



VICDATA

WATCH YOUR HAND



ABOUT US

WE, THE TEAM VICDATA, DISCOVER VICTORIES BASED ON SUBSTANTIAL DATA FOR PUBLIC HEALTH AND ENVIRONMENT.

OBSERVING SERIES OF DATA, WE ARE POINTING OUT THE PROMINENT PATTERNS OF PROBLEMS AND DEVELOPING PRAGMATIC SOLUTIONS.

FACING THE CURRENT INFECTION CRISIS, WE INCORPORATED MEMBERS FROM DIVERSE BACKGROUNDS TO ANALYZE THIS ISSUE FROM A GLOBAL VIEWPOINT. THROUGH SAGE, WE SUGGEST AN INNOVATIVE REMEDY TO DEAL WITH COVID-19 AND POSSIBLE VIRUSES IN THE POST-CORONA SOCIETY.

TEAM MEMBERS

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MAIN PROBLEM

On June 12th, South Korea proposed K-Quarantine Strategy. A K-Quarantine Strategy is based on 3T: Test-Trace-Treat. The strategy starts by testing symptomatic patients. Then, by tracing the confirmed patients through the epidemiological investigation, medical authorities track down even those who overlapped with the confirmed patients. Finally, confirmed patients and those caught by the epidemiological investigation are treated with two weeks of self-quarantine. With 3T, K-Quarantine Strategy primarily aims to prevent secondary infection.

Moreover, in response to the pandemic, the World Health Organization (WHO) encourages individuals to wash our hands for more than 30 seconds following the 12-step hand-washing guideline. According to Harvard Medical School, by washing our hands, individuals could remove 90% of the bacteria from our hands.

CREATIVITY & INNOVATION

OUR PROJECT WATCH YOUR HAND

We, the team VicData, present an innovative hygiene educational application *Watch Your Hand*. *Watch Your Hand* is an educational smartphone application designed to prevent the spread of COVID-19 and pandemics in the Post-Coronavirus World. We took issue with children's tendency to neglect to keep their hygiene even at such a COVID-19 crisis.

TECHNOLOGY

Watch Your Hand utilizes Augmented Reality (AR) technology and Motion Detection technology to visualize cute bacterial characters on a smartphone screen when a camera recognizes a child's hand. Children will see how dirty their hands are by looking at such bacterial characters. To eliminate these bacterial characters, children would have to follow the '12-step hand-washing guidelines' presented by the World Health Organization (WHO) step by step. Then, utilizing data analytics and data visualization, *Watch Your Hand* would point out why and how users' hand washing methods are incorrect and correct them.

SERVICE AND EFFECTS

While the current educational system only focuses on the theory, *Watch Your Hand* presents a service that pursues a **hands-on experience**. The existing educational system is very refined that students can merely learn hygiene theories. They will learn that washing hands would prevent viruses, but they will not know how to wash their hand. Unlike the existing system, *Watch Your Hand* goes further from theory and teaches users how to wash their hands properly. Through *Watch Your Hand*, users will be able to habituate proper methods of hand washing.

Despite such guidelines, many children tend to refuse washing their hands carefully- simply because it is not "fun." Making matters worse, as young children live with various age groups, they are likely to derive intergenerational secondary infection. Hence, we determined that we should develop a solution to maintain children's hygiene and block intergenerational infections.

Thereby, we present *Watch Your Hand*, a smartphone application that would assure children to wash their hands for more than 30 seconds in an entertaining, sensational way. *Watch Your Hand* would promote the K-Quarantine Strategy and alleviate worldwide concerns among minor's hygiene. As K-Quarantine Strategy became a worldwide benchmark, *Watch your hand* will be a cornerstone of global hygiene education. Thus, *Watch Your Hand* will significantly reduce children's virus infection rates and promote overall welfare.



MECHANISM(1)

For starters, the recognition process occurs. AR technology displays 12 bacterial characters on the screen as if they are on the user's hand. Then, the game begins with the display of WHO's 12-step hand-washing guideline. Users must follow the 12-step guideline precisely, and the motion detection technology will sense each step of the user's action.

For each step, if the detected motion matches the guideline, one of the bacterial characters will fade out, and the user will receive a point. After users have undergone all 12 steps, the system will notify them with their total scores on "Cleanity," *Watch Your Hand*'s score leaderboard. "Cleanity" will indicate the user's percentile compared to all the users worldwide; therefore, it will provide motivations for users to achieve a higher percentile.

In the end, the user will see which steps they've missed, and the system will visualize why and how they failed those steps. With this feedback, users will mend their incorrect actions and harness the correct mean of washing hands.

