

# Manifest Data

S-1 Speculative Sensation Lab

[www.s-1lab.org](http://www.s-1lab.org)

[#manifestdata](https://twitter.com/manifestdata)

# S-1 Lab Manifest Data Project Team

**Amanda Starling Gould**, Lead Designer & Project PI (@stargould)

**Luke Caldwell**, Lead Programmer

**Shane & Karin Denson**, Contributing Artists (@medieninitiativ)

**Libi Rose Striegl**, 3D Printing Artist (@libi\_rose)

**David Rambo**, Theoretical Contributor

**Mark BN Hansen**, Faculty Sponsor

**Mark Olson**, Faculty Sponsor & Contributing Programmer

[www.s-1lab.org/projects/manifest-data/](http://www.s-1lab.org/projects/manifest-data/)

# digital metabolism

Q<sub>1</sub>: Does the digital have its own metabolism?



Q<sub>2</sub>: How is the digital's metabolism implicated in the anthroposphere?

...and how is the human implicated in the digital's metabolism?



A\*: Manifest Data



```
thon
  Luke Caldwell
  reative Commons BY-SA 3.0
  http://creativecommons.org/licenses/by-sa/3.0/
```

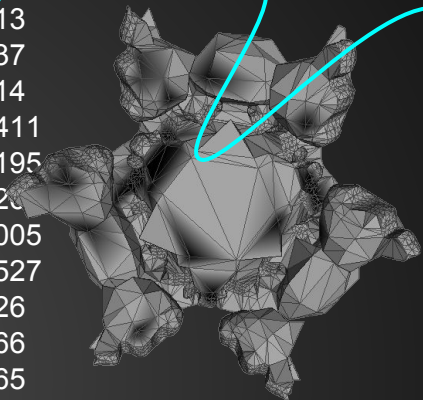
```
to)/parse_ip.py
to) with the full path
yz 3d-model @ ~/Desktop/tcpflow_parse.xyz
ss data @ ~/Desktop/tcpflow
```

```
"""
data wrapper to make referencing attributes easier
"""
def __init__(self, **kwargs):
    # replace . in ip addresses so we can divide it
    d = dict((k,int(v.replace('.', ''))) for k,v in kwargs.iteritems())
    self._dict__update(d)

def get_base_dir():
    """
    determine os and path structure
    """
    op_sys = platform.system()
    if op_sys == "Windows":
        raise Exception("You can't run this on Windows...")
    base = "/home" if op_sys == "Linux" else "/Users"
    usr = getpass.getuser()
    return os.path.join(base, usr, 'Desktop')

def parse_filenames(files):
    """
    parse timestamp, origin ip address and port, destination ip address and
    divide origin ip address by origin port, destination ip address by dest
    shuffle columns and rejoin with new lines
    """
    spl = re.compile(
        r"^{2P\d+}?"
        r"^{2P\d{3}\.\d{3}\.\d{3}\.\d{3}}\.\d{2}?"
        r"^{2P\d{3}\.\d{3}\.\d{3}\.\d{3}}\.\d{2}?"
```

3643412 390957252 1393792700
5482373 1393794034 390957408
4021600 1393794120 390957408
1393787270 4177568 2565640664
221532779 3945633 1393787013
4228308 1393786459 288264837
3749256 390957214 1393882614
3208417 2300639075 1393793411
3901178 1164802702 1393882195
1393795606 390957214 4372420
2300639075 1393883255 4378005
1393786523 3523305 2550563527
3935210 926565313 1393786226
903076338 1393789889 3943366
3604324 1393789872 625202965
1393790342 487844479 4377107
3436729 1393791852 390957214
1393790369 241582395 3316732
1393882337 4062837 390957253
4668808 1393884046 390957126
1393791992 463321113 3571500
1393792400 2702989003 3735264
1200212687 1393789459 4665747
3309877 390957253 1393794591
2565640665 1393791864 3593069
1393793712 4957642 2437802902
3419422 1900575163 1393795634
390957408 1393793964 5489420
390957214 1393883007 3361110
5487060 390957408 1393792073



# code manifest

<https://bitbucket.org/swibble/manifest-data/>

<http://s-1lab.org/projects/manifest-data/>

- DMG installer for Macs (-> downloads)
- Installation instructions for Linux
- Windows -- sorry, you are left out. :-)

# collecting data

**problem 1:** how can we access information that approximates what digital services like **google** and **facebook** know about us?

