

## Hot Clicks: Some Government Sites are Down During the Shutdown

Renewing HTTPS certificates are not deemed essential, plus other news.

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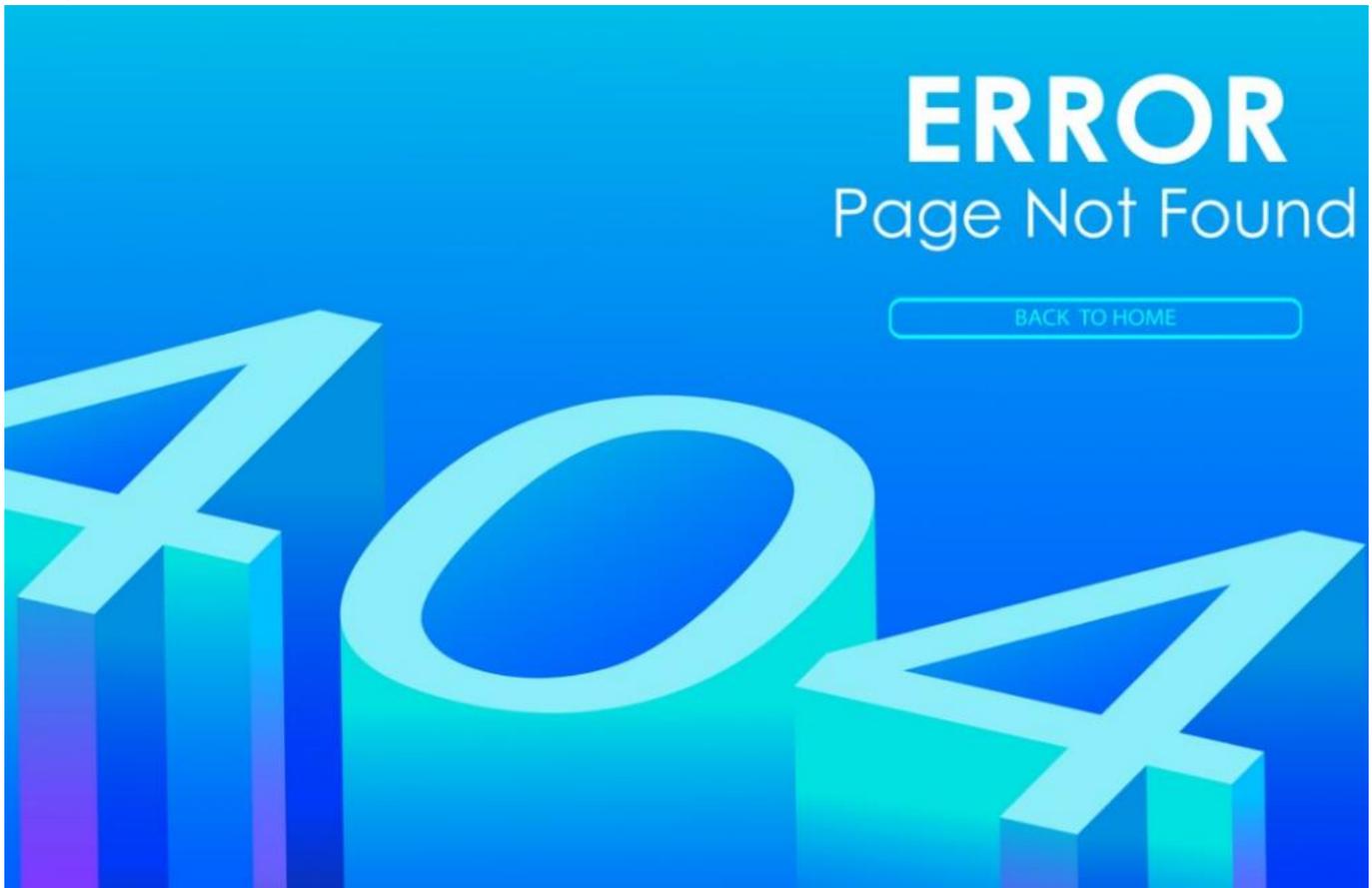