MECHANISM(2)

STEP 01. VISUALIZATION OF BACTERIAL CHARACTERS

Recognizing user's hand, AR technology displays 12 bacterial characters on the smartphone screen.

STEP 02. DISPLAY OF WHO'S 12-STEP HAND-WASHING GUIDELINE

To eliminate 12 bacterial characters, children have to follow the 12-step hand-washing guidelines presented by the World Health Organization. For each step, the motion detection technology would capture every user's motion and dataize them to compare with WHO's 12-step guideline. After all steps, all 12 bacterial characters will disappear.

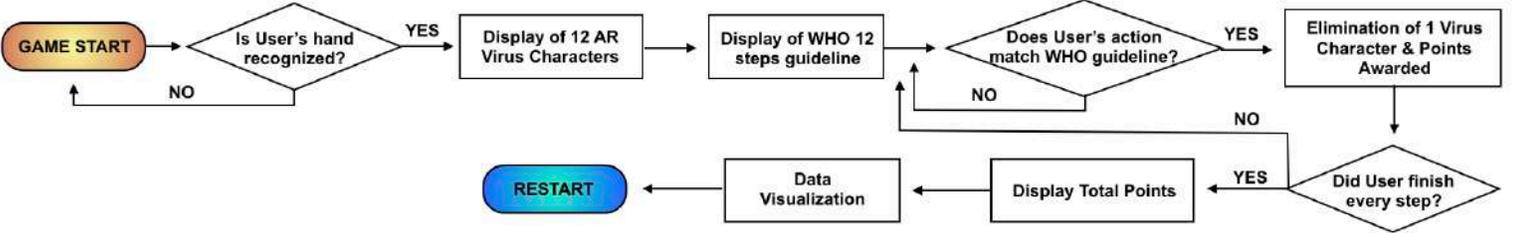
STEP 03. DISPLAY OF TOTAL POINTS & CLEANTY

If all steps are finished, the user's total point gets uploaded on the leaderboard, and the leaderboard pops up on the screen. Utilizing the leaderboard (Cleanty), we aim to stimulate competitiveness in kids so that they could persistently restart the game and wash their hands to make their ranking on the leaderboard higher.

Leaderboard	
1. Eun Mary Hong	97/100
2. Andrew Cho	92/100
3. Anthony Cho	84/100
4. Seok Heon Choi	83/100
5. John Lee	81/100

STEP 04. DATA VISUALIZATION

The system will show users which steps they failed to follow the guideline. The system would also analyze all users' data and indicate the steps users are likely to make mistakes. From these two data analyses, users will harness perfect hand-washing tactics.



EXPECTED BENEFIT

QUANTITATIVE ANALYSIS

- (1) The expected number of COVID-19 cases under the age of 18 is about 18,543 in the US.
- (2) Burdensome Medical Cost: According to City University of New York Graduate School of Public Health and Health Policy, the average medical cost of each COVID-19 patients is \$3,045.
- (3) Expected Economic Loss = $\$3,045 \times 18,543 = \$56,463,435 + @$ (depends on patients' conditions)
- (4) Expected Reduced Medical Cost: $\$11,292,687$ (Expected Economic Loss * 0.2)
- (5) Reduced Medical Cost: According to PubMed, CAB Abstracts, Embase, Web of Science, and the Cochrane library, properly washing hands could cut at most 20% of infectious respiratory diseases.

QUALITATIVE ANALYSIS

- (1) Can reach many audience: As Watch Your Hand is a smartphone application, it has high accessibility.
- (2) Motivation for Proper Care of One's Hygiene: The scoring system and display of "Cleanty" will trigger children's participation and competitiveness.

CHEONAN



MOHYEON



SANITIZERS



BUSINESS OPERATION

CROWDFUNDING **\$1,035** RAISED \$1,035 THROUGH CROWDFUNDING

As of business operation, we held crowdfunding to raise company capital. Through gogetfunding.com, we raised \$1,035 and utilized it to purchase the software for the app development.

INVESTMENT **INVESTED \$250** **INVESTED \$250** **INVESTED \$300**

Then, we formed the prototype of Watch Your Hand and reached three businesses: Korea Telecom (KT), AI Hub, and Contela, inc. We received feedback from these businesses and even got a recognition from KT for developing innovation for the current COVID-19 crisis and the betterment of the society. Moreover, each business invested \$250, \$250, and \$300, respectively. Thus, we started our business with a total of \$1,835 as our capital.

