

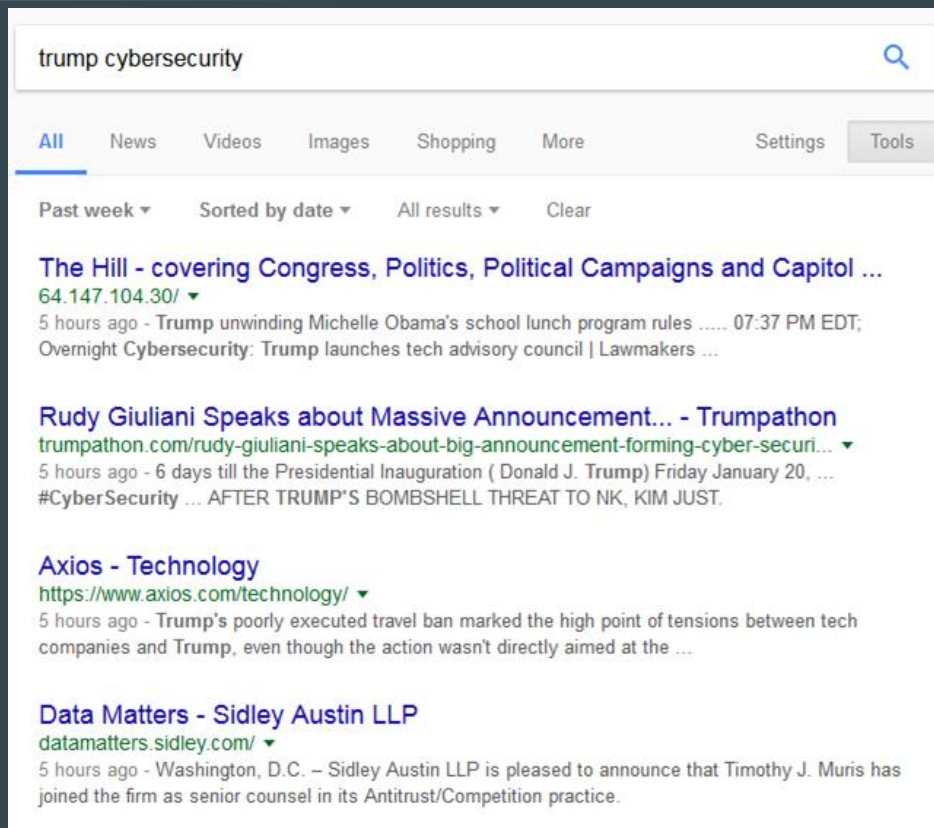
# CySpyder

...

Chase Brown & Joe Dodson

# What's the problem?

- No straightforward way to search multiple sites for cybersecurity articles



The screenshot shows a search engine interface with the query "trump cybersecurity" entered in the search bar. Below the search bar, there are tabs for "All", "News", "Videos", "Images", "Shopping", and "More", with "All" selected. To the right of these tabs are links for "Settings" and "Tools". Below the tabs, there are filters for "Past week", "Sorted by date", "All results", and "Clear". The search results are listed below, each with a title, a URL, and a snippet of text.

trump cybersecurity

All News Videos Images Shopping More Settings Tools

Past week Sorted by date All results Clear

**The Hill - covering Congress, Politics, Political Campaigns and Capitol ...**  
[64.147.104.30/](#) ▼  
5 hours ago - Trump unwinding Michelle Obama's school lunch program rules ..... 07:37 PM EDT;  
Overnight Cybersecurity: Trump launches tech advisory council | Lawmakers ...

**Rudy Giuliani Speaks about Massive Announcement... - Trumpathon**  
[trumpathon.com/rudy-giuliani-speaks-about-big-announcement-forming-cyber-securi...](#) ▼  
5 hours ago - 6 days till the Presidential Inauguration ( Donald J. Trump) Friday January 20, ...  
#CyberSecurity ... AFTER TRUMP'S BOMBSHELL THREAT TO NK, KIM JUST.

**Axios - Technology**  
[https://www.axios.com/technology/](#) ▼  
5 hours ago - Trump's poorly executed travel ban marked the high point of tensions between tech companies and Trump, even though the action wasn't directly aimed at the ...

