Hephaï files software patent for its digital education platform designed to improve patient inhaler use

This patent will allow Hephaï to protect its unique AI-based software for its educative platform - designed to help asthma and COPD patients avoid potential problems associated with incorrect inhaler use

Paris, June 14, 2021 – Hephaï, a French start-up developing an AI-based digital education platform, today announces that it has filed a patent application. This patent covers the software technology used in its digital education tool, which is designed to improve inhaler use. This is the first patent filed by Hephaï; it seeks to protect its digital platform, designed to help patients with asthma and Chronic Obstructive Pulmonary Disease (COPD) to better control their condition.

The digital tool is recognized as a Class 1 medical device and is a multi-device application which can be installed on PCs, tablets and smartphones. The patient simply records themselves using the inhaler and the app analyzes the movements and sounds they make in real time, so that it can explain any errors that they may have made and provide suggestions on how to improve their technique.

When approved, the patent will cover the software that analyzes the patient's movements; it describes the technique to the patient and confirms how well they have used the inhaler, through a virtual coach.

"Innovation is what we are all about. After just one year of R&D we've been able to file this patent for France, which marks a first for a digital platform of this type in pulmonology," explains Dr. Valéry Trosini-Desert, Hephaï founder and pulmonologist at Pitié-Salpêtrière hospital, Paris, France. "Our recent partnership with Chiesi, an international pharmaceutical company, with whom we are collaborating to fully develop the platform, proves that there is significant interest in our technology among patients and health professionals."

Hephaï has recently recruited two data scientists, one of whom assisted in filing the patent. They are working on developing the AI that lies at the heart of the software.

A unique AI-based digital tool for asthma and COPD patients

Both asthma and COPD are usually treated with medication taken via inhalers. Typically, patients have to make regular use of inhalers in order to take their treatment properly. Unfortunately, usage errors are commonplace: an estimated 30–40% of patients with COPD do not use their inhalers correctly[1]. This can have a direct impact on how they take the medication, reducing its benefits.

Consultations with pulmonologists and GPs are often short, not allowing enough time to monitor the use of the prescribed inhaler medication, or to provide a full explanation to patients on how to use their inhalers. Short patient consultations are also common at the pharmacy. As a result, many people are unaware of the correct techniques to use their inhaler effectively, as they lack professional training or advice. This is why an educational approach is needed, to provide step-by-step instructions on the correct use.

Hephaï's digital educational platform makes it possible to assess whether the inhaler treatment has been taken correctly. If there are problems, the tool can establish a corrective process, or inform the patient's doctor. The app can be recommended by the prescribing doctor or pharmacist, and will be available for free download via Apple and Android devices in 2022.

A total of 299 million people worldwide live with asthma or COPD. Over the past 30 years, there has been unprecedented growth in the market for inhaled therapy, with annual sales having increased from $7 billion in 1987 to $36 billion in 2014 and with over 90 billion inhaled doses prescribed to patients in a single year.[2]

1. Molimard M, Raherison C, Lignot S, et al. Chronic obstructive pulmonary disease exacerbation and inhaler device handling: real-life assessment of 2935 patients. Eur Respir J 201
2. Omar S. Usmani, Choosing the right inhaler for your asthma or COPD patient. Ther Clin Risk Manag. 2019; 15: 461–472

About Hephaï

Hephaï develops an AI-based digital education platform to support patients in correctly using their inhalers prescribed for asthma and COPD (Chronic Obstructive Pulmonary Disease), in order to maximize effectiveness.

Considering the sheer variety of inhaler-based treatments available, there is a significant lack of information on the best techniques for patients to use, resulting in 30-40% not knowing how to use their inhaler properly. These critical errors are exacerbated by doctors and pulmonologists having very little time to dedicate to monitoring inhaler use. As a result, the treatment is less effective, with potentially significant negative health consequences.

Hephaï uses AI to automatically assess the patient's inhaler technique and to provide a virtual coach that can guide them through the process for correctly using an inhaler, as well as providing feedback and alerting the patient's doctor if necessary.

Hephaï's goal is to improve care for respiratory conditions by minimizing the risks associated with incorrect use and to gather Real-World Evidence (RWE) on the use of ready-to-use inhaler medication.

Hephaï builds upon ten years of prior research into inhaled medication prescribed for asthma and COPD and on the success of the ZEPHIR guide. Its app is expected to be launched in 2022 on smartphones, tablets and PCs, in partnership with pharmaceutical companies.

Founded in 2019 in Paris, France, by Valéry Trosini-Desert, Serge Kinkingéhun and Thomas Similowski, the company is incubated at Paris Biotech Santé and supported by the Wilco accelerator. Hephaï is also a laureate of EIT Health. Its partners include AP-HP, Bpifrance, Microsoft, Medice, and France Biotech.

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