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Some government agencies' sites affected by the shutdown have expired HTTPS certificates, and there's no one there to renew them. During a shutdown, only essential employees and activities continue (for the most part), and during this shutdown — the longest in U.S. history — renewing these HTTPS certificates are deemed non-essential, leaving some government domains inaccessible. For example, this [Justice Department](#) subdomain is completely blocked off because the domain is included in Chrome's [HSTS](#) preload list, which forces browsers into using HTTPS only when accessing the domain. This [NASA](#) page isn't using HSTS and can

still be accessed through an interstitial warning, though on some browsers it can't be reached. Most (and major) government sites are still up and running, however, and will most likely stay that way. But the ones with expired certificates will probably remain until those workers responsible for buying and installing a new certificate return, or can prioritize these sites again. [TechCrunch](#)

## **Bell Wants to Fly You to Work by Mid-2020s**

Using its Bell Nexus urban air mobility vehicle that the company debuted at this year's Consumer Electronics Show (CES) in Las Vegas, Bell wants to help commuters bypass congestion and traffic below, from above. The air taxi would shuttle people from the closest skyport discoverable via an app, where they can get on the aircraft and cut down an hour-and-a-half commute to about eight minutes, according to Robert Hastings, Bell's executive vice president of strategic communications. The aircraft, which is just a mock up right now, would seat up to five passengers and has room for a pilot, even though it'll be autonomous, and is powered by a hybrid-electric propulsion system with six tilting fans that allow the aircraft to take off vertically. Still, challenges remain around building infrastructure, regulation and certification of the vehicle with the Federal Aviation Administration. Hastings said Bell is hoping for aircraft certification by the mid-2020s. [The Washington Post](#)

## **Virtual Reality is Helping Diagnose Mental Illness**

According to the World Health Organization, anywhere from 35 percent to 85 percent of mental health conditions go undetected and undiagnosed, so clinicians and researchers are turning to virtual reality (VR) as a diagnostic tool. It has been used for treatment, but diagnostically, VR can create realistic simulations of experiences that can trigger or provoke symptoms in a consistent way, scenarios that can't really be produced in traditional clinical settings. The U.K.-based Alzheimer's Society is funding a three-year research project using VR to detect early signs of the disease. In an early study, researchers at Cambridge University had participants wearing a HTC Vive headset follow an L-shaped path in a virtual environment and then trace their way back to the starting point in order to test spatial navigation and memory. This team found this method to be more accurate in diagnosing mild Alzheimer's-related impairment than traditional cognitive tests.

Researchers at Emory University are using VR to diagnose veterans suffering from post-traumatic stress disorder by showing participants clips of a simulated foreign military base and an American city, and monitoring their heart rate and startle response. [Wired](#)

## **Big Oil is Getting Into AI**

Artificial intelligence is helping the oil-and-gas industry drill difficult oil wells faster, predict equipment failures and reduce fugitive methane emissions. Shell and BP are investing billions to bring AI to new refineries, oil fields and deepwater drilling platforms. BP already linked a network of Wi-Fi sensors to an AI system at a natural gas field in Wyoming to operate the field with less human oversight. BP partnered with startup Kelvin to do that, deploying thousand of sensors across hundreds of its wells to create real-time data streams and connecting to Kelvin's AI system to watch the data and build a digital twin of the field. That simulation was used to predict how opening a valve on one side of the field would change pressure readings on the other. The AI system was then used to adjust the knobs and levers on the field. This improved monitoring system has reduced methane vented from the field by 74 percent, and the AI system helped gas production rise 20 percent. Now, field technicians are learning Linux and Python, jobs in oil refineries are getting safer and more productive, and the smart systems are reducing life-threatening situations and oil spills. [Forbes](#)

# An App Can Detect Opioid Overdose

Opioid overdoses can be reversible if they're caught in time, and a new smartphone app is trying to help people identify when others are overdosing and call family or emergency services for help. Developed by a team from the University of Washington, the app uses the smartphone's built-in speaker and microphone to transform it into a sonar-like device. The app's algorithm analyzes the rate of reflected sound waves in order to detect if someone's breathing has slowed or stopped, or if the person isn't moving. These are all signs of the start of an overdose. The app was even tested on 194 people using heroin, fentanyl or morphine in a supervised injection site in Vancouver, and it accurately detected a lack of breathing 97.7 percent of the time and slow breathing 89.3 percent of the time. It's easy for the average consumer to use because they just have to turn the app on, press a button, and it will start monitoring the breathing and alert family if an overdose is detected. The team hopes to integrate the app with 911 and emergency services, too, and is awaiting approval from the Food and Drug Administration. [MIT Technology Review](#)

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