The Bash Fingertips: Making Your Own 'Information Centre'

By Roy Schestowitz
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FORGET bloated Web browsers. Forget so-called 'social' media (I call it social control media). They're not efficient, they eat up a lot of memory and CPU cycles, and the interfaces are not consistent (across sites). They're sufficiently distracting and they have ads. They erode privacy. They don't scale well; neither for an aging system (my laptop turns 10 in a few months) nor for users. GUIs are good in particular scenarios, but when the same things are repeated over and over again one might as well set up scripts, automating things and tailoring one's own interfaces, which is easy to achieve (relatively fast and simple) in the command line. It's also more accessible, e.g. over SSH. The pertinent tools are already out there (available for download/installation from repositories), they just need to be put together and programming skills aren't required, just batching in a bash file.

Some years ago I 'developed' a little script (I've been scripting since I was about 12). I called it `getswap-sorted.sh`
and it just ran another script that helped me see what applications use the swap (and how much of it). For the sake of speed I like to restart applications that heavily use swap (i.e. depend on magnetic disk operations). I don't have much RAM. I never had more than 2 GB. getswap-sorted.sh just called out .;/getswap.sh | sort -n -k 5 and getswap.sh comes from Erik Ljungstrom. Here it is:

```bash
#!/bin/bash
# Get current swap usage for all running processes
# Erik Ljungstrom 27/05/2011
SUM=0
OVERALL=0
for DIR in `find /proc/ -maxdepth 1 -type d | egrep "^/proc/[0-9]"` ; do
    PID=`echo $DIR | cut -d / -f 3`
    PROGNAME=`ps -p $PID -o comm --no-headers`
    for SWAP in `grep Swap $DIR/smaps 2>/dev/null| awk '{ print $2 }'`
    do
        let SUM=$SUM+$SWAP
    done
    echo "PID=$PID - Swap used: $SUM - ($PROGNAME )"
    let OVERALL=$OVERALL+$SUM
    SUM=0
done
echo OVERALL=$OVERALL
```

The output of `getswap-sorted.sh` would be something like this:

```
PID=1559 - Swap used: 16472 - (x-terminal-emul )
PID=21980 - Swap used: 16648 - (kwalletd5 )
PID=25548 - Swap used: 16704 - (konversation )
PID=631 - Swap used: 19336 - (kded5 )
PID=23817 - Swap used: 50048 - (pidgin )
PID=23923 - Swap used: 180312 - (thunderbird )
```

This helps me see which application/process number uses swap and to what degree. It's sorted by the amount of swap taken and the PID helps when I just want to kill a process from the command line (some are small and obsolete anyway).

My script, however, grew bigger over time. I added more things to it, eventually binding it to a special (fifth) mouse key, using `xbindkeys` -- an immensely valuable and powerful program I've used since around 2004. Extra mouse buttons always seemed worthless (anything more than three), but that's just because there was no program I needed to open or action I needed to invoke often enough. Over time I found that keeping a new terminal one click away (fourth button) and another *special* terminal also a click away improved my workflow/productivity. I just needed to invest some time in tailoring it. I ended up opening, temporarily, a terminal window with important information displayed, such as weather, disk space (I'm always near the limits), swap usage (I have only 2GB of RAM), uptime, real-time football scores etc. Change of wallpapers was lumped in too, for good measure...

For football tables/scores use one of the following 1) livescore-cli [2] 2) soccer-cli [3] and 3) football-cli [4].

Sadly, the above CLI football scores' tools got 'stolen' by Microsoft and need to isolate themselves GitHub, in due course/time. I use the first of the three as it suits my needs best and does not require an API key.

