



Q&A

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**Ottawa PC Users' Group**

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# Cryptographic hashes

- *Algorithm that takes an arbitrary amount of data input and produces a fixed-size output of enciphered text called a hash value, or just “hash.”*
  - <https://www.synopsys.com/blogs/software-security/cryptographic-hash-functions/>
- Not reversable - can't get original file from hash
- Any modification of original file will produce different hash
- Verify a file has not been altered in any way
  - hash the file
  - let people know the hash value
  - they can
    - download the file (including from untrusted sources)
    - hash the file
    - compare hash to “known good” value

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# Manually hashing

- Many utilities available to hash files

- Windows



- Hash Tool v1.2 (Microsoft Store app)
- <https://www.microsoft.com/en-ca/p/hash-tool/9nblggh4rrr2>
- Supports MD5, SHA-1, SHA-256, SHA-384, SHA-512, CRC32

- Linux (and Windows)



- GtkHash v1.4
- <https://gtkhash.org/>
- <https://github.com/tristanheaven/gtkhash/releases>
- Supports tons of hashes



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# Hash Tool v1.2 (Windows)

The image shows three sequential screenshots of the Hash Tool v1.2 application interface, illustrating the workflow for hashing a file. Each screenshot is annotated with a red box and an arrow pointing to a specific UI element.

**1 - select hash type**: The first screenshot shows the 'Hash type' dropdown menu open, with 'SHA-256' selected. The 'Input File(s)' field is empty, and the 'Hash from list' field contains the text 'Type or paste text to hash below, one per line'.

**2 - select file**: The second screenshot shows the 'Select File(s)...' button highlighted. The 'Hash type' dropdown is now closed and set to 'SHA-256'. The 'Input File(s)' field contains the text 'Select file(s) or drag from Windows Explorer'.

**3 - hash**: The third screenshot shows the 'Results' section. The 'Last file hash:' field displays the hash value '6d1724b99d7116ff96e55a73a591d8ffc8c7357401cc8f143baeb3810fc168d2'. The 'Input File(s)' field now contains the file path 'z:\temp\Lotus.jpg'.

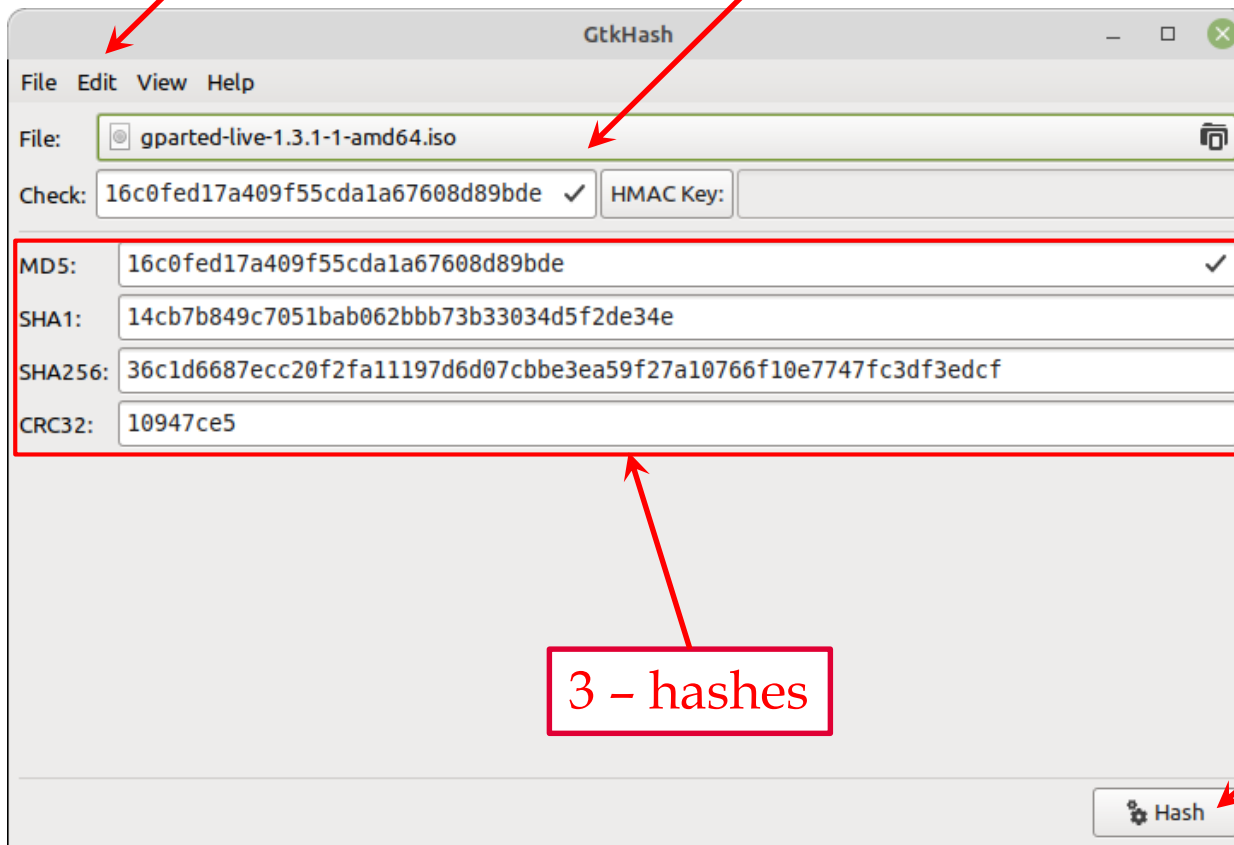
**4 - filename**: The fourth screenshot shows the 'Results' section. The 'Last file hash:' field displays the hash value '6d1724b99d7116ff96e55a73a591d8ffc8c7357401cc8f143baeb3810fc168d2'. The 'Input File(s)' field now contains the file path 'z:\temp\Lotus.jpg'.

