Drchrono-QueueDr Shows How APIs Will Transform Healthcare

Healthcare is one of the slowest moving industries when it comes to technological innovation and modernization. Too many physician offices, hospitals and other healthcare organizations are using legacy electronic health record (EHR) systems that lack even the most basic modern functionality. Most of these legacy systems were not designed to be integrated with third-party applications, and many are built as silos not capable of communicating with other systems.

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1. Appointment from Patient

Screenshots show the workflow between drchrono and QueueDr. Images provided by <u>drchrono</u>.

According to a fairly recent *New England Journal of Medicine* article written by Drs. Kenneth D. Mandl and Isaac S. Kohane, more than 700 EHR

vendors produce approximately 1,750 distinct certified products. However, a large portion of the market is dominated by a few companies that continue to promote "legacy" methods and systems. In the article they explain:

EHR vendors propagate the myth that health IT is qualitatively different from industrial and consumer products in order to protect their prices and market share and block new entrants. In reality, diverse functionality needn't reside within single EHR systems, and there's a clear path toward better, safer, cheaper, and nimbler tools for managing health care's complex tasks.

Despite the prevalence of legacy EHR systems and the reluctance of some vendors to innovate their software products, the healthcare industry is slowly modernizing. Innovative startups like <u>DICOM Grid</u>, <u>MedXT</u> (acquired by Box) and <u>SolveBio</u> are providing healthcare services that can be integrated with modern and legacy EHR systems using APIs.

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2. Patient Cancels Appointment

The number of startups aiming to help fix specific healthcare industry problems and transform the industry as a whole is rising rapidly. <u>QueueDr</u> is

a great example of a modern application designed to solve a specific healthcare industry problem and is able to do so using APIs.

QueueDr is an application that automatically fills canceled appointments in less than a minute without any action required by physician staff or any downloads by patients. When an office cancels an appointment, QueueDr automatically sorts through a list of patients, selecting a very small group from the list. The application then sends a text to each patient to offer the canceled appointment. The first patient to text back gets to take the canceled appointment and see the doctor on an earlier date.

3. Other Patients Texted from QueueDr



Launched on the <u>drchrono</u> platform a little over a month ago, QueueDr is an application that relies heavily on APIs. APIs also allow QueueDr to be seamlessly integrated with the top electronic health record systems as well as legacy EHR systems. The company is very particular about the EHRs the application is integrated with, however.

We spoke with QueueDr founder and CEO Patrick Randolph, QueueDr lead engineer John Nadeau and drchrono COO and co-founder Daniel Kivatinos,

who provided *ProgrammableWeb* some background on the integration of QueueDr with the drchrono platform.

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QueueDr was originally built about a year and a half ago as a standalone Ruby Web application. The QueueDr application for the drchrono platform was built with a number of APIs, including <u>drchrono</u>, <u>Mailgun</u>, <u>Stripe</u> and <u>Twilio</u>.

Randolph and Nadeau explained to *ProgrammableWeb* that the drchrono API was used to build the QueueDr application for a variety of reasons:

- The single sign-on service
- Great documentation
- The openness of the API
- Great team support and sales support
- Fast development time
- Drchrono's 4 million-plus appointments

The drchrono API was <u>launched</u> in December 2013, and the company has been working to add new features and improvements. Over the last year, drchrono released its Restful API for developers and added several new features, including OAuth 2.0 and single sign-on service. "We are the only medical records company that has OAuth single sign-on for doctors and medical staff in a production environment as far as I know," said Kivatinos. "With the drchrono doctor OAuth EHR RESTful API, the QueueDr team built very fast, and a delightful integration happened. It is exciting to be working with the QueueDr team."

The QueueDr drchrono application has been gaining popularity fairly quickly and with doctors across specialties. Randolph told *ProgrammableWeb* that healthcare administrators are particularly fond of QueueDr because it saves them about six to 10 hours of work every week. QueueDr eliminates the need for physician staff to manually call long lists of patients to notify them about cancellations. The ability to have canceled appointments automatically filled not only benefits healthcare providers, but also greatly benefits patients.

According to the <u>Centers for Disease Control and Prevention</u>, 1.3 billion doctor appointments are scheduled in the U.S. annually. According to a recent <u>survey</u>, the average private-sector wait time for new patients to see a doctor is 18.5 days. The wait time can be much higher depending on the city and physician specialty, however. For example, the average wait time in Boston is 45.4 days, and it's 23.6 days for residents in Denver.

QueueDr makes it possible for a number of patients to avoid the increasing doctor wait time by giving them an opportunity to take a canceled appointment that is scheduled on an earlier date.

"When we met Patrick and the QueueDr team, we knew that they were onto something amazing," said Kivatinos. "QueueDr's focus is on the patient cancellation problem. We have over 4 million appointments in drchrono; some of those appointments are cancellations from patients. The QueueDr team wanted to tackle this problem head-on, leveraging our API."

"The secret to a healthier and more productive healthcare system is the API," said Randolph. "In a software landscape dominated by legacy EMR platforms, many features and functionalities are overlooked. The API lets developers fill in the cracks while rethinking what healthcare software is and can become."

The drchrono-QueueDr integration is an example of how APIs will help innovate, modernize and transform the healthcare industry. The number of startups aiming to transform the healthcare industry has been growing very rapidly in recent years. From cloud-based EHRs to mobile e-visits via smartphones, the healthcare industry is already on its way to modernization. Healthcare industry transformation is only a matter of time.