- data on these platforms is **proprietary** and access to information about yourself is highly limited.
- how much **information leaks** through everyday web usage?
- how can we **capture these machinic forms of communication for humanistic purposes?**

HTTP/1.1 200 OK  
Cache-Control: no-cache, must-revalidate  
Content-Type: image/gif  
Date: Fri, 27 Mar 2015 23:29:57 GMT  
Expires: Fri, 01 Jan 1990 00:00:00 GMT  
P3P: policyref="https://cts.w55c.net/ct/p3p\_policy\_ref.xml", CP="UNI  
PUR COM INT STA OTC STP OUR CUR TAIo COR DSP NOI"  
Pragma: no-cache  
Server: PixelTracking/v2.0.15#rel-ec2-master i-8415f179@us-east-  
1b@dxedge-app\_us-east-1\_prod\_asg  
Set-Cookie: wfivefivec=ceZ6A0tbAlj9vqcbKiYh2f4A3UBcpmQL; Domain=.w55c.  
net; Expires=Mon, 27-Mar-2017 23:29:58 GMT; Path=/  
Content-Length: 42  
Connection: keep-alive

GIF89a~~SOH NUL SOH NUL eNUL NUL NUL NUL NUL ÿÿ!~~~~EOT SOH NUL NUL NUL NUL , NUL~~  
~~NUL NUL NUL SOH NUL SOH NUL @STX SOH NUL~~; HTTP/1.1 302 Found  
Cache-Control: no-cache, must-revalidate  
Date: Fri, 27 Mar 2015 23:29:57 GMT  
Expires: Fri, 01 Jan 1990 00:00:00 GMT  
Location: https://cm.g.doubleclick.net/pixel?google\_nid=9675309&google  
\_hm=Y2VaNkEwdGJBbGo5dnFjYktpWwgyZjRBM1VCY3BtUUh%3D&google\_cm  
P3P: policyref="https://cts.w55c.net/ct/p3p\_policy\_ref.xml", CP="UNI  
PUR COM INT STA OTC STP OUR CUR TAIo COR DSP NOI"  
Pragma: no-cache  
Server: PixelTracking/v2.0.15#rel-ec2-master i-8415f179@us-east-  
1b@dxedge-app\_us-east-1\_prod\_asg  
Set-Cookie: wfivefivec=ceZ6A0tbAlj9vqcbKiYh2f4A3UBcpmQL; Domain=.w55c.  
net; Expires=Mon, 27-Mar-2017 23:29:58 GMT; Path=/  
Content-Length: 0  
Connection: keep-alive

7b01 212c 5459 a238 e618 49e8 abd0 aee2  
9406 9695 af95 fdd0 1703 0100 20ff 7ac2  
823c 10e4 a8c8 9d6a 7e91 46fb 6fce 53c4  
0f6c f2f1 3eb7 739f 22ce b3e4 ad17 0301  
0050 a288 d09d 9bf6 79de c7bf 838e a2b8  
982b 9a0c ad94 221b 147f 7039 7ddf 8158  
5e78 0f65 1b6f 1a5c 591c ee77 05b1 2987  
b044 fc27 a6a8 fc47 4043 86c3 433b 3edf  
8fe3 5636 cd0c e26d b555 acc9 3cf4 7a51  
a6c1 1703 0100 20da 4a8a 856c ae34 0b49  
59d5 5a67 384d f528 5117 98cb 57f2 3872  
27a7 e034 da71 5317 0301 0020 efc6 18ce  
bcda 019a a4d5 16aa 8f46 2857 5cce 8849  
8c60 50cb 5b54 091b 8ad7 03fe 1703 0100  
20e6 4cf6 542c bb98 f77e 5531 60ad 689c  
a408 ab65 84fc eafc 2ee1 3f34 d941 d4f2  
ae17 0301 0020 a684 ab72 ae75 59ed 8073  
7591 e5f6 a703 dcf4 1938 a821 2fb1 9671  
aae0 8891 fced 1703 0100 20c3 cfda d4e5  
dc8b efef 03f8 4476 bd37 1788 3769 a391  
1707 9e89 a0e6 e925 7110 f717 0301 0020  
d383 81b0 9bc0 7915 e9da 778e 5296 d972  
41a9 93f4 114f 7137 28db 03b2 80fa 4721

# tcpflow

network analysis tool that captures the content and metadata associated with every networking call.

- solution: **capture data locally** as it passes from your computer to remote services.
- like the NSA, we favored a “**collect it all**” approach
- contents of webpages, emails, images, etc are all collected into the designated folder.



# parsing the information

**problem 2:** how do we turn all of this information into something meaningful?

- some of this information is legible, while some is encrypted. just looking at content will be very limited.
- solution: **utilize metadata** of networking connections simply because that's easiest to work with and follows standardized formats.

# parsing the information

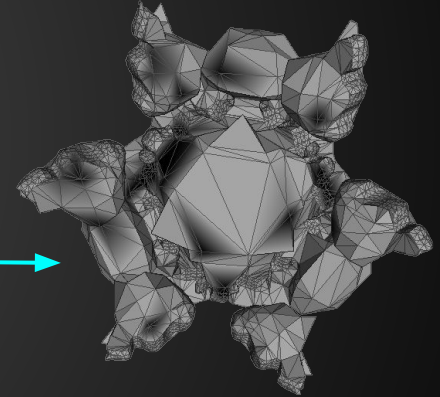
Filenames

```
1411917649T071.065.197.000.52804-192.168.001.140.00548
1411917651T192.168.001.140.00548-071.065.197.000.52804
1411917720T071.065.197.000.52808-192.168.001.140.00548
1411917720T192.168.001.140.00548-071.065.197.000.52808
1411917735T064.233.171.125.05222-071.065.197.000.52814
1411917735T071.065.197.000.52814-064.233.171.125.05222
1411917743T071.065.197.000.55328-172.231.210.179.00080
1411917743T172.231.210.179.00080-071.065.197.000.55328
1411917743T172.231.210.179.00080-071.065.197.000.55328
1411917743T192.168.001.140.00548-071.065.197.000.52804
1411917748T071.065.197.000.52804-192.168.001.140.00548
1411917753T050.097.122.002.00143-071.065.197.000.52817
1411917753T174.133.021.068.00143-071.065.197.000.52852
1413999244T071.065.192.222.51506-192.168.001.140.00548
1413999256T071.065.192.222.51495-074.125.022.189.00443
1413999257T071.065.192.222.51537-074.125.196.147.00443
1413999257T074.125.196.147.00443-071.065.192.222.51537
1413999268T004.053.016.143.00443-071.065.192.222.51538
1413999268T071.065.192.222.51538-004.053.016.143.00443
1413999269T023.022.080.236.00080-071.065.192.222.51540
1413999269T023.022.080.236.00080-071.065.192.222.51540
1413999269T023.022.080.236.00080-071.065.192.222.51542
1413999269T071.065.192.222.51539-170.149.168.130.00080
1413999269T071.065.192.222.51540-023.022.080.236.00080
1413999269T071.065.192.222.51541-170.149.168.130.00080
1413999269T071.065.192.222.51542-023.022.080.236.00080
1413999269T170.149.168.130.00080-071.065.192.222.51539
1413999269T170.149.168.130.00080-071.065.192.222.51539
1413999269T170.149.168.130.00080-071.065.192.222.51541
1413999270T023.062.006.089.00080-071.065.192.222.51544
1413999270T023.062.006.089.00080-071.065.192.222.51544
1413999270T023.062.006.089.00080-071.065.192.222.51545
1413999270T023.062.006.089.00080-071.065.192.222.51545
1413999270T063.245.217.181.00080-071.065.192.222.51543
```

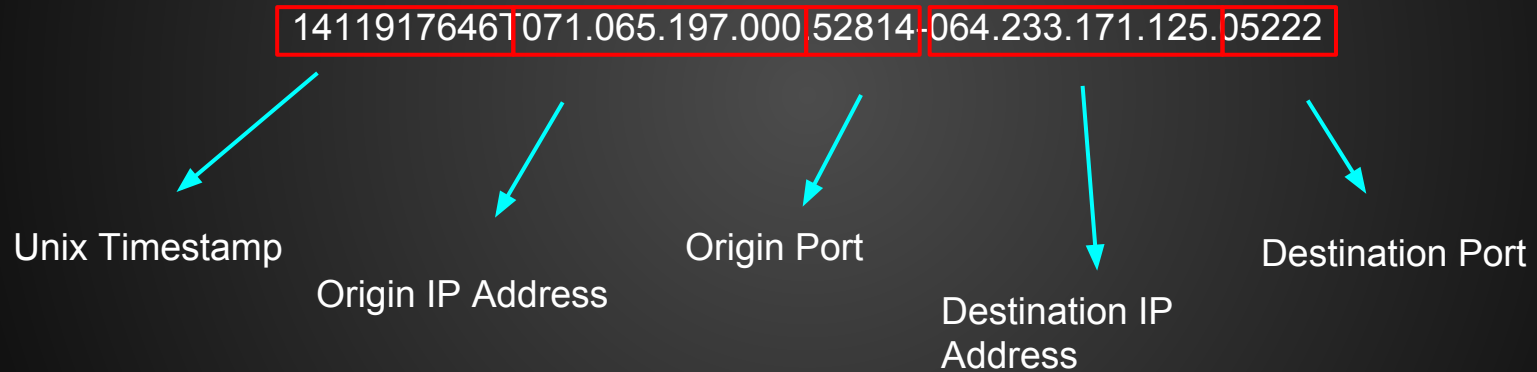
.xyz model format

```
390955212 2417697 1411665942
2487588138 1411665942 2417658
2417620 1411665942 156196706
390955212 2417581 1411665942
2417543 1411665942 390955212
1411665942 2417697 390955212
390955212 1411665942 2417581
2417543 1411665942 390955212
2417658 2487588138 1411665942
2487588138 2417658 1411665942
2417351 169585040 1411665944
169585040 2417351 1411665944
2228188537 1411665944 2417312
2417312 2228188537 1411665944
2417312 2228188537 1411665944
1411665948 169585040 2417274
2417274 169585040 1411665948
2417235 433953007 1411665950
2417235 1411665950 433953007
1411665951 2417197 433953007
433953007 1411665951 2417158
1411665951 433953007 2417120
1411665951 2417082 433953007
1411665951 433953007 2417197
433953007 1411665951 2417158
1411665951 433953007 2417120
1411665951 2417082 433953007
2565640525 2417043 1411665952
122329609 2417005 1411665952
2417043 2565640525 1411665952
2416467 287550537 1411665953
1411665953 122329609 2417005
2416889 122329609 1411665953
2416851 122329609 1411665953
2416813 1411665953 122329609
```

3-D Model



# parsing the information



# parsing the information

Timestamp | Orig IP / Orig Port | Dest IP / Dest Port

1411917646 | 1071.065.197.000 | 52814 | 064.233.171.125 | 05222

1411917646

1345

12300492

Randomize Columns

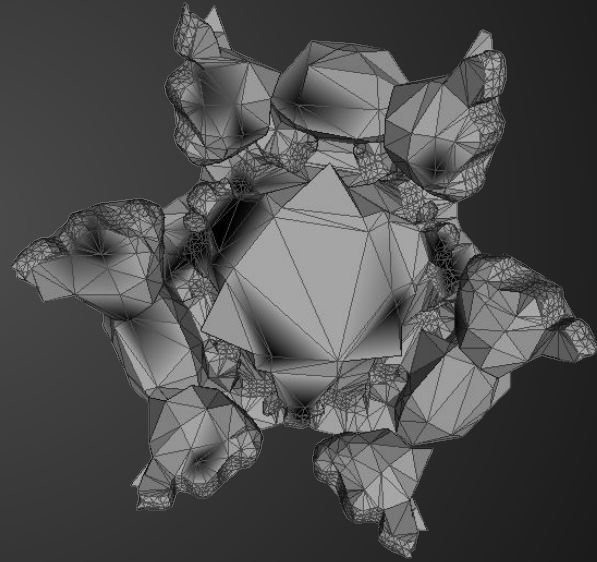
1345

12300492

1411917646

# parsing the information

- Use [MeshLab](#) to turn xyz coordinate system into a point cloud.
- Create mesh by connecting all the points.
- 3-D print the mesh



# parsing the information (alt)

- Geolocate IP addresses to generate a Google map of network connections.
- [S-1 Map gallery](#)



# Benevolent Spyware for Digital Humanities

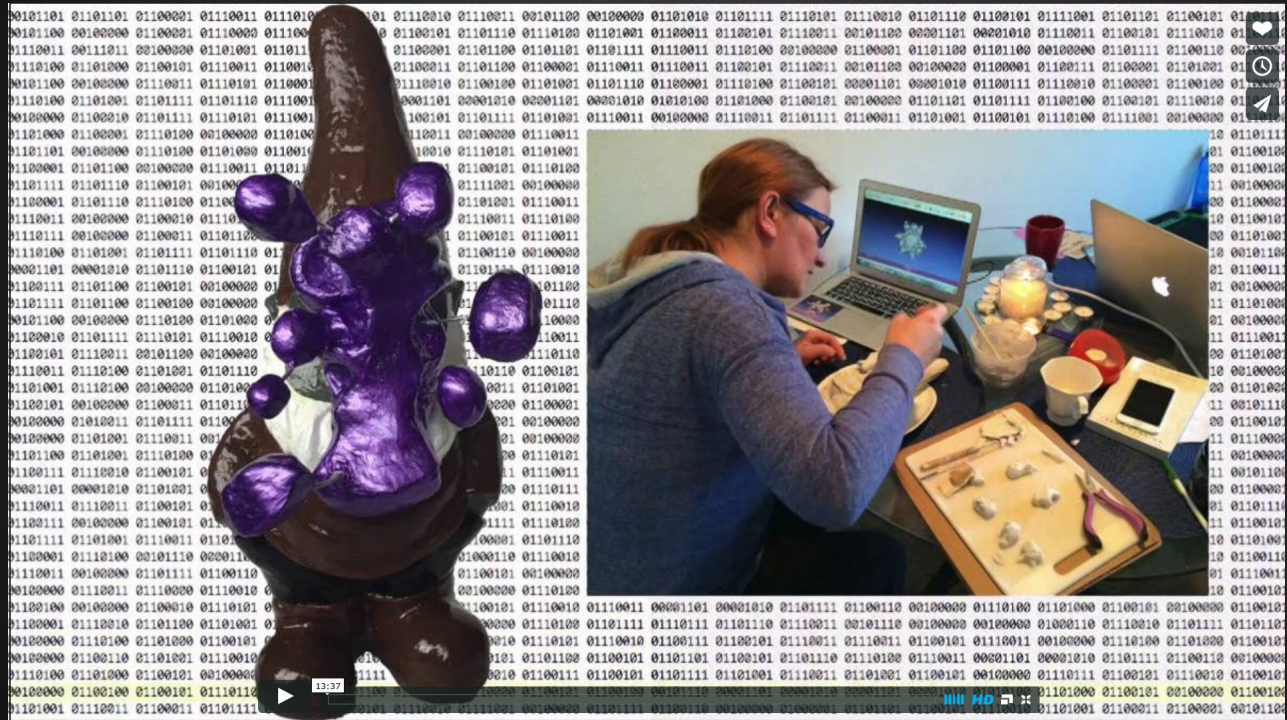
- Take tracking and data synthesis into your own hands to establish a more humanistic model for digital engagement.
- Spying on yourself has become harder than corporations spying on you.
  - Encryption hides information from you as much as from third-parties.
  - Asymmetry of control with digital platforms; platforms often obscure as much as they enable.
- Understand how interacting with systems of machinic control can make way for humanistic interventions that establish a more agential relationship with your digital shadow.

# 3d printing





# K+S-Denson\_SculptingData



# manifest data // manifest destiny



John Gast's *American Progress* (1872).

“A project home page concretizes an abstract homesteading in the space of possible programs by expressing it as `home' territory in the more spatially-organized realm of the World Wide Web.”

- Eric Steven Raymond, “Homesteading the Noosphere” (2000)

*Manifest Data* intervenes on a much more quotidian and non-conscious type of homesteading: a second-order homesteading of the data created during the first-order activity.

“By giving users access to their platforms, Facebook and Twitter” provide “access to a particular means of communication whose use serves their own profit interests” (89).

- Christian Fuchs, *Digital Labor and Karl Marx* (2014)

*“Diablo 3: Ultimate Evil Edition* feels like the happy conclusion of a two-year public beta, with the initial purchasers on PC bearing much of the grief with the auction house and the slow pace to reach level 60. Those who have held off up to this point will benefit the most... It’s just a shame that some newcomers won’t appreciate what the early adopters went through to make the fantastic game it is today.” (Miguel Concepcion, [gamespot.com](http://gamespot.com))

# a white man's burden?



[www.s-1lab.org](http://www.s-1lab.org)

#manifestdata