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# GtkHash (Linux & Windows)

Edit | Preferences

1 - select file



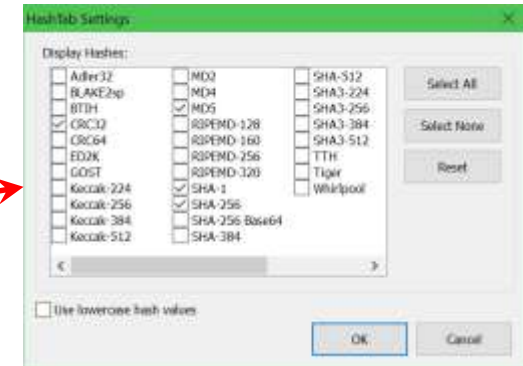
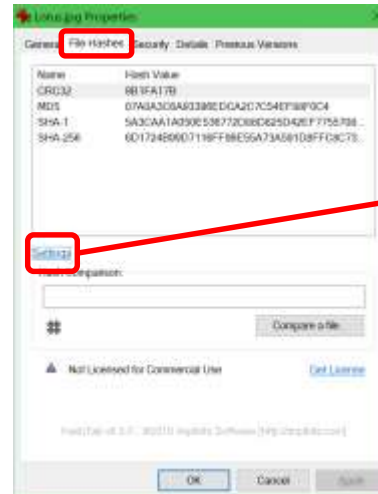
2 - click Hash

3 - hashes

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# An easier way...

- Add to *Properties* of file
  - right-click file
  - select *Properties*
  - select tab

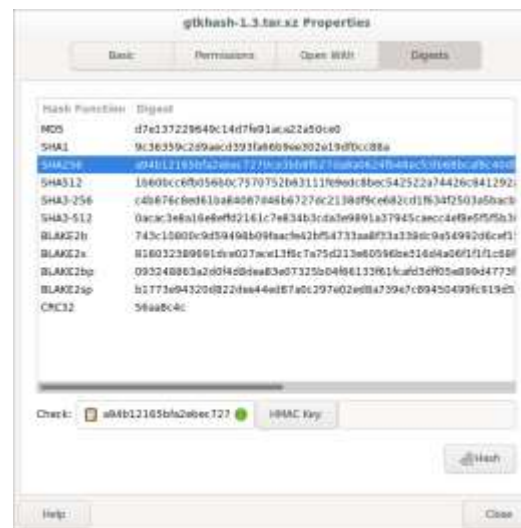


## HashTabs

- thanks Tom Trottier for posting in members forum

- Windows
  - HashTabs
  - <http://implbits.com/>

- Linux
  - Caja (MATE)
  - Nautilus (GNOME)
  - Nemo (Cinnamon)
  - Thunar (Xfce)
  - GtkHash
  - <https://gtkhash.org/>



## GtkHash

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# Power On: The story of Xbox

- Six part series on the evolution of Microsoft's Xbox gaming console
  - Chapter 1: The Renegades
  - Chapter 2: The Valentine's Day Massacre
  - Chapter 3: And It Didn't Turn On
  - Chapter 4: Cool...Now What?
  - Chapter 5: The Red Ring of Death
  - Chapter 6: TV...Or Not TV



<https://www.youtube.com/watch?v=AJYsA1jXf60>

# Preparing to abandon <sup>the windows</sup> ~~ship~~

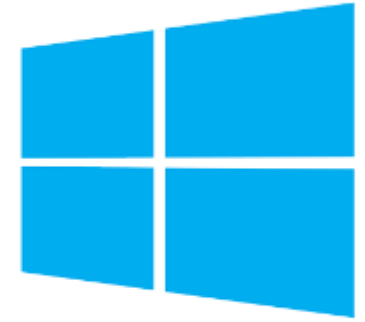
To-do list:

- ✓ (1) Install Linux on the last remaining computer
- ✓ (2) Identify the current uses of Windows 10
- (3) Identify Linux-based alternatives**
- (4) Find workarounds if no alternatives exist\*

*\* Are there any show-stoppers?*



- ✓ • Microsoft Word (correspondence, newsletter articles, Treasurer's reports)
- ✓ • Microsoft Excel (macro programming)
- ✓ • Microsoft PowerPoint (Q&A sessions)
- ✓ • Text editor (Notepad++)
- ✓ • Disk image backups (Macrium Reflect)
- ✓ • Digital image management (FastStone Image Viewer)
- ✓ • File search (Everything)
- ✓ • HTML editor (Homesite)
- ✓ • Garmin GPS (MapSource)
- Income tax preparation (Taxman)
- Bosch Crash Data Retrieval Tool (CDR)



*Alternatives*





T1 General Software for All Canadian Residents  
*Free! No Limitations!*  
 But No Netfile and No Quebec TP-1-V

# Taxman 2020

Version 1.7 is Ready!

I may not be perfect — but I am persistent!

Taxman 2020 - [Page 3: T1 General]

Editing Records Print Info 1-2 Total Inc 3 Net/Taxable 4 Fed Tax 5-6 Owing 7 Schedules Forms Tools Help

Michael Mouse SIN: 123-456-789

Attach here only those documents requested. Keep the rest.

As a Canadian resident, you have to report your income from all sources both inside and outside Canada.

### Step 2 - Total income

Employment income		10100	50,000.00
Tax-exempt inc. for volunteers	10105		
Commissions	10120		
Wage loss replacement contributions	10130		
Other employment income		10400	
Old Age Security pension		11300	
Can. Pension Plan benefits		11400	
Disability benefits	11410		
		11500	
		11600	
		11700	
dant	11701		
		11900	
enefits	11905		
rp's		12000	1,000.00
ine 12000	12010		
		12100	5,000.00
		12200	
ship inc.		12500	
in inc.			
12599	Net	12600	
		12700	2,000.00
12799	Taxable amt.	12800	
		12900	
		13000	
		13010	
s, bursaries, artists' grants			
13499	Net	13500	
	Net	13700	
	Net	13900	
	Net	14100	
	Net	14300	
Professional inc. Gross	13699		
Commission inc. Gross	13899		
Farming income Gross	14099		
Fishing income Gross	14299		
WCB payments	14400		
Social assistance payments	14500		
Net federal supplements	14600		
		14700	
		total income	15000 58,000.00

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Dbi-click for Worksheet

```
toaster@i7-Inspiron: ~/.wine
File Edit View Search Terminal Help
toaster@i7-Inspiron: ~/.wine$ wine Taxman20v15.exe
```

Setup - Taxman 2020

Ready to Install  
Setup is now ready to begin installing Taxman 2020 on your computer.


Click Install to continue with the installation, or click Back if you want to review or change any settings.

Destination location:  
C:\Program Files (x86)\Taxman\Taxman2020

< Back   **Install**   Cancel

```
toaster@i7-Inspiron: ~/.wine
File Edit View Search Terminal Help
toaster@i7-Inspiron: ~/.wine$ wine Taxman20v15.exe
003a:err:ole:TLB_ReadTypeLib Loading of typelib L"C:\\Program Files (x86)\\Common Files\\Microsoft Shared\\DAO\\dao2535.tlb" failed with error 2
```

Setup - Taxman 2020



### Completing the Taxman 2020 Setup Wizard

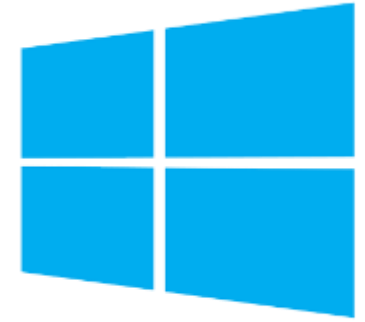
Setup has finished installing Taxman 2020 on your computer. The application may be launched by selecting the installed shortcuts.

