Testing in WebKit-EFL

From 0% to 99% in 6 months

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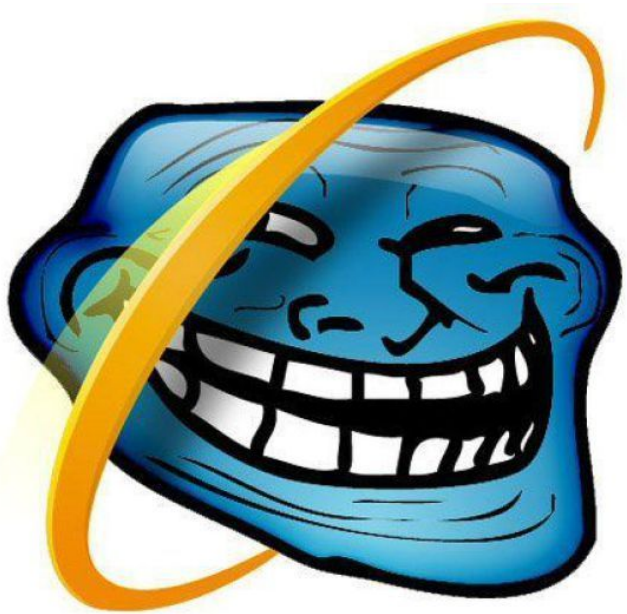
WebKit



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  - Injects keypresses
  - Tells when the test is done
- Historical name
  - Dumps the render tree
  - Dumps the textual representation
  - Dumps screenshots

Testing tools

DumpRenderTree (DRT)

```
layer at (0,0) size 800x600
  RenderView at (0,0) size 800x600
layer at (0,0) size 800x371
  RenderBlock {HTML} at (0,0) size 800x371
    RenderBody {BODY} at (8,3) size 784x352 [bgcolor=#FFFFFF]
      RenderBlock {DIV} at (0,0) size 784x24
        RenderBlock (floating) {DIV} at (0,0) size 377x23
          RenderInline {NOBR} at (0,0) size 377x16
            RenderInline {B} at (0,0) size 29x16
              RenderText {#text} at (0,1) size 29x16
                text run at (0,1) width 29: "Web"
            RenderText {#text} at (35,1) size 4x16
              text run at (35,1) width 4: " "
            RenderInline {A} at (0,0) size 42x16 [color=#0000CC]
              RenderText {#text} at (39,1) size 42x16
                text run at (39,1) width 42: "Images"
            RenderText {#text} at (87,1) size 4x16
              text run at (87,1) width 4: " "
            RenderInline {A} at (0,0) size 40x16 [color=#0000CC]
              RenderText {#text} at (91,1) size 40x16
                text run at (91,1) width 40: "Videos"
            RenderText {#text} at (137,1) size 4x16
x
```

Testing tools

ImageDiff

- Just like diff, but for images
- Output is another image
- Used to compare screenshots

Testing tools

run-webkit-tests

- Runs DumpRenderTree
- Compares output with eiter standard Unix `diff` or ImageDiff
- If it's equal to the baseline, the test passes

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- Compares output with eiter standard Unix `diff` or ImageDiff
- If it's equal to the baseline, the test passes
- Port-independent
- Changed recently from a blob of Perl code to much nicer Python
- New version is multiprocessing-aware, more resilient to crashing tests, and works better with flaky tests

Other tools

Don't you love scripts?

- find-drt-baselines.py
  - Compares output of EFL's DRT with other ports expected files
  - If blocks are the same, and their geometry is within a certain threshold, consider EFL's output correct

Other tools

Don't you love scripts?

