to enter English-speaking markets such as India, the U.S., and Latin American Spanish-speaking markets such as Mexico.

At a time when the importance of non-face-to-face education is growing, Masspresso focused on preoccupying the foreign market first, and set up a plan to cooperate with local edutech companies in various ways as well as establishing branches in new countries.

#### [References]

Qanda. Official Web Site. <https://qanda.ai/ko>. (2021.03.09)

Google App Store. <https://play.google.com/store/apps/details?id=com.mathpresso.qanda>. (2021.03.09)

Article. <https://www.etnews.com/20210208000162>. (2021.02.08)

## 1. Introduction



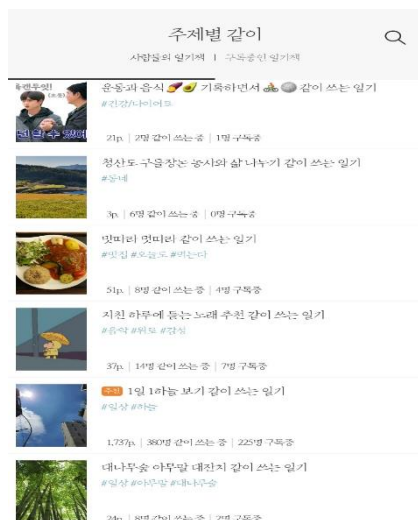
### 세줄일기 - 일기를 사랑하는 사람들이 모여있는 공간

(주)윌림 / willim Inc.

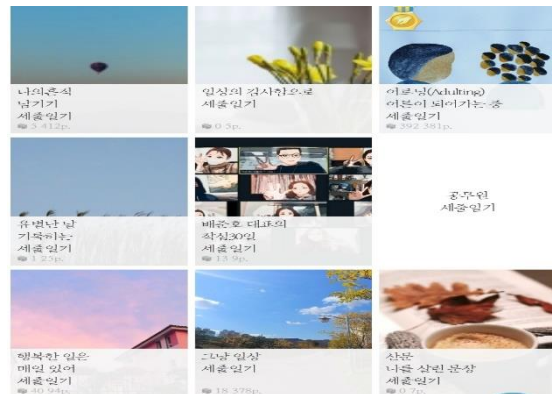
광고 포함 • 인앱 구매

Three-line diary : In our busy modern life, we don't have time to write a diary while looking back on the day with paper and pens. This application is a space where you look back on yourself and share your feelings with three lines of writing and one picture.

## 2. key idea



- 1) Those who want to keep a diary with the same topic can gather in one diary and write a diary in three lines.



- 2) You can see the diary of users who have made their diary public, and you can subscribe to this and receive notifications. You can get not only wisdom I have gained in my life, but also other people's enlightenment.

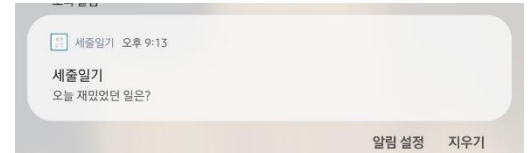


- 3) You can get a notification when you want to write a diary. If you forget to write a diary every Monday, you can set a notification only on Monday.

### 3. TECHNICAL POINT

1) Socket Multi-room Structure : It is used in the "Write Together" function.

2) Screen notification: When you set the time and phrase, the notification appears on the screen.



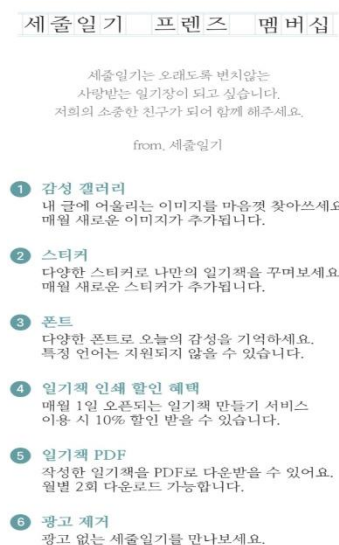
3) Real Time System : oday's date is automatically selected under the diary. Of course, you can choose the previous date.

### 4. Discussion Point

1) Security: The "together writing" function is a gathering of people who write diaries together on the subject. However, someone can maliciously come in and write inappropriate articles or write a problematic diary. But there is no way to choose someone to write a diary together. I hope the owner of the diary can choose whether to write a diary with him or not when a "write together" request comes in.