The output looks like this:
Displaying Table for Barclay's Premier League

<table>
<thead>
<tr>
<th>LP</th>
<th>Team Name</th>
<th>GP</th>
<th>W</th>
<th>D</th>
<th>L</th>
<th>GF</th>
<th>GA</th>
<th>GD</th>
<th>Pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Liverpool</td>
<td>24</td>
<td>19</td>
<td>4</td>
<td>1</td>
<td>55</td>
<td>14</td>
<td>41</td>
<td>61</td>
</tr>
<tr>
<td>2</td>
<td>Tottenham Hotspur</td>
<td>25</td>
<td>19</td>
<td>0</td>
<td>6</td>
<td>51</td>
<td>24</td>
<td>27</td>
<td>57</td>
</tr>
<tr>
<td>3</td>
<td>Manchester City</td>
<td>24</td>
<td>18</td>
<td>2</td>
<td>4</td>
<td>63</td>
<td>19</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>4</td>
<td>Chelsea</td>
<td>25</td>
<td>15</td>
<td>5</td>
<td>5</td>
<td>45</td>
<td>23</td>
<td>22</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>Arsenal</td>
<td>24</td>
<td>14</td>
<td>5</td>
<td>5</td>
<td>50</td>
<td>33</td>
<td>17</td>
<td>47</td>
</tr>
<tr>
<td>6</td>
<td>Manchester United</td>
<td>24</td>
<td>13</td>
<td>6</td>
<td>5</td>
<td>48</td>
<td>35</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>7</td>
<td>Wolverhampton Wanderers</td>
<td>25</td>
<td>11</td>
<td>5</td>
<td>9</td>
<td>33</td>
<td>32</td>
<td>32</td>
<td>38</td>
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<tr>
<td>8</td>
<td>Watford</td>
<td>25</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>33</td>
<td>34</td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td>9</td>
<td>Everton</td>
<td>25</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>36</td>
<td>36</td>
<td>17</td>
<td>33</td>
</tr>
<tr>
<td>10</td>
<td>AFC Bournemouth</td>
<td>25</td>
<td>10</td>
<td>3</td>
<td>12</td>
<td>37</td>
<td>44</td>
<td>20</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
<td>Leicester City</td>
<td>24</td>
<td>9</td>
<td>5</td>
<td>10</td>
<td>30</td>
<td>30</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>12</td>
<td>West Ham United</td>
<td>24</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>30</td>
<td>30</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>13</td>
<td>Brighton &amp; Hove Albion</td>
<td>25</td>
<td>7</td>
<td>6</td>
<td>12</td>
<td>27</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>14</td>
<td>Crystal Palace</td>
<td>25</td>
<td>7</td>
<td>5</td>
<td>13</td>
<td>26</td>
<td>33</td>
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<td>15</td>
<td>Newcastle United</td>
<td>25</td>
<td>6</td>
<td>6</td>
<td>13</td>
<td>21</td>
<td>33</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>16</td>
<td>Southampton</td>
<td>25</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>27</td>
<td>42</td>
<td>33</td>
<td>42</td>
</tr>
<tr>
<td>17</td>
<td>Burnley</td>
<td>25</td>
<td>6</td>
<td>6</td>
<td>13</td>
<td>26</td>
<td>46</td>
<td>26</td>
<td>46</td>
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<tr>
<td>18</td>
<td>Cardiff City</td>
<td>25</td>
<td>6</td>
<td>4</td>
<td>15</td>
<td>22</td>
<td>46</td>
<td>22</td>
<td>46</td>
</tr>
<tr>
<td>19</td>
<td>Fulham</td>
<td>25</td>
<td>4</td>
<td>5</td>
<td>16</td>
<td>25</td>
<td>55</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>20</td>
<td>Huddersfield Town</td>
<td>25</td>
<td>2</td>
<td>5</td>
<td>18</td>
<td>13</td>
<td>46</td>
<td>13</td>
<td>46</td>
</tr>
</tbody>
</table>

LP = League Position   GP = Games Played       W = Wins        D = Draws
GF = Goals For         GA = Goal Against       GD = Goal Differences

Champions League       Champions League qualification  Europa League
Europa League qualification    Relegation

Real-time scores (when matches are on):

... Fetching information from www.livescore.com ...

