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FRONTEO Healthcare Completes its First Practical Version of "Fall Prediction System (tentative name)"

Obtained third-party software verification, and talks with preparation for trial runs in several hospitals are underway

TOKYO, August 8, 2018 -- FRONTEO Healthcare, a subsidiary of FRONTEO, Inc. ("FRONTEO") (NASDAQ: FTEO) (TSE: 2158), that provides information analysis solutions utilizing AI for healthcare, has announced the completion of the first practical version of the "Fall Prediction System (tentative name)" (the "System"), an application of the Concept Encoder AI system developed for the healthcare industry. This System is an application that has incorporated a module in Concept Encoder which calculates the risk of falling of hospital patients.

Reducing falls has become an urgent issue for medical institutions upon recently increasing ratio of elderly inpatients in Japan (*1). The Japan Council for Quality Health Care reports that falls are the most frequent medical incident and still on the increase (*2). The Joint Commission International (JCI) has also positioned "Reducing the risk of patient harm resulting from falls" as one of the six International Patient Safety Goals (*3).

Risk assessment tools such as the Morse Fall Scale and STRATIFY are currently used to predict fall risk of hospital inpatients and provide appropriate preventive measures for them. However, these tools consume additional time and effort of healthcare professionals (e.g., observation or interview for the assessment and entering the results into the system) and eventually prevent them from their primary duty for the patients. Effect of the preventive measures such as bed sensors are limited but further enhancement of human resource for fall prevention appears to be difficult in practice for each hospital.

This System has been developed from viewpoint of reducing their burden of load for fall prevention in the clinical setting and allowing nurses to allocate more time for patient care. The System analyzes the nursing records in electric medical record (EMR) system to estimate the fall risk of the inpatients by using the Concept Encoder AI system. The prediction model for the System was constructed through iterative cycles of accuracy assessment and model refinement in comparison with the results of conventional assessment tools. As the results, the System exerts the features of the Concept Encoder, that is objectiveness, transparency and reproducibility — in particular following two points would be benefit for the healthcare professionals in clinical practice; "the System eliminates dependency on individual skills of the assessors," and "promotes information sharing about the risk level of the inpatients for the safety huddles in the hospitals without any additional effort other than entering daily nursing records in to EMR" The first practical version was completed in March 2018 and obtained third-party verification in June. The System is now ready to trial runs at medical institutions.

Currently, preparation for trial runs in hospital setting is ongoing in collaboration with several medical institutions. In the trials, process of daily acquisition and analysis of nursing record data will be checked and the assessment results of the fall risk will be collected for the final adjustment for the full-fledged model. In addition to the standard graphic display for time course of the fall risk for each patient, customized views for each of the roles in hospital (staff nurse, charge nurse, nurse manager, clinical safety administration room, management) are currently being developed according to their needs.

Prevention of fall incidents and resultant avoidance of extended hospital stays helps the inpatients have better prognosis and quality of life, further, reduces the burden of medical professionals and social medical costs. FRONTEO Healthcare will continue to create and provide information analysis solutions geared around the Concept Encoder AI system for the development of the entire health care industry.

*1: Ministry of Health, Labour and Welfare. "Summary of Patient Survey, 2014". Page 4.
https://www.mhlw.go.jp/toukei/saikin/hw/kanja/14/dl/01.pdf#page=2
*2: Japan Council for Quality Health Care. "Project to Collect Medical Near-Miss/Adverse Event Information 2016 Annual Report". P 103.
http://www.med-safe.jp/pdf/report_48.pdf#page=109
*3: Joint Commission International. International Patient Safety Goals.
https://www.jointcommissioninternational.org/improve/international-patient-safety-goals/

About Concept Encoder

Concept Encoder is the AI system developed by FRONTEO Healthcare specifically for the healthcare industry. The system was developed with the aim of effective, evidence-based analysis and utilization of healthcare-related big data, including large bodies of free-entry text data. The program incorporates significance test and other crucial statistical methods for evidence-based medicine (EBM), the gold standard of practice among healthcare professionals, and applies this to natural language analysis. The Concept Encoder can also co-analyze non-textual data, and a research effort is underway to co-analyze the numerical data accumulated within the healthcare domain, such as genetic expression, vital data, and other test result values prevalent in the healthcare domain.

Overview of FRONTEO Healthcare, Inc.

Name: FRONTEO Healthcare, Inc.
Date of foundation: April 16, 2015
Capital amount: JPY 327,000 thousand (On the date of February 1, 2017)
Representative: Kuniko Nishikawa, Chief Executive Officer
Area of business: Diagnosis support, healthcare operational support, pharmaceutical industry support, and other healthcare-related information analysis businesses
URL: https://www.fronteo-healthcare.com/en/

About FRONTEO, Inc.

FRONTEO, Inc. ("FRONTEO") (NASDAQ: FTEO) (TSE: 2158) supports the analysis of big data based on behavior informatics by utilizing its technology, "KIBIT". FRONTEO's KIBIT technology is driven by FRONTEO artificial intelligence based on knowledge acquired through its litigation support services. KIBIT incorporates experts' tacit knowledge, including their experiences and intuitions, and utilizes that knowledge for big data analysis. FRONTEO continues to expand its business operations by applying KIBIT to new fields such as healthcare and marketing. FRONTEO was founded in 2003 as a provider of e-discovery and international litigation support services. These services include the preservation, investigation and analysis of evidence materials contained in electronic data, and computer forensic investigation. FRONTEO provides e-discovery and litigation support by making full use of its data analysis platform, "Lit i View", and its Predictive Coding technology adapted to Asian languages. The company name was changed from UBIC, Inc. to FRONTEO, Inc. as of July 1, 2016.

For more information about FRONTEO, contact global_pr@fronteo.com or visit http://www.fronteo.com/global/.

Safe Harbor Statement

This announcement contains forward-looking statements. These forward-looking statements are made under the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements can be identified by terminology such as "will," "expects," "anticipates," "future," "intends," "plans," "believes," "estimates" and similar statements. Among other things, the amount of data that FRONTEO expects to manage this year and the potential uses for FRONTEO's new service in intellectual property-related litigation, contain forward-looking statements. FRONTEO may also make written or oral forward-looking statements in its reports filed with, or furnished to, the U.S. Securities and Exchange Commission, in its annual reports to shareholders, in press releases and other written materials and in oral statements made by its officers, directors or employees to third parties. Statements that are not historical facts, including statements about FRONTEO's beliefs and expectations, are forward-looking statements. Forward-looking statements involve inherent risks and uncertainties. A number of factors could cause actual results to differ materially from those contained in any forward-looking statement, including but not limited to the following: FRONTEO's goals and strategies; FRONTEO's expansion plans; the expected growth of the data center services market; expectations regarding demand for, and market acceptance of, FRONTEO's services; FRONTEO's expectations regarding keeping and strengthening its relationships with customers; FRONTEO's plans to invest in research and development to enhance its solution and service offerings; and general economic and business conditions in the regions where FRONTEO provides solutions and services. Further information regarding these and other risks is included in FRONTEO's reports filed with, or furnished to the Securities and Exchange Commission. FRONTEO does not undertake any obligation to update any forward-looking statement, except as required under applicable law. All information provided in this press release and in the attachments is as of the date of this press release, and FRONTEO undertakes no duty to update such information, except as required under applicable law.

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