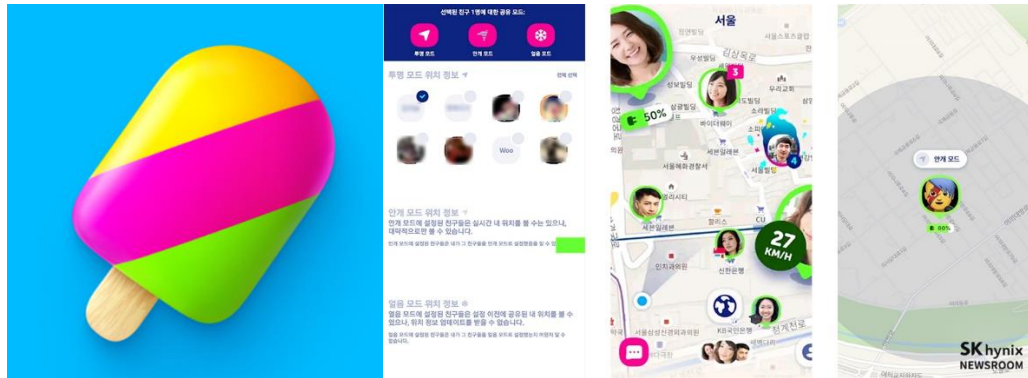
### 5. Business strategy

1) If you want to use the image provided by this app, you have to sign up for membership or watch advertisements.



2) The app has a membership called "Three-line Diary Friends Membership." If you pay 3,300 won per month to join the membership, you can use various fonts or stickers, and download your diary on pdf.

APP name: Zenly



## Key Idea

This app allows friends using the same app to check each other's location and battery capacity, which makes it easier to know where to go to meet friends now, and to meet friends nearby even if they do not make an appointment in advance. For parents they can check their children's location if they go to school or academy or just for checking their safety.

## Technical point

This app use GPS, Camera, WIFI or Data, Contact info, record audio, Bluetooth, read battery statistics and other many techniques

## Discussion point

At the introduction of this Application, it says "We've spent 9 years creating a special Algorithm that allows us to keep sharing location information without excessive battery drain!", and While I read the reviews many people say It really does not use excessive battery and It got 4.4 point at max 5 point. It means many people think this application as positively.

But I think This application can be abused. School violence has been a big problem in recent days, and related to school violence, School violence offenders can force victims to install the app, check its location in real time, and make it easier and more accurate for perpetrators to bully victims. Therefore, the idea of knowing a friend's current location is good, but the above problems can also occur, So I think this application is interesting, but on the other hand, I am worried.

## Business Strategy

While I research this Application, I got confused. Because this application is free and do not have any AD. So, I cannot understand how this company earn money from this Application.

So, I think this Application also has chatting service. And that means they can make really good emoticon and sell it for a fee. That's what I think about this Application's Business Strategy. If they do not change their policy to not having AD on their Application.



## Mobile Programming Assignment #1 – Report of App Market Study

201935038 노민하

### ■ Select one app to introduce: <Clear Scanner>



#### Clear Scanner: Free PDF Scans

Indy Mobile App 비즈니스

★★★★★ 257,701

전체이용가

광고 포함 · 인앱 구매 제공

내 기기에서 사용할 수 있는 앱입니다.

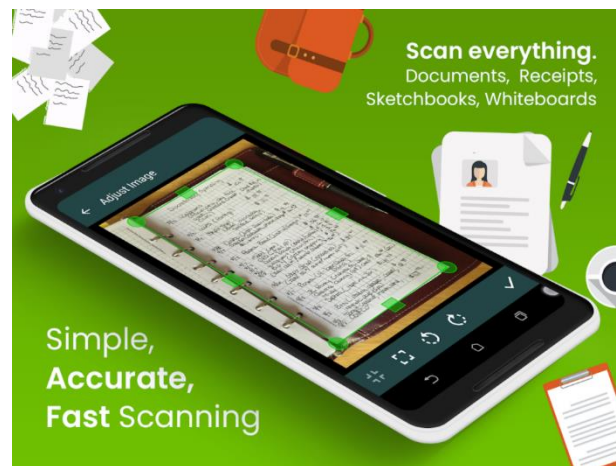
설치됨

### ■ Key Idea

: Instead of using a computer scanner, it modifies photos taken with a mobile phone so that they can be used as if they were scanned.