DONATION—SANITIZER, MASKS

Also, we manufactured 500 Watch Your Hand sanitizers and donated them to Cheonan Local Center. Next, we produced 400 Watch Your Hand masks and donated them to Mohyeon Local Center. Through these donations, we could help many underprivileged people in Cheonan and Mohyeon. Moreover, on each sanitizer and mask, we attached the QR code, which links to the VicData homepage. With this method, we successfully promoted not only our sanitizer and mask but also smartphone application. From this operation, we simultaneously realized Social Contribution and promoted our business.



PATENT

We also applied for a technology patent in May 2020, and the patent is currently pending. Patent Application Number: **10-2020-0059397**.

SUCCESSION PLAN

SUCCESSION PLAN 2020

Aug 2020 - Sage World Cup

Sep 2020 - Beta Test at Jung-il & Samcheok Elementary School / Kindergarten

Oct 2020 - Beta Test at Byungseol Kindergarten

Nov 2020 - Complete Development Based on the Feedbacks from the Beta Test

Dec 2020 - Upload on Google Play Store & Apple App Store

2020 Achievement Goal - Complete the Development of Watch Your Hand & 10,000 Downloads

SUCCESSION PLAN 2021

Jan-Mar 2021 - Reach Public Educational Institutions & Supply to Kindergarten & Daycare centers

May 2021 - Reach NGOs for cooperation

June 2021 - Suggest to Korean Ministry of Education

Aug 2021 - Beta Test at Byungseol Kindergarten

2021 Achievement Goal - Business expansion & Expand business to other hygiene educational smartphone game

SUSTAINABILITY

PROFIT MODEL

(1) Google AdMob

On the bottom banner of the app, we will have an advertisement system through Google AdMob. Businesses who want to advertise their products can hold an advertisement through Google AdMob, and that advertisement would be displayed on the other smartphone application. As \$1 is earned from 1,000 Ad Impression, the more Watch Your Hand is downloaded, the more revenue we will generate from Google AdMob; thus, Google AdMob has an intimate relationship with promotion tactics. By having an effective promotion method, as shown above, we will have more downloads and obtain a steady profit.

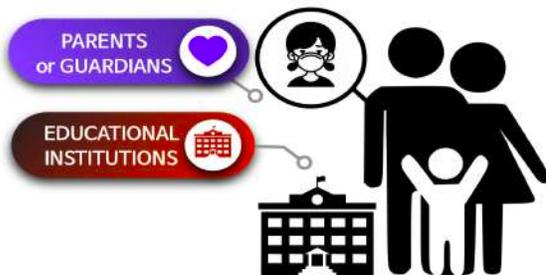


(2) Other Watch Your Hand Hygiene Products

We also manufactured Watch Your Hand version of other hygiene products: masks and hand sanitizers. Through selling these products, we will simultaneously promote Watch Your Hand and generate profits.



TARGET AUDIENCE & PROMOTION



Target Audience: Watch Your Hand has two main targets:

Parents/Guardians and Educational Institutions. Watch Your Hand will make parents feel relieved that their children would learn and habituate the correct means of hand washing. Also, we target public educational institutions such as daycare centers, kindergartens, and elementary schools. At these institutions, we aim to encourage minors to harness correct hand washing methods and keep their hygiene on their daily bases.

IN THE POST-CORONA WORLD

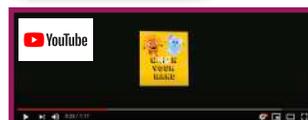
Although we created Watch Your Hand to be the solution of COVID-19, Watch Your Hand will be even more critical in the Post-Corona world. Watch Your Hand is designed not only to prevent pandemic spread but also to be the sensational hygiene education that derives children to harness correct means of hand-washing. In the long run, as there is always a possibility of a new epidemic, by leading children to maintain hygiene on a daily bases, Watch Your Hand would weaken the strike of new epidemics. Therefore, Watch Your Hand would be a highly sustainable and invaluable service even after COVID-19.

1. WEBSITE



● Increase App downloads by promoting it on the official website

2. PROMOTIONAL VIDEO



- Website: www.vicdata.biz
- Video: <https://youtu.be/8nt3xDp-Hps>
- Create a promotional video with the principles of WATCH YOUR HAND: Why, How, and What.

3. QR CODE + SNS + HYGIENE PRODUCT



- 1. Direct customers to a website & A quick way to download an app

4. DIRECT MARKETING



● Directly contact educational institutions: e.g. Free supply to kindergartens/day care centers/institutions → automatically reaching out to the parents