**Data Matters - Sidley Austin LLP**  
[datamatters.sidley.com/](#) ▼  
5 hours ago - Washington, D.C. – Sidley Austin LLP is pleased to announce that Timothy J. Muris has joined the firm as senior counsel in its Antitrust/Competition practice.

# Our Solution - CySpyder

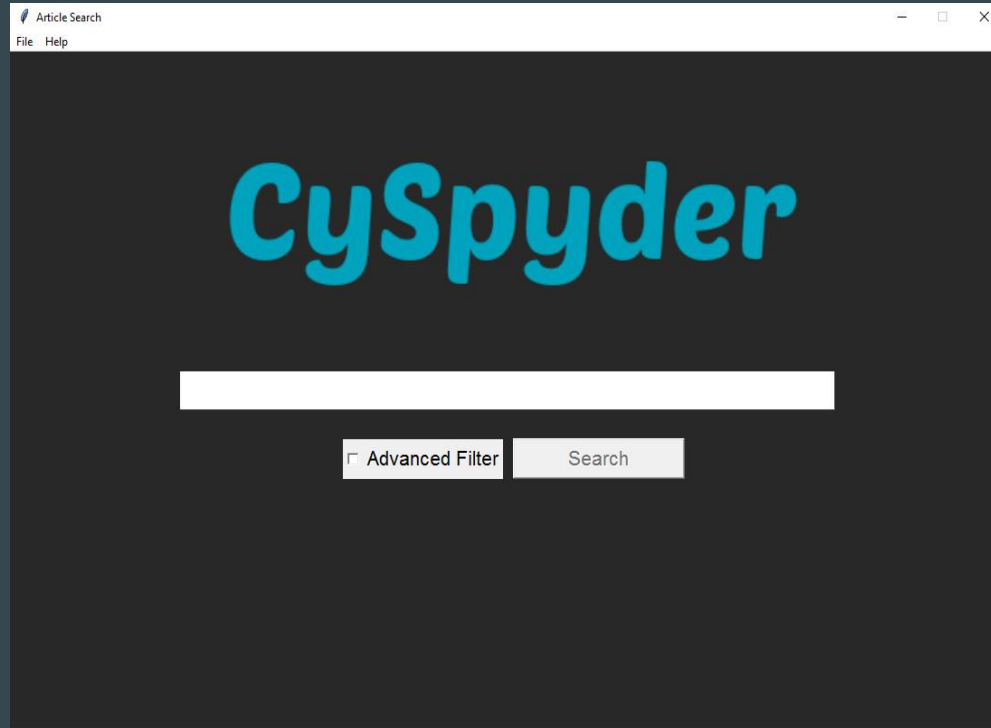
- An **easy-to-use** interface that streamlines searching for cybersecurity articles

| Article Title   |
|---|
| ISC2 Issues White House Cybersecurity Executive Order Recommendations |
| The Implications Behind Proposed Internet Privacy Rules               |
| InterContinental Hotel Chain Breach Expands                           |
| Why Brand Trumps Tech in C-Level Conversations                        |
| Microsoft: Foreign Surveillance Requests Under FISA Shot Up in 2016   |
| ShadowBrokers Expose NSA Access to SWIFT Service Bureaus              |
| Fake News at Work in Spam Kingpin's Arrest?                           |
| One of World's Most Wanted and Prolific Alleged Spammers Arrested     |
| ShadowBrokers Dump More Equation Group Hacks, Auction File Password   |
| China-Based Threat Actor APT10 Ramps Up Cyber Espionage Activity      |
| FCC Privacy Rule Repeal Will Have Widespread Security Implications    |
| Trump Signs Repeal of ISP Privacy Rules                               |
| Trump Extends Obama's EO for Sanctioning Hackers                      |
| Industry Braces for Repeal of ISP Privacy Rules                       |
| Post-FCC Privacy Rules, Should You VPN?                               |
| Should Trump Tackle Air-Gapped Critical Infrastructure?               |
| Privacy Advocates Vow to Fight Rollback of Broadband Privacy Rules    |
| Trust, Cloud & the Quest for a Glass Wall around Security             |