### ■ Technical point

: Taking/bring photos, adjusting scale and ColorMatrix, cropping the image, saving the result file as a various file format, sharing it to SNS or clouds.

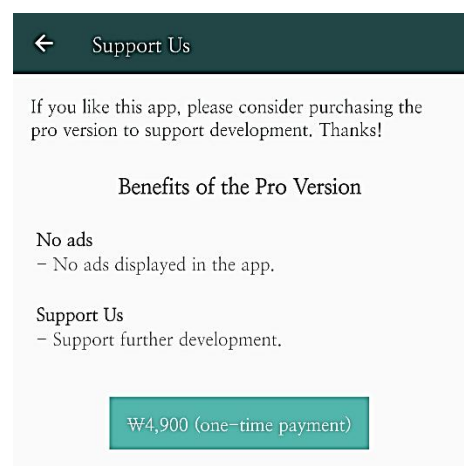


### ■ Discussion point

: This app is convenient when you need to submit a scanned copy. When you bring up your photos, the app adjusts the photos as if they were scanned. You can cut and save the part that you want. Several photos can also be saved as 1 pdf file, so it's very convenient to upload when you have an assignment to submit some handwriting reports.

### ■ Business strategy

: It is a free app, and unlike other apps, there is no watermark. Instead, there are few advertisements. You can upgrade to use pro version (no ads) with a payment of KRW 4,900 once.



# Black Desert Mobile

## 검은사막 모바일

Key ideas : Open world MMORPG, Graphics similar to computer graphics

Technical Point : Its own graphics engine allows users to feel graphics similar to computers in mobile environments.



Discussion Point : There will be many difficulties in how to operate the server.

Business Strategy : The superiority of graphics should be differentiated from other games and continue to develop focusing on what players can satisfy.

# <Report>

**App name: Sleep Theory**

소프트웨어학과 2016358320

신민오

## 1.Introduction

I would like to introduce sleep-inducing application "Sleep Theory". This application is made for people who can't fall asleep easily. Because of COVID-19 and a lot of stressful situations, there's a lot of people who are suffering from excessive stress and depression, which has made it very difficult to get a good night's sleep. So, let's find out how this app makes you sleep well.



<App Icon>

## 2. Key Idea

There are 3 key ideas for this app. First, it helps to form regular sleep times through alarms that wake up and go to bed. Second, it helps create an appropriate sleeping environment through sleep music, sleep-inducing stories, and breath training. Finally, it monitors the ambient sound recording and smartphone movement to analyze and inform the sleep impact factors.

## 3. Technical Point

Above a certain level of light and sound prevents our body from becoming comfortable, judging by external stimulation. The technical point of this app is to use sound sensor and light sensors built into the phone. Using these sensors, it detects obstructions to the sleep environment.

#### **4. Discussion Point**

How many people will this application help? Insomnia can range from those who recover from sleep patterns to those who need medical help. I thought there would be a standard for what level of insomnia a person who suffers from would be effective when using this application. This is because it is inefficient for people in need of medical help to use this.

Second, Smartphones have various sensors such as fingerprint recognition, face recognition, and iris recognition, so if we can use other sensor, more various functions can be added. For example, calculate whether you have a good sleep by calculating tiredness through iris or facial recognition. For this level, more sophisticated sensors will be needed than now.

#### **5. Business Strategy (My Opinion)**

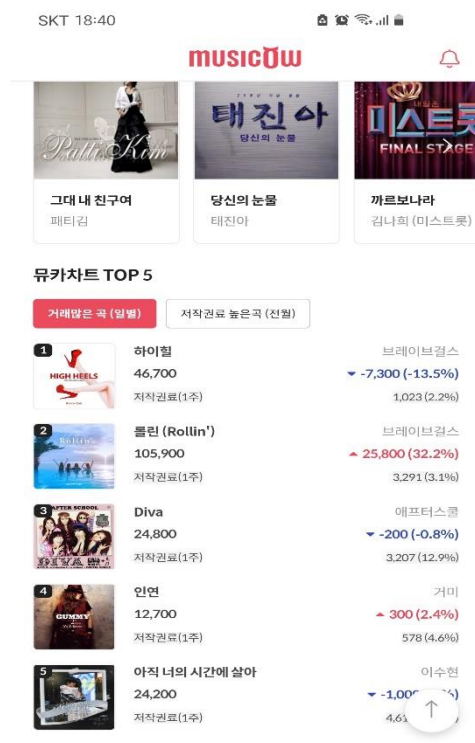
Just as we eat food to live our lives, sleeping is also necessary for a healthy life. But the development of electronic media and a lot of stress in a competitive society make hard to sleep well. Advances in technology may make this even worse. It recognized these problems and created an app to solve insomnia. Most sleep-inducing application.

Most of sleep-inducing applications offer only music or stories to relieve their mind. But this app monitors excessive environmental noise detection and ambient light detection, resulting in tracking of sleep patterns. At this point, I felt differentiated from other applications because it seemed to identify the source of the problem and solve it rather than a fragmentary solution.

# ASSIGNMENT#1 – APP MARKET STUDY

201636417 심우석

## About a Musicow...



Except for the usual use of Kakao Talk, I did not use my mobile phone well, so I entered the Play Store and looked at various applications. There were other interesting apps such as Zepeto, Ministock and Qanda, among which Music Cow stands out the most.

Music cow is a market where music creators, music fans, and investors share music copyright fees and support creators.

This is the first screen when you enter the application. You can purchase pieces of the music copyright, and earn the same amount of money that people get when they are streaming the music.

The copyright fee is easy to buy and sell, and the copyright market is like the stock market. However, the difference from the stock market is that the yield is not minus. Charge cash through the app and convert it into a music cow cash to use within the app.

Key Idea,

The key idea is that through copyright auctions, everyone jointly owns copyright fees as members of the music. In addition, we can pursue profits by purchasing certain rights to copyright, which we have encountered in the usual but felt distant.

And like stocks, it has the advantage that you can have a small amount of ownership of the copyright by buying one share instead of buying a share of the entire goods.

Technical point,

Instead of using cash, you pay within the app and use the app cash. For this reason, security is essential. Because the price of copyright changes every moment, securing data stability and speed will be important, and server management is important. There is a difficulty in implementing various functions because it has to perform both the functions of a general stock application and a music streaming application.

Discussion point,

Not many people know the concept of copyright sales yet. In addition, because the money is very small, it is difficult for current users to earn a lot of profits. And it seems like you can have a piece of music copyright. Strictly speaking, it is not transferring the share of the copyright, but signing a bond-based contract to settle the copyright fee in proportion to the share. Bonds can only claim their rights to the other party to which the contract is signed, so if the other party extinguishes due to bankruptcy, etc., or there is no person or corporation to inherit the obligations, then no one can claim the rights. For this reason, the user needs attention.

Business strategy,

Currently, there are no songs by super-sized singers such as IU, BTS and Black Pink on the market. If they take the copyright of the songs of K-pop stars, which are popular all over the world, the profitability of not only the company but also music cow users will increase.

And now, Music cow only deals with songs by some Korean singers, but if they go further and deal with those of foreign singers, it seems that they can generate huge profits. In addition, it seems important to take application users from various countries through global launching.

It appears to be in the stabilization stage at present, but they should expect expansion through market expansion.

# Picture source – Musicow's first screen of the application.

# Assignment#1 - Report of App Market Study

201935075 Yang JunHyoung

Recently, many people are interested in stocks. Some people might know when to buy and sell certain stocks, but most people don't know which stock to buy because they are new in buying stocks. I'm also interested in stocks, so I selected this app to introduce.



## 1. Key Idea

Like the other securities firms' app, the key idea of this app is to buy the stock and to sell the stock. The app also provides users with information or news related to the stock.

## 2. Technical Point

The technical point of this app is that this app includes AI system that recommends stocks to users. Most of apps of securities firms don't have this system. Their apps can only buy and sell stocks.

## 3. Discussion Point

Like all other securities firms' apps, this app also has a lot of complaints in terms of UI. Generally, many users have complaints about UI of these kind of apps. I think making comfortable UI is the point of this app to discuss.

#### **4. Business Strategy**

The business strategy for this app is selling their securities products. Many security companies have their unique products to help users who buy stocks, so it will be important to effectively promote your product to users.



# Assignment#1 – Report of App Market Study

201835482 윤채현

## **An interesting app on the Android Market**

**3,000 won in the heart.**



### **1. Key Idea**

There is a snack that comes to mind when the weather gets chilly. When you want to eat street snacks in winter, such as bungeoppang and hotteok, it is not easy to find where they are actually sold.

On top of that, there is a map application that shares places that sell representative winter snacks such as bungeoppang, Takoyaki, egg bread, and hotteok.