- find-drt-baselines.py
  - Compares output of EFL's DRT with other ports expected files
  - If blocks are the same, and their geometry is within a certain threshold, consider EFL's output correct
  - Kind of cheating, but changes in behaviour are noticed
  - Hacky code, so not upstreamed

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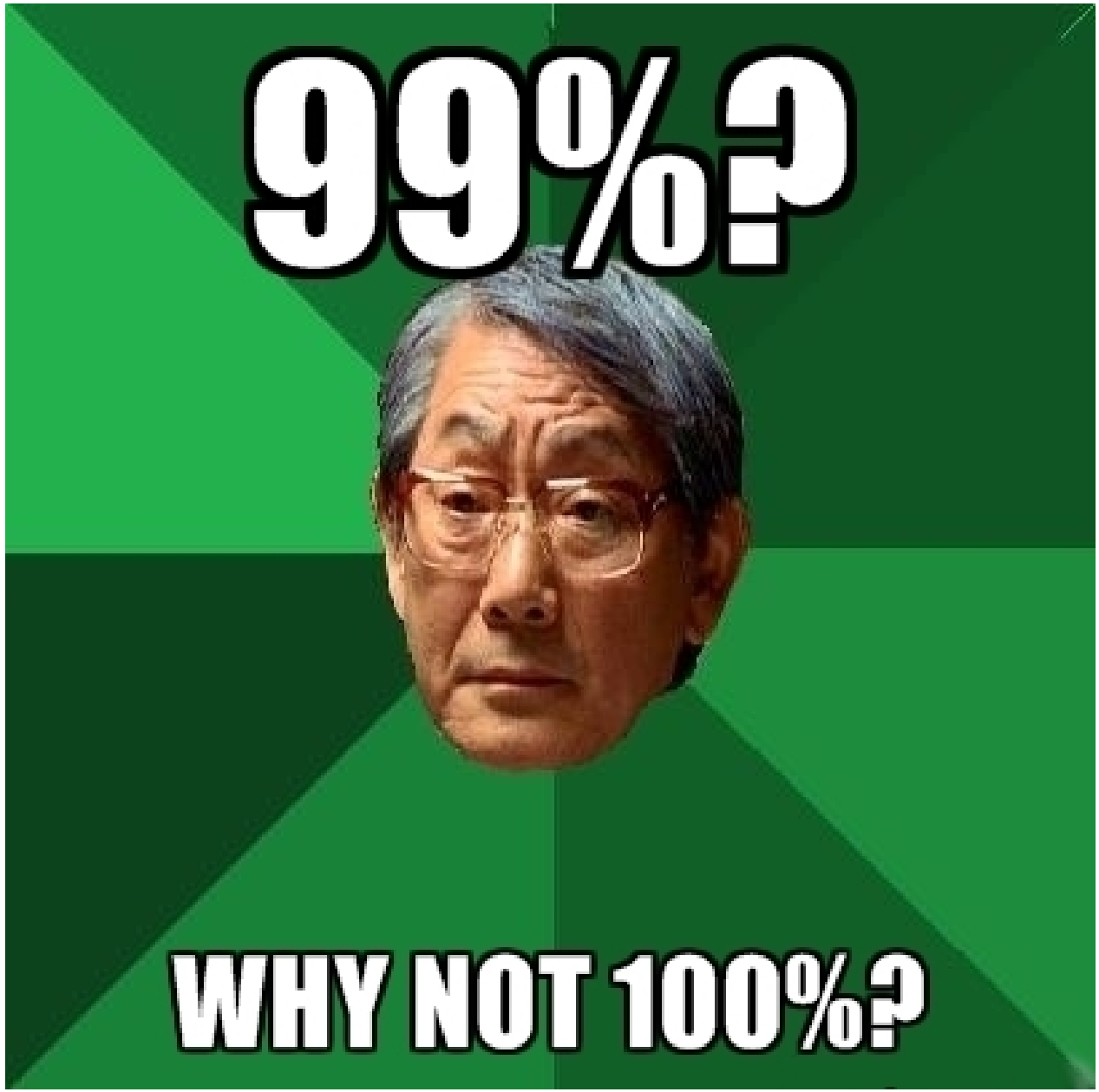
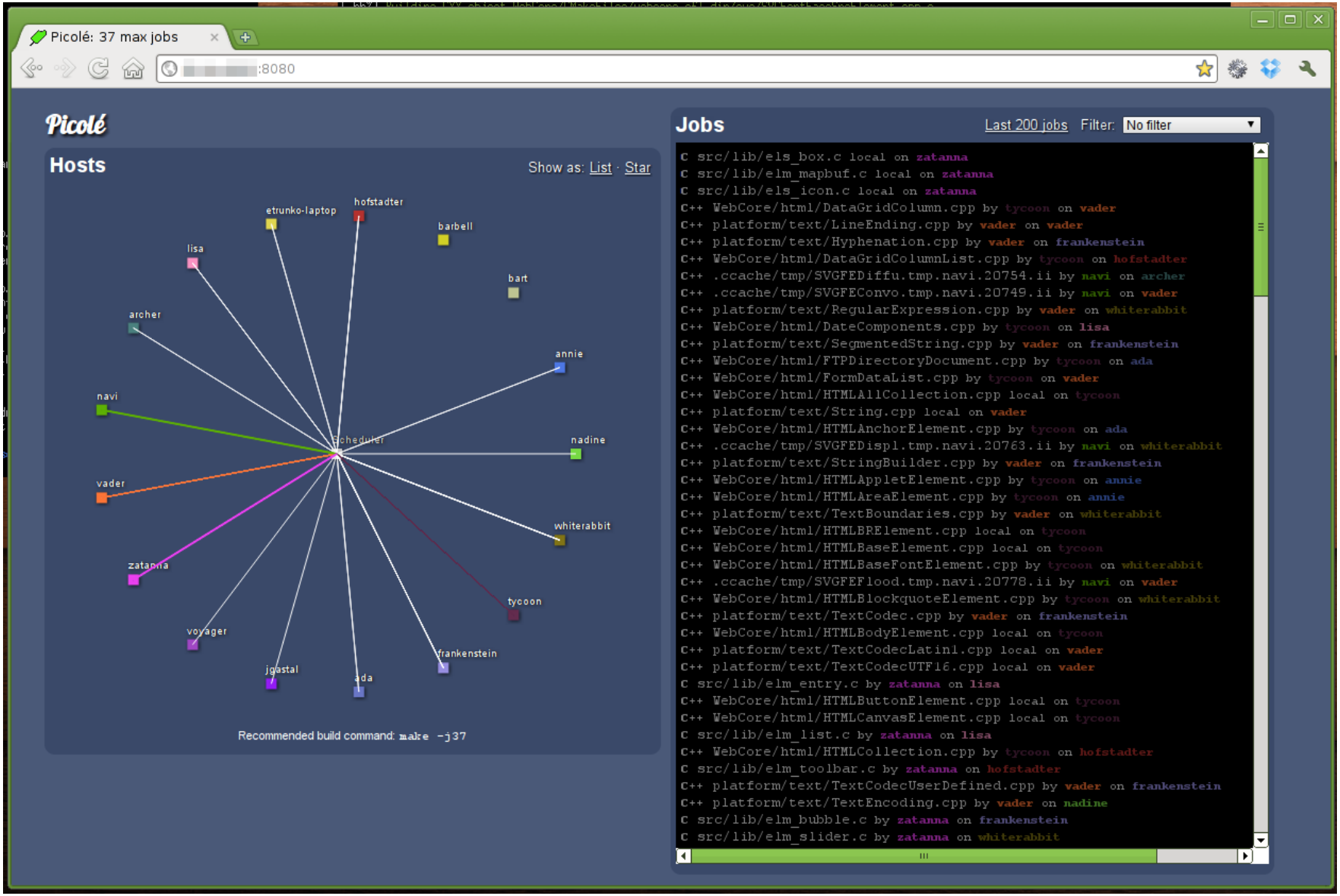
- But we don't implement everything...
- ...so we have about 75% of coverage
- Even then, to get to 99% of these was hard


99%?
WHY NOT 100%?

Debugging WebKit is bad for the environment

- Linking with debugging symbols takes a good while
- Machine is pretty much useless while linking
- gdb crashes

At least there is `icecc`



Amount of patches

- In 6 months, around 100 patches were produced to implement DRT, ImageDiff and fix bugs
- 60% of these were bug fixes
- The rest were infrastructure changes and the tools themselves

Milestones

Period	Milestone
1 month	DumpRenderTree running
2 months	75% of tests passing
3 months	80% of tests passing
4 months	87% of tests passing
5 months	92% of tests passing
5.5 months	99% of tests passing
6 months	EFL baselines upstreamed

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acidx on Freenode