Displaying Scores for Barclay's Premier League

<table>
<thead>
<tr>
<th>Date</th>
<th>FT</th>
<th>Team Name</th>
<th>Score</th>
<th>Opponent</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Arsenal</td>
<td>2 - 1</td>
<td>Cardiff City</td>
</tr>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Fulham</td>
<td>4 - 2</td>
<td>Brighton &amp; Hove Albion</td>
</tr>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Huddersfield Town</td>
<td>0 - 1</td>
<td>Everton</td>
</tr>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Wolverhampton Wanderers</td>
<td>3 - 0</td>
<td>West Ham United</td>
</tr>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Manchester United</td>
<td>2 - 2</td>
<td>Burnley</td>
</tr>
<tr>
<td>January 29</td>
<td>FT</td>
<td>Newcastle United</td>
<td>2 - 1</td>
<td>Manchester City</td>
</tr>
<tr>
<td>January 30</td>
<td>FT</td>
<td>AFC Bournemouth</td>
<td>4 - 0</td>
<td>Chelsea</td>
</tr>
<tr>
<td>January 30</td>
<td>FT</td>
<td>Southampton</td>
<td>1 - 1</td>
<td>Crystal Palace</td>
</tr>
<tr>
<td>January 30</td>
<td>FT</td>
<td>Liverpool</td>
<td>1 - 1</td>
<td>Leicester City</td>
</tr>
</tbody>
</table>
January 30  FT  Tottenham Hotspur  2 - 1  Watford
February 2  FT  Tottenham Hotspur  1 - 0  Newcastle United
February 2  FT  Brighton & Hove Albion  0 - 0  Watford
February 2  FT  Burnley  1 - 1  Southampton
February 2  FT  Chelsea  5 - 0  Huddersfield Town
February 2  FT  Crystal Palace  2 - 0  Fulham
February 2  FT  Everton  1 - 3  Wolverhampton Wanderers
February 2  FT  Cardiff City  2 - 0  AFC Bournemouth
February 3  15:05  Leicester City  ? - ?  Manchester United
February 3  17:30  Manchester City  ? - ?  Arsenal
February 4  21:00  West Ham United  ? - ?  Liverpool

Now putting it all together:

```
feh --bg-fill --randomize /media/roy/c3fd5b6e-794f-4f24-b3e7-b4ead3722f11/home/roy/Main/Graphics/Wallpapers/Single
head/natgeo/* &
livescore -t bpl
./getswap.sh | sort -n -k 5
curl -4 http://wttr.in/Manchester
swapon --summary | grep sda2
df | grep sda1
uptime
sleep 10
livescore -s bpl
sleep 40
```

The first line is `feh` choosing a wallpaper at random from a collection of award-winning National Geographic photographs. The options and the underlying parameters are self-explanatory.

The football league's table is then shown.

Next, after about 10 seconds of processing, a list of processes will show up based on swap usage (as described above)

The weather at home (Manchester) will then be shown, with colour. Right now I get:

```
Weather report: Manchester
  \  /    Sunny
    .-.    -5--2 °C
  ? ( ) ?  ? 9 km/h
  `-.?    10 km
  / \    0.0 mm

Weather report: Morning
  \  /    Partly cloudy
    .-.    -4-0 °C
  ? ( ) ?  ? 12-20 km/h
  `-.?    20 km
  / \    0.0 mm

Weather report: Noon
  \  /    Light drizzle
  ? /"".-.  -2-3 °C
  ? ( )  17-26 km/h
  ?,\_   20 km
  ? ? ? ? 0.4 mm

Weather report: Evening
  \  /    Mist
    .-.    0-3 °C
  ? ( )   16 km
  ? ? ? ? 0.0 mm

Weather report: Night
  \  /    Light rain
  ? _/_-._  0-3 °C
  ? ? ? ? 0.0 mm

Weather report: Sun 03 Feb

Wind:
  ? _ /"".-.  20 km
  ? ( ) ?  12-20 km/h
  ? ( ) ?  0.0 mm

Temperature:
  ? _ /"".-.  0-3 °C
  ? _ /"".-.  -4-0 °C
  ? ? ? ? 0-3 °C

Conditions:
  ? _ /"".-.  Partly cloudy
  ? _ /"".-.  Light drizzle

Humidity:
  ? _ /"".-.  0%
  ? _ /"".-.  83%
```
After this I am shown general memory usage and disk usage (for a particular partition) along with uptime thusly:

```
/dev/sda2 partition 2097148 381128 -1
/dev/sda1 84035088 77299588 2443660 97% /
08:03:28 up 116 days, 12:36, 7 users, load average: 1.70, 1.40, 1.26
```

It will close on its own after I see what needs seeing, owing to the `sleep` command. It saves me the clicking (required to then close the window); it just fades away or 'expires', so to speak (until the next time the mouse button gets pressed).

Howtos

Source URL: http://www.tuxmachines.org/node/120234

Links: