Implementation of Proof of Concept; “Health Checks Using Smart Phone Cameras for Leisure and Entertainment Service Employees”

In line with its corporate philosophy of societal contribution, SOMPO Holdings, Inc (Group CEO, and President: Kengo Sakurada, hereinafter “SOMPO Holdings”) provides top-quality services that contribute to customer security, safety, and health. While expanding its range of operations (with a particular focus on insurance operations), the company works to advance the application of digital technology.

Sanrio Entertainment Co., Ltd. (President: Aya Komaki, hereinafter referred to as "Sanrio Entertainment"), which operates Sanrio Puroland, and CDO Club Japan (CEO: Jun Kamo, hereinafter referred to as "CDO Club"), which is the world’s first management community in the digital field.

Working together, the two companies will carry out an experiment. As one of the proposals for how day-to-day health checks in “a new normal society” utilizing digital technology, we will start the Proof of Concept, PoC, about the health check for employees in the leisure and entertainment service industry by using smartphone cameras.

1. Background & Objectives
The changes in lifestyles accompanying the spread of COVID-19 have led to major shocks to the Japanese economy. These developments in turn have resulted in the emergence of a new normal in society. Despite these circumstances, the ability to safely and securely utilize facilities such as theme parks, shopping malls, stadiums, etc., is essential for ensuring a rich, high-quality life with friends and family. Driven by the desire to protect the security, safety, and health of customers, SOMPO Holding works to develop solutions that can get insight into individual health conditions regardless of location. This is achieved through understanding vital signs such as oxygen saturation level (SpO₂) and respiration rate.

These measurements can then be used to monitor the health of employees engaged in operations at public facilities, particularly when looking for abnormalities in respiratory organs and the bronchial tubes.

Sanrio Entertainment and CDO Club will implement the experiment together, with a focus placed on the practical application of services. The chief objective of these efforts is to advance smartphone-based verification technology for simpler, easier, and more convenient use.
2. **Experiment Outline**

This experiment will utilize technology from the Israeli start-up Binah.ai Ltd (Co-Founder and CEO, CTO: David Maman, hereinafter "Binah.ai"). The technology allows for contactless monitoring of vital signs such as heart rate, respiration rate, SpO\(_2\), etc., through video analysis.

Using the software development kit (SDK) built into Binah’s technology, SOMPO Holdings’ Digital Strategy Division, which works to promote digital transformation, will develop the app “Health Checker”. This app will measure SpO\(_2\), heart rate, and respiration rate, based on video taken via smartphone camera. Sanrio Entertainment employees will undergo health checks via app, with SpO\(_2\) levels and heart rate measurements repeated by pulse oximeters, as well as additional medical equipment.

With this data, stakeholders will be able to ascertain if positive contributions to the new normal can be achieved for the leisure and entertainment industry, using this technology.

- **Implementation Period:** October 1 to November 30, 2020 (scheduled)
- **Subjects:** Sanrio Entertainment and Sanrio Puroland CDO Club employees
- **Information to Be Acquired:** Basic subject information, body temperature, respiration rate, heart rate, SpO\(_2\), and so on.

3. **Each Company’s Role in the Experiment**

| Overall unification, HC app architecture, technical support, market research | SOMPO Holdings SOMPO Digital Lab Tokyo & Tel Aviv |
| Recruitment of experiment participants | Sanrio Entertainment |
| Lifestyle-related strategy formulation | CDO Club |
| Software development kit (SDK) provision and technical support | Binah.ai |

4. **Moving Forward**

Taking into account the results of this experiment, services will be developed that contribute to customer “security, safety, and health.” This will bring together the individual strengths of various companies in our society, in pursuit of the new normal.

5. **Inquiries Concerning This News Release**

We ask that all inquiries concerning this news release be directed to the Digital Strategy Division at Sompo Holdings, the chief managing company in this endeavor (Responsible Party: Shibasaki). Response cannot be guaranteed for inquiries sent to Sanrio Entertainment, CDO Club, or Binah.ai.

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Oxygen Saturation (SpO\(_2\)): Examined via the skin, this value represents how much oxygen is included in the hemoglobin present in the red blood cells in the blood circulated throughout the body by the heart. This numerical value decreases with a drop in the body’s ability to take in oxygen, due to a lung or heart illness. Generally speaking, the standard value is 96 to 99%. As a state where sufficient oxygen cannot be distributed to the organs may result when this value is lower than 90%, an appropriate response will be necessary in such a case.

Basic information input. Temperature measurement via clinical thermometer

Measurement of heart rate, respiration rate, SpO2 using the "HC" demonstration experiment app

Measurement of SpO2 and heart rate using a medical pulse oximeter

Manually leave records in-app

Automatically leave records in-app

Manually leave records in-app

Save and then analyze