Click Finish to exit Setup.

View Readme20.txt

Finish

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- ✓ • Microsoft Excel (macro programming)
- ✓ • Microsoft PowerPoint (Q&A sessions)
- ✓ • Text editor (Notepad++)
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- ✓ • Garmin GPS (MapSource)
- ✗ • Income tax preparation (Taxman)
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*Alternatives*



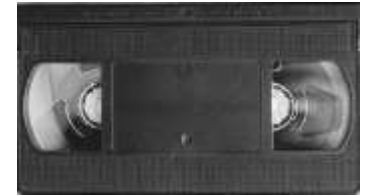
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# Hard copy imaging to digital

Do you have

- hard copy video tapes
- hard copy film
- hard copy photos
- hard copy 35mm slides

that you would like to transfer to digital formats?

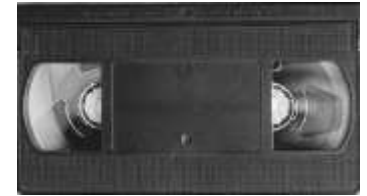


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# Walmart *Digital Transfer Service*

<https://www.walmartphotocentre.ca/en/digital-transfer/-s-3>

- Video tapes
  - VHS, VHS-X, S-VHS-C, Hi-8 Digital 8, 8m, Mini DV, DVC, DV, DVCAMm Beta Max
  - \$45 - \$55 (depending on quantity)
- Film reels
  - 8mm, 16mm, Super 8
  - \$31 - \$166 (depending on size of reel)
- Hard copy photos
  - \$0.80 - \$1.30 ea (depending on quantity)
- Slides
  - 35mm, 35mm Superslide, 110mm, 126mm
  - \$0.80 - \$1.30 ea (depending on quantity)





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# Walmart *Digital Transfer Service*

<https://www.walmartphotocentre.ca/en/digital-transfer/-s-3>

- Ship to Walmart
- Walmart sends you
  - original media
  - digital files on flash drives
- Delivery 15 business days from receipt
- No mention on web site:
  - resolution
  - colour depth
  - format of digital files
  - limitations on print sizes
- Suggestion for a *Follow-up*
  - if anyone tries this service!



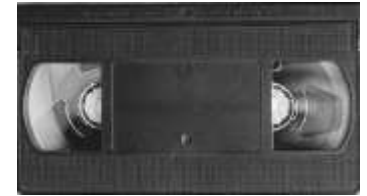
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# Costco

<https://www.costcodvd.com/>

U.S. based service YesVideo Inc.

- Video tapes, film reels, hard copy photos, slides
- Remarkably similar to Walmart Canada
- Not available to customers outside the U.S.



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# Staples

<https://www.staplescopyandprint.ca/photoscanningservices.aspx>

- Hard copy photos
  - Starting at \$39 (up to 99 photos)
  - Up to \$229 (for up to 1,500 photos)
  - Features
    - colour correction
    - red eye removal
    - front & back scanning (notes on back of photos?)
    - 600 DPI scanning
    - delivered on 8 GB flash drive (included in price)
    - no mention of limitations on sizes of originals
  - Can scan in-store
    - 300 DPI scanning resolution
    - saved on DVD

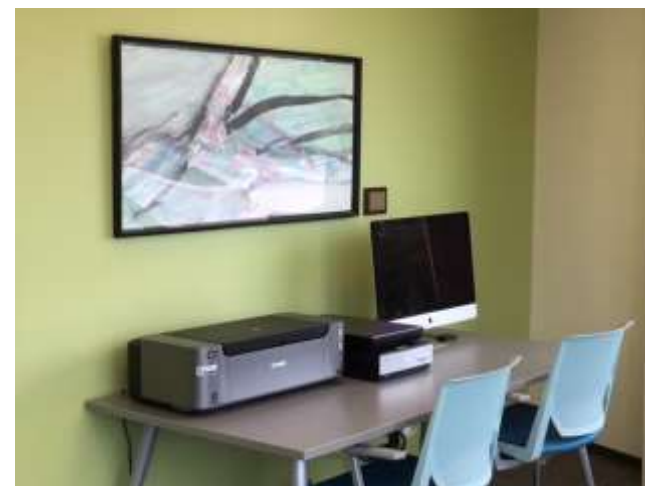


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# Do it yourself



- Ottawa Public Library's Digitization lab
- Beaverbrook Branch
  - scan, preserve and print your photos
  - batch scan slides to digital files
  - convert VHS tapes to DVD
  - convert 8mm film to digital files
  - media available
    - Paper: \$2.00 for 8.5 x 11; \$1.00 for 4 x 6;
    - USB \$6.00; SD card \$20, and DVDs \$1.00
  - equipment bookable for self-directed use



<https://bibliottawalibrary.ca/en/digitization-lab>

# Browser Protection



uMatrix

Offered by: Raymond Hill (gorhill)

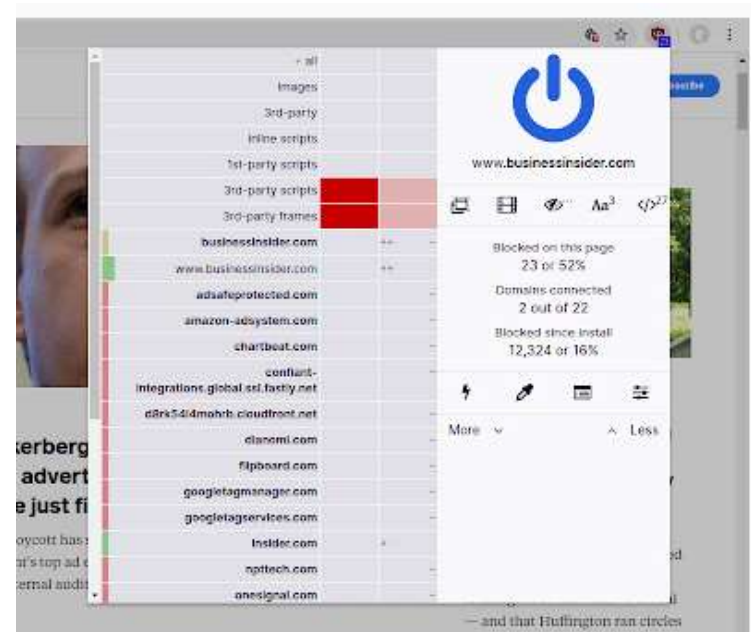


<https://chrome.google.com/webstore/detail/umatrix/ogfcmafjalglgifnmanfmnieipoejdcf>



uBlock Origin

Offered by: Raymond Hill (gorhill)



<https://chrome.google.com/webstore/detail/ublock-origin/cjpalhdlnbpafiamejdnhcphjbkeiagm>

Tom Trottier

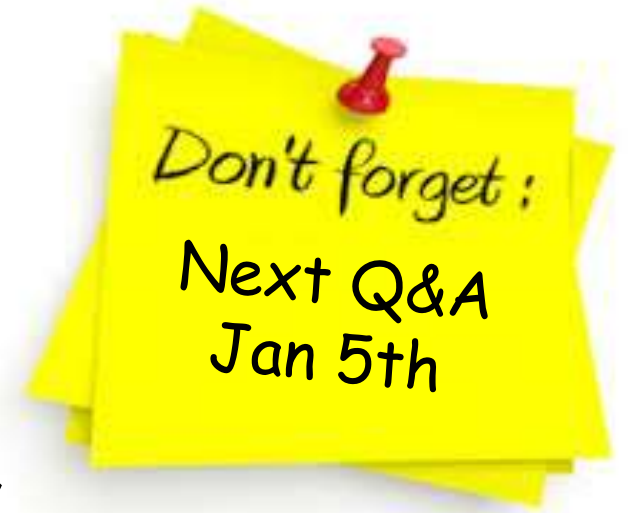
# Privacy Online



**Part 1 - The Internet**



**Any other:  
Questions  
Comments  
Shares?**



**Send your questions,  
answers, and topics  
you wish to share to:**

[SuggestionBox@opcug.ca](mailto:SuggestionBox@opcug.ca)





# New Year's Resolutions

1. Join OPCUG (2 years for the price of 1!)
2. Share my favourite PC program or Android app at Q&A
3. Write an article for the newsletter
4. Send a Computer Basics question to [SuggestionBox@opcug.ca](mailto:SuggestionBox@opcug.ca)
5. Plan a 15-minute presentation for the next "Members' Favourites" night
6. Attend the next Q&A Session on Wednesday, January 5<sup>th</sup>
- 7.