# Key Features

# Minimalistic Search Design

---



# Easy to Navigate Search Results

Article Search

File Help

Key Article Subjects

Click on an article to see more info

Most Mentioned Phrases in Results

>(53): Microsoft

>(39): Windows

>(31): Adobe

>(27): Flash

>(25): Microsoft Edge

New Search

Edit Search

Save Search

| Date     | Article Title  |
|----------|--|
| 04/27/17 | Attack Method Highlights Weaknesses in Microsoft CFG               |
| 04/14/17 | Exploit Kit Activity Quiets, But Is Far From Silent                |
| 04/12/17 | Critical Security Updates from Adobe, Microsoft                    |
| 04/11/17 | Microsoft Patches Three Vulnerabilities Under Attack               |
| 03/23/17 | LastPass Fixes Serious Security Flaw in Chrome, Firefox Extensions |
| 03/17/17 | VM Escape Earns Hackers \$105K at Pwn2Own                          |
| 03/16/17 | Hackers Take Down Reader, Safari, Edge, Ubuntu Linux at Pwn2Ow     |
| 03/14/17 | Adobe Fixes Six Code Execution Bugs in Flash                       |
| 03/14/17 | Patch Tuesday Returns; Microsoft Quiet on Postponement             |
| 03/14/17 | Adobe, Microsoft Push Critical Security Fixes                      |
| 03/08/17 | In a Cybersecurity Vendor War, the End User Loses                  |
| 02/27/17 | Google Discloses Another 'High Severity' Microsoft Bug             |
| 01/11/17 | Adobe, Microsoft Push Critical Security Fixes                      |
| 01/10/17 | Microsoft Issues Record Low Number of Patch Tuesday Bulletins      |
| 01/10/17 | Two New Edge Exploits Integrated into Sundown Exploit Kit          |
| 01/05/17 | Experts Warn of Novel PDF-Based Phishing Scam                      |
| 12/15/16 | Microsoft, Google to Block Flash by Default in Edge, Chrome        |
| 12/14/16 | Flash Player Bug An Eavesdropper's Delight                         |
| 12/13/16 | Microsoft Patches Publicly Disclosed IE, Edge Vulnerabilities      |
| 11/22/16 | Microsoft Cutting Off SHA-1 Support in February for Edge, IE 11    |
| 11/15/16 | More Than Half Of Android Devices Run Outdated Browsers            |
| 11/15/16 | VMware Patches VM Escape Vulnerability                             |

# Data Analysis

---

## Key Article Subjects

- Skype
- Microsoft
- SKYPE
- Facebook
- Information Security

## Most Mentioned Phrases in Results

- (53): Microsoft
- (39): Windows
- (31): Adobe
- (27): Flash
- (25): Microsoft Edge

# Quick Viewing of Articles

The screenshot shows a web browser window with the title bar 'Article Search'. The main content area displays an article titled 'Phone Hack Uses Sensors To Steal PINs' with the URL <https://threatpost.com/phone-hack-uses-sensors-to-steal-pins/124945/>. The article text is as follows:

University researchers have created a method to steal a smartphone user's PIN by leveraging sensor data generated by the targeted phone. Researchers say the method has a 74 percent success rate when it comes to accurately determining four-digit PIN data inputted by a phone's owner.

Researchers from U.K.-based Newcastle University created a JavaScript app called PINlogger.js that has the ability to access data generated by the phone's sensors, including GPS, camera, microphone, accelerometer, magnetometer, proximity, gyroscope, pedometer and NFC protocols.

"Despite the threat, the research shows that people are unaware of the risks and most of us have little idea what the majority of the twenty five different sensors available on current smart phones do," wrote Maryam Mehrnezhad, research fellow in the School of Computing Science and Newcastle University and lead author of the report.

In a likely attack scenario, a user would be tricked or enticed to visit a malicious webpage via their smartphone's browser. The mobile site would run the PINlogger.js JavaScript and proceed to capture phone sensor data via the web browser. According to the report, many sensors on mobile devices do not require a user's permission for a website or a web browser application to collect sensor data.

"We assume that the user has loaded the malicious web content in the form of an iframe, or another tab while working with the mobile browser," wrote researchers. "At this point, the attack code has already started listening to the sensor sequences from the user's interaction with the phone."

In-browser JavaScript-based attacks can pose a security threat to users. Unlike in-app attacks, they do not require any app installation and user permission to work, researchers said in their report, released last week. Using a sample set of 50 PINs, researchers found that their script was able to correctly guess a user's PIN 74 percent of the time on the first try, which increases to 86 and 94 percent on the second and third attempts.