It is an application called "3000 won in the heart," which was started by three developers and two designers who had a relationship in IT club with the idea of wanting to eat street snacks in winter.

If you enter the app, you can find out the location of the bungeoppang store close to your current location, and you can check the time it takes to visit the store and the review of the menu and price.

This is what developer Yoo Hyun-sik said.

"I've always loved bungeoppang. I even wished that winter would come soon when there were more bungeoppang selling. However, most of the bungeoppang were sold in cart bars, so they were not on the map even if I searched them. Even if I wanted to eat it, I often felt frustrated because I didn't know where the bungeoppang were sold. So when I found a bungeoppang store, I used to save the location. Looking around, there were many people who were uncomfortable because they didn't know where to find bungeoppang like me. I thought it would be useful for others if there was an app that told me the location of the bungeoppang store."

The app's name, "3000 won in the heart," is said to be derived from the joke that you should always carry 3,000 won in your arms because you don't know when you will meet a bungeoppang.

As of December 2020, the number of people downloaded was about 50,000. It is assumed that the number is increased now.

### **2. Technical Point**

This application allows anyone to register the store's location directly, which is a format in which information is shared when an unspecified number of people register the store's information. If you register a bungeoppang store that you know, other people can see it together. When a user enters food types, photos, menus, and prices, the location is automatically saved through the gps function of the "Google Map" along with store information provided by the user.

Therefore, it is easy to find out where they sell based on their current location. And you can simply write down the store's ratings and reviews. As of December 2020, the number of bungeoppang stores registered is about 3,400.

The store's customers can register, and the store's owner can register his own store too.

I think the biggest technical point is the result of many people's cooperation.

And most of the street shops don't have a card device. Therefore, you can transfer money within the application by linking the remittance service called toss. I think it provides convenience to people who don't carry cash.

### 3. Discussion Point

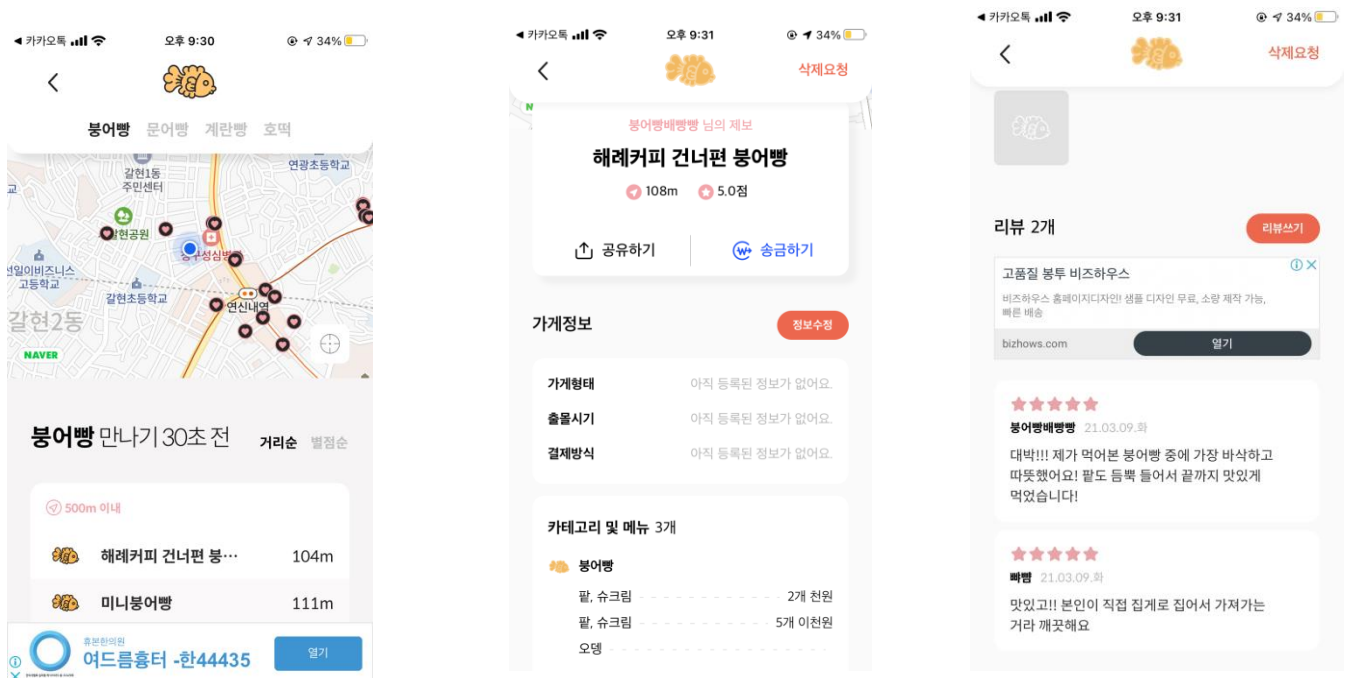
In the case of street vendors, there is a possibility that they are illegal stores, but it is difficult to filter them because it is difficult to check whether they are illegal stores. In order to compensate for these problems, illegal street vendors are said to be considering ways to make them invisible on the app at all. I think this part should be improved.

And as much as anyone can register information, there will be false information. In such cases, it is said that it is automatically deleted when more than three reports of false information are received.

### 4. Business Strategy (if available)

Unlike platforms such as DeliveryNation and Yogiyo, the application does not charge any fees to the registered distributor president. An app official said that the service itself does not accept any fees as users can register themselves.

Instead, he explained that he is receiving advertisements within the app for continuous service operation.



## Introducing Interesting Apps, Face App

201935087 윤서진

### ● Key Idea

I'm trying to introduce the hot emerging "face app" these days. The Face app is a mobile app for editing AI photos that changes the user's face in different ways. It transforms the user in the photo into an aging appearance or a child's appearance. You can also see the future children of the user. Not only this, hair, eye color, and gender can be made differently.<sup>1</sup> In addition, It has various techniques such as changing impression, makeup, styling, filters. In other words, digital molding has become possible in the way I want. In this way, users are curiously interested in being able to see new faces and their future, which has never been seen before, and as a result, they have more than 500 million downloads now.<sup>2</sup>

### ● Technical point

AI technology was used for the face app, but AI analyzes human faces and transforms them into various shapes. More specifically, it works on the principles of computer vision. Computer vision is an analysis system that analyzes images by giving a visual to a computer, so allows the computer to see and recognize it like a human eye. For most people, the eye area has a darker attribute than the upward cheeks, so computer vision will recognize the person's face in the image based on shading. After sensing the face, we find a similar pattern to the average face made by learning several images. When you find a pattern, you create a 3D model that can move and resize, highlighting the features of your face or adding features of your face to distort a specific area of the face. This is also the technology of AR that overlays virtual information on the face of a user.<sup>3</sup> Through this technology process, the amazing filters of face apps are covered on the face.

### ● Discussion point

However, no good app is 100% perfect. What I want to discuss in this app is exactly the infringement of personal information. Face app is an application developed by a Russian company. Rumors have spread on the Internet that the app collects user face photos without permission and provides them to the Russian government. Providing face information data to third parties and tracking users through accumulated face data is a huge problem with personal information infringement. The reason for the controversy in the face app is in the user's terms and conditions. The problem is that the developer has the right to modify, replicate, and publish user photos.<sup>4</sup> In fact, as app consumers,

we simply pass personal information, which is an app service condition, and we don't know how our personal information passed in this way will be used. This is because users rarely find and read the terms in English. But now that a variety of apps are pouring in, privacy is becoming even more important, and we think we need to be alert to these things.

## ● Business strategy

Face app's business strategy is the filters differentiated from other competing apps and the use of social media. Face app has created a filter that allows users to see their future unlike other photo editing apps. If it is not this app, my older appearance or the future child's appearance can never be experienced in advance, so it became a great differentiation. This was enough to satisfy users' curiosity, fun, and novelty. Along with these mysterious filters, it also has a complete set of additional features, such as various photo and video editing functions, which made it a huge gap from other competing apps. And the Face app made good use of the social media that many people use. In particular, Face App aimed for marketing effects through famous stars, and as they shared their appearance into Face App on social media, Face App became a lot of popularity.

## references

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<sup>1</sup> [http://it.chosun.com/site/data/html\\_dir/2019/07/18/2019071801027.html](http://it.chosun.com/site/data/html_dir/2019/07/18/2019071801027.html)

<sup>2</sup> <https://play.google.com/store/apps/details?id=io.faceapp&hl=ko&gl=US>

<sup>3</sup> <https://blog.sknetworks.co.kr/6008/>

<sup>4</sup> <http://news.kmib.co.kr/article/view.asp?arcid=0013511168&code=61131111&cp=nv>

## < Mobile Programming >

### Assignment #1

소프트웨어학과 201935086 유지연



#### 1. App : '당근마켓'

#### 2. Key Idea

- Used deals based on your **neighborhood**.
- Neighborhood community ( hobby and restaurant information ... )
- Users need to authenticate the town.
- And only people in the same neighborhood can make deals.

#### 3. Technical point

- Use '**GPS**' to check the area. ( community based on GPS )
  - ➔ Every 30 days, users have to authenticate the town.
  - ➔ Deals only within a radius of 6km.
- Use **AI machine learning**
  - ➔ It uses AI machine learning to arrange information on items that the user may like. ( recommend )
  - ➔ AI also precisely connects the neighborhood to the optimal range by considering the characteristics of the region, the number of people, and the tendency of users.
  - ➔ It filters out prohibited items and fake items. ( AI learns through machine learning and finds related photos and prevents transactions )

#### 4. Discussion point

- A **clear distinction** from other used trading applications. ( Area )
  - ➔ The reason why the “당근마켓” was able to thrive despite the application that has already become unique in the used trading market is because it brought a **friendly feeling** that it is **near our neighborhood**, not just a simple deal.
  - ➔ Another deal community ‘중고나라’, there were many frauds by mainly trading parcel services, but in the “당근마켓”, they secured trust through mainly direct transactions.
- AI technology that **catches fraudulent articles and fake sales**.
  - ➔ We can only see some filtered sales posts. Excluding fraudulent articles, advertisements, etc.
- ‘**Life in town**’ section.
  - ➔ There is another function that connect neighborhoods to share hobby, restaurant information etc.

#### 5. Business strategy

- Focus on the “connections between neighborhoods.”
  - ➔ It wants to connect all information that happens “near you”.
  - ➔ It limited the region to create a sense of familiarity and secured trust.
  - ➔ Imagine walking slowly in slippers near my house and making a deal with my neighbor with a smile. And I get a recommendation from a good local company.
  - ➔ Ultimately “당근마켓” grow into a ‘local platform’ that connects everything, not only goods, but also tangible and intangible services in region.

## Mobile programming Assignment#1

201735886 Wanky Choi



My interesting application on Android Market is **vFlat**. **vFlat** is app which calibrate image that I take as if it were scanned. This application allows users to obtain files that are almost identical to those scanned without a scanner. When we submit an assignment written in handwriting it is good to be readable and neat if we scan them. But scanning needs scanner. It is useful in this case.

According to this application, the image is adjusted through three-step processing. First, we take the original image. Second, App calibrate the curvature of the image flat. Third, App calibrate the color. Through this process, the color of the paper becomes whiter and the color of the letters becomes darker. Additionally, if there are fingers in the image, it will be removed. This application automatically finds paper in the image we took.



The application also provides an OCR(Optical Character Recognition) function. This function converts the characters in the image into text files. Most letters are translated well. The application also creates a modified image in JPEG or PDF format.

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# REPORT

Mobile Programming

201835466

선다혜

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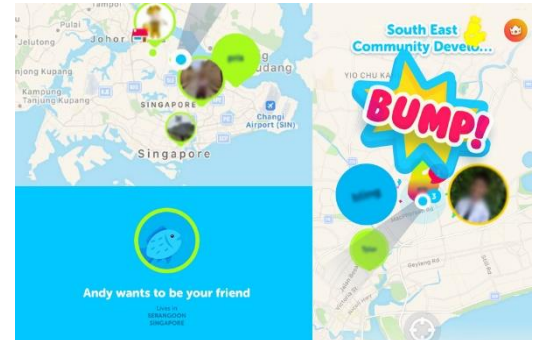


## <Zenly>

### *introduce*

Zenly is a real-time map that shows the location of friends and family. If you use Zenly, you can have more fun meeting each other and see what the other person is doing, so you can feel like you are together even when you are far away. Another attractive factor of Zenly is that there are various things to enjoy, such as various challenges, beyond location sharing.

Zenly has a "Bump" function that lets friends know when they meet. In addition, there is a function to give "exploration king" badge if you frequently arrive in a particular area, and an automatically generated badge that allows you to easily identify whether your friend is at home or at work.



### *Key idea*

Zenly is a location-sharing service and messenger, social media, and map-based service. However, it is a kind of location-based service rather than a typical text-based messenger.

Zenly shows location information almost exactly and continues to interest users through various actions. The main screen is the menu, and everything can be processed on the main screen. There are only three buttons that are extremely small compared to other apps. These simple interfaces and various actions interest teenagers.

### *Technical point*

The use of GPS capabilities is a key point for Zenly. It also uses the user interface of a location-sharing app that shows icons of characters on the map.

Zenly can run the app by authenticating based on phone numbers, creating usernames and nicknames, and giving them permission to share location information. Making friends is common by using phone numbers registered on smartphones or recommending IDs. After making friends, you can check your friend's current location, direction of movement and speed of movement, and the current friend's smartphone battery status. You can also send emoticons, animations, or text messages to selected friends.

Disclosure at Zenly can be set separately. In "Transparent Mode," you can check your friend's location on the map in real time, and you can also check the distance and time required from your location to where your friend is. By switching to 'ghost mode', privacy can be protected conveniently. Ghost mode is again divided into 'fog mode' and 'ice mode', where fog mode only roughly informs my

location, and ice mode no longer shares my location in the last location before setting. Depending on what you want to disclose, you can specify the transparent mode and the ghost mode, and you can also set the time to release the ghost mode at your disposal.

#### *Discussion point*

Given that Zenly is an app that shares its real-time location with others, there are many concerns such as bullying, stalking, and personal information leakage due to the use of the app. To use Zenly, you must always accept location information and share contact information. According to Zenly's Privacy Policy, withdrawal also anonymizes some of the data for research and statistical purposes. Even if it is anonymized, small data (small amount of information based on personal preference) remains, and personal information is leaked if it is hacked. There are also concerns that it could be abused as bullying or kidnapping children by avoiding friends through real-time information sharing. Users can temporarily prevent sharing of location information by using Zenly's "ice mode," but it is useless if the other party forces them to do so.

#### *Business strategy*

Zenly's main strategy is a comprehensive communication tool for teenagers. Without marketing, Zenly has a high market share among teenagers.

For adults, location information apps have a stronger negative impression. Existing couples-only location sharing apps were mainly used to monitor their lover or spouse's extramarital affairs, and even if they were used for general purposes, they had to experience uncomfortable or unpleasant experiences in which their location was shared to unwanted targets such as bosses or in-laws.

However, this app is strictly tailored to teenagers' tastes. This is because information that is not very important to adults, such as whether they are in school, who they are with, where they are moving, and how much smartphone batteries are left, is important information worth sharing for teenagers.

The same goes for the design philosophy that governs the entire application. Gamification, which is embedded in various factors such as neon or BB colors of apps, bold and colorful animations, fun sounds when using emoticons, and emoticons that can only be obtained by using apps, existed before, but are new to teenagers. It can be called "New-tro" in the field of apps.

For teenagers who like light and fast messengers, Zenly has emerged as a new way of communication. Because the upcoming generation Z prefers transparent information disclosure, fun, and simplicity. In addition to the user location, which is a key content, Zenly also has additional content that guarantees time to stay in the app through various challenges. A case is the "Stay at Home Challenge," which has become a hot topic among teenagers since the recent spread of the Korona 19 virus.

There is an issue when automatically recognizing paper. When the image is calibrated, the paper is not accurately recognized or is correctly recognized, resulting in no neat results. It occurs especially when taking thick books. At this time, we should adjust the distance between the camera and the book to try again or turn off the function of automatically recognizing the paper function and specify the range by self.

This application is completely free. There's not even a common advertisement. There is no charge to use additional functions. There is a similar application, *cam scanner* or *adobe scan*. These two applications have a business model that has advertising or that makes through additional charging. The above two applications have already been downloaded by many people. In other words, **vFlat** has a very low share. It seems that it is trying to generate profits through advertising or additional charging after increasing its market share with its strength that it can be used for free.

In addition, I went to the website of the developer. There were some information could get from the homepage. The developer introduced it as a startup that raises team with people who make AI services. Through this, it seems that **vFlat** application can include some AI functionality. If used, it would have been used to recognize the range of paper and the background and letters.<sup>i ii</sup>

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<sup>i</sup> vFlat – 내 손 안에 스캐너, 브이플랫,

<https://play.google.com/store/apps/details?id=com.voyagerx.scanner&hl=ko&gl=US>

<sup>ii</sup> Voyagerx, <https://www.voyagerx.com/>