Author: Tom Spring Date Published: 04/12/17

12/27/16 Year 2016 Sees Record Deployment Of HTTPS By Firefox, Chrome

12/15/16 Microsoft Google to Block Flash by Default in Edge, Chrome

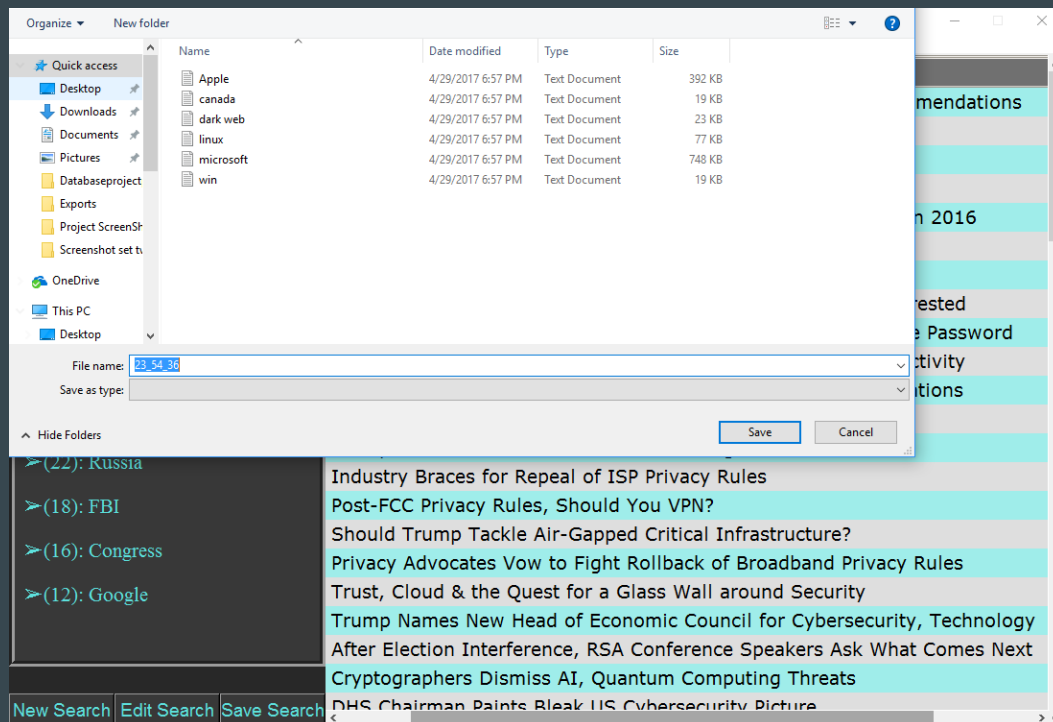
New Search

Related Articles:

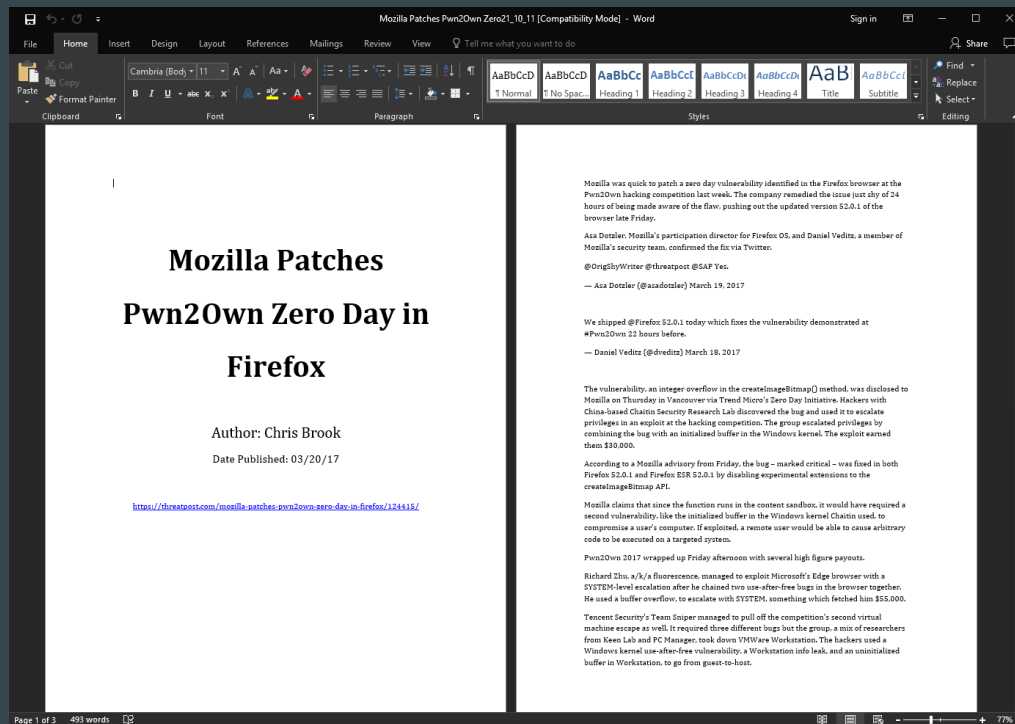
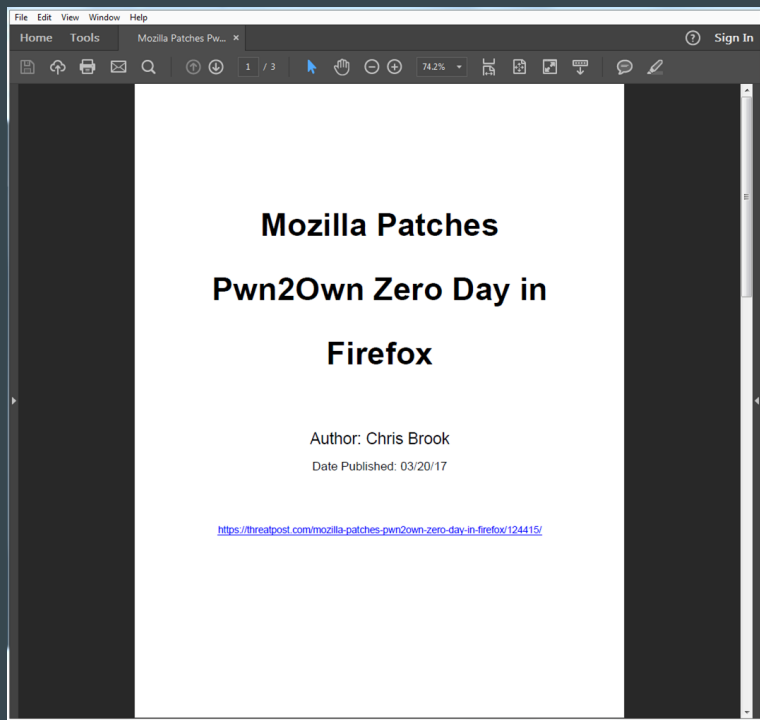
- Security in Chrome 58, Firefox 57
- Should You
- Microsoft
- Chrome, Firefox Extensions
- Stability
- Firefox
- Ubuntu Linux at Pwn2Own
- es
- Settings, Enables SHA-1 De
- Black Private
- e
- Fingerprint Firefox User
- Researcher \$32K in Rew
- re HTTP Connections



# Ability to Save/Open Previous Searches



# PDF & Docx Export Options



# Behind the Scenes

# Data Retrieval

---

- Web Scraping
  - Automated way to download and extract data from a website
- Crawlers/Spiders
  - Bots built to navigate a website
  - Each one is custom built
- CySypder's crawlers deployed separately on the Cloud
  - Runs automatically on a daily schedule
  - Keeps data up-to-date and readily available at all times
  - Easier program maintenance

# Data Storage

---

- Uses MongoDB
- Data Model
  - Spiders use a specific model to enforce consistent data storage
- Duplicate Prevention
  - Unique ID created by hashing the title and URL of each article
- Database Cloud-hosted by mLab

# Data Access & Searching

---

- RESTful API used to request data
  - Created with Node.js and Swagger
  - Hosted on Apigee
- Data Access
  - GET requests to database with user query parameters
- Database Query
  - Use of regular expressions for searching key components of articles

# Data Analysis

---

- SpaCy
  - Python library to do part-of-speech tagging
- Article Subjects
  - Found by looking at POS tags
  - Tries to group phrases based on semantic similarity
- Subjectivity Score
  - Classifies each sentence as objective or subjective
  - Calculates average of all sentences

# The All-Important GUI

---

- Created with Python
  - Uses Tkinter - GUI framework
- Uses multithreading for I/O and analysis