The A?B*A Pattern

Tool for Detection and Refactoring

Leonard Punt, Sjoerd Visscher, Vadim Zaytsev

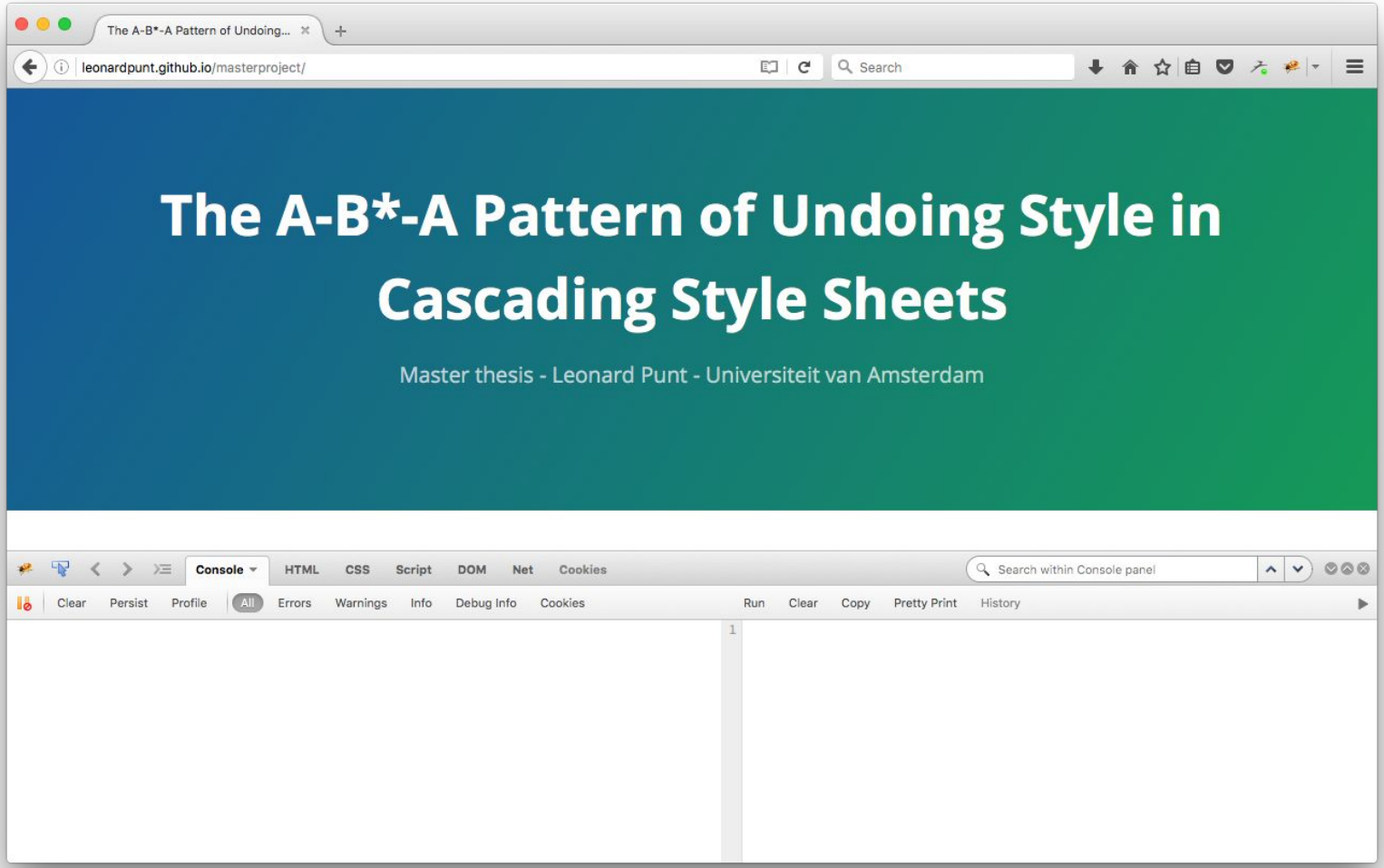
UvA, Q42 Q42 UvA, Raincode

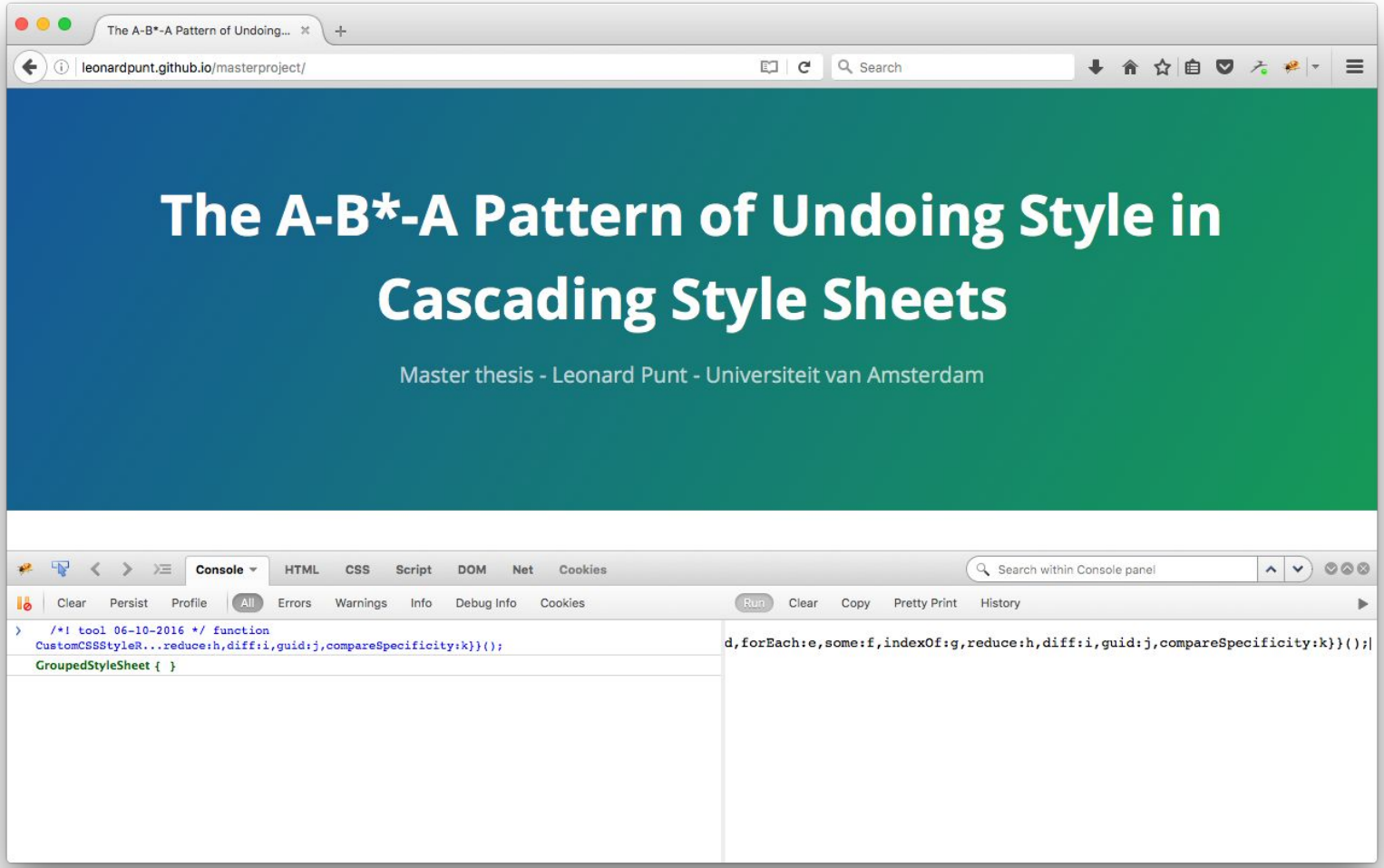
Introduction

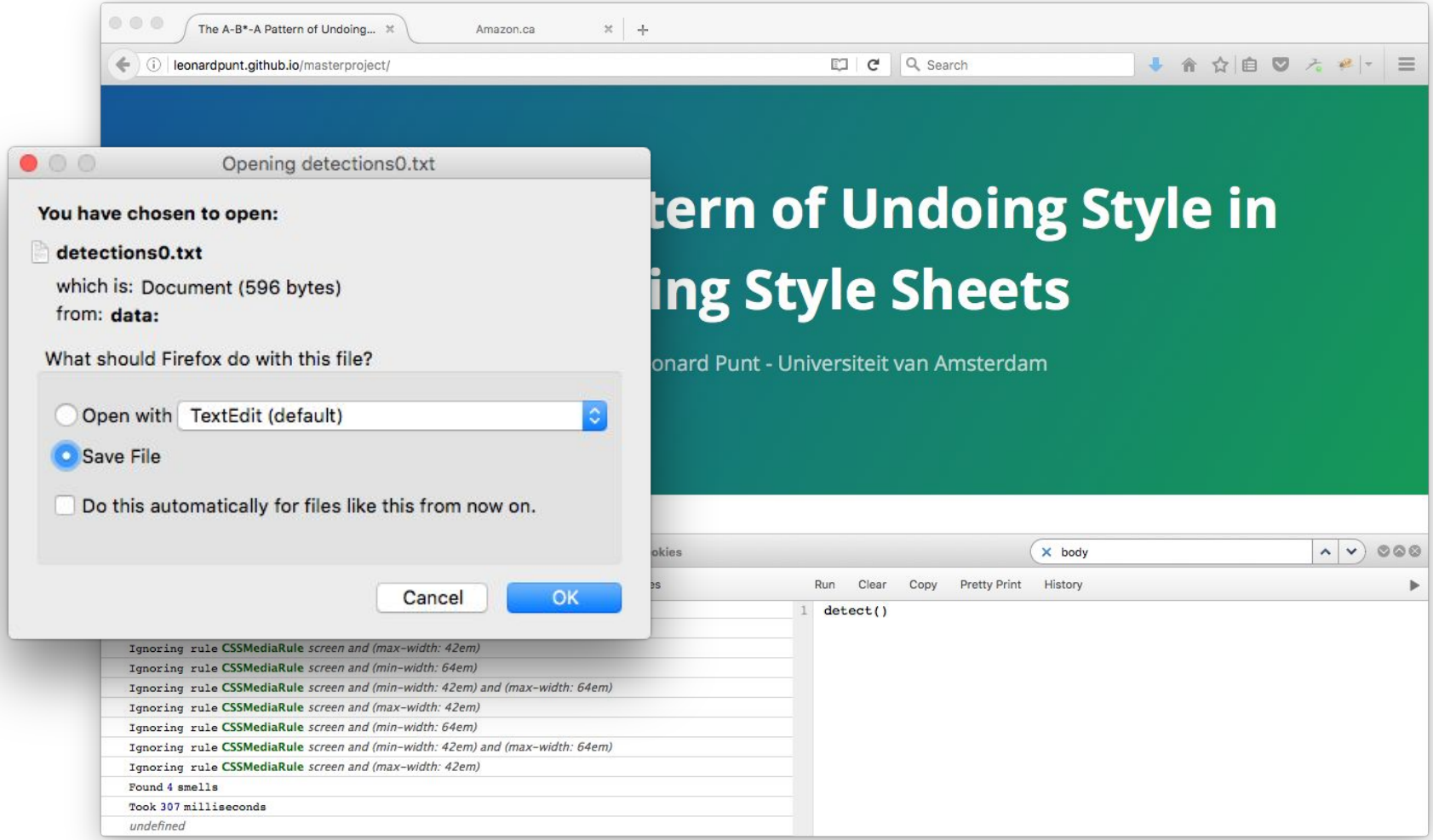
- A?B*A pattern
- Developed a tool that:
  - Detects the A?B*A pattern
  - Applies refactorings
  - Checks semantics
- https://leonardpunt.github.io/masterproject/tool.zip

Artifact

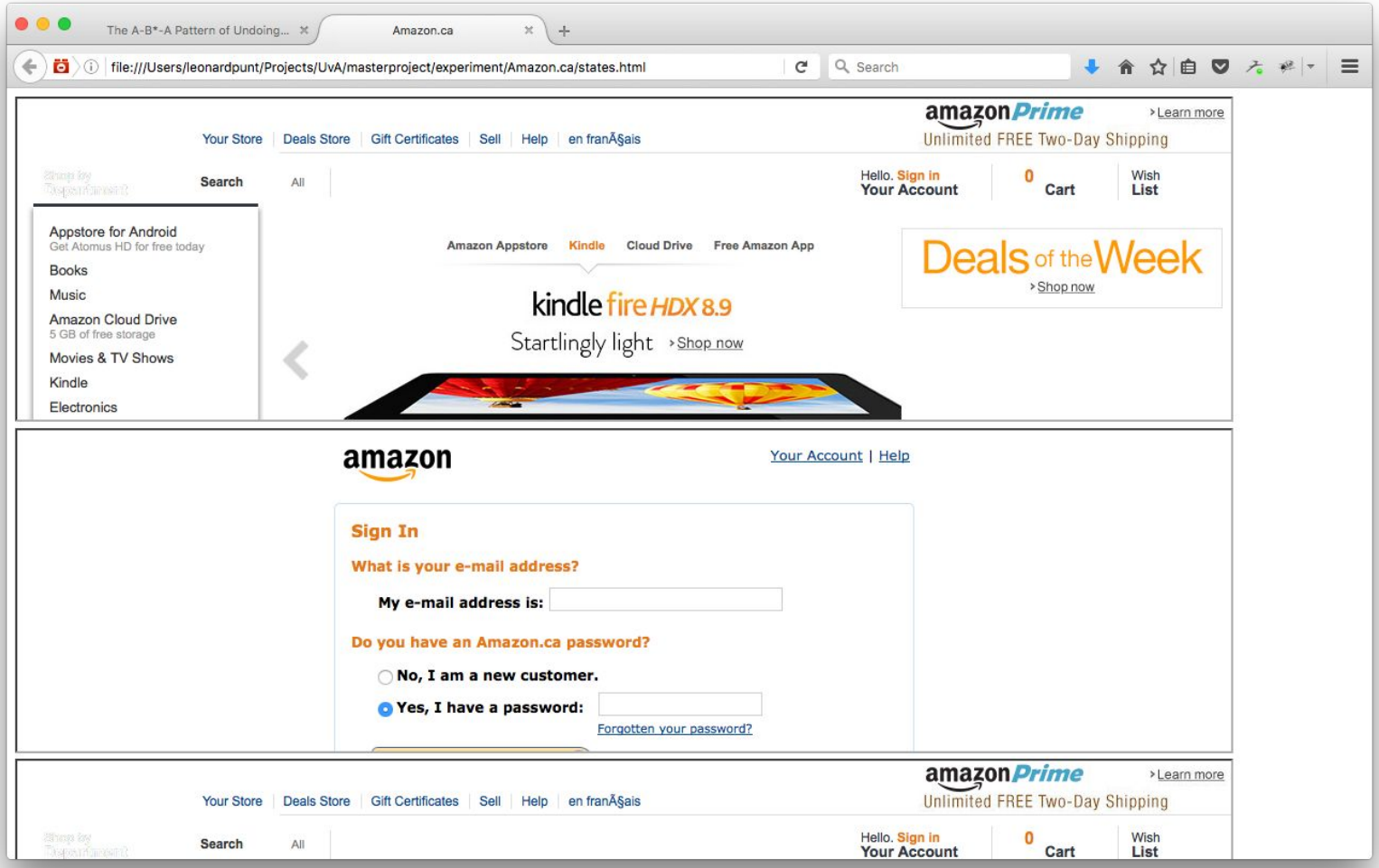
- Insightfulness
- Usefulness
- Usability


The A-B*-A Pattern of Undoing...
leonardpunt.github.io/masterproject/
Search
The A-B*-A Pattern of Undoing Style in Cascading Style Sheets
Master thesis - Leonard Punt - Universiteit van Amsterdam
Console
HTML
CSS
Script
DOM
Net
Cookies
Search within Console panel
Clear
Persist
Profile
All
Errors
Warnings
Info
Debug Info
Cookies
Run
Clear
Copy
Pretty Print
History
1


The A-B*-A Pattern of Undoing...
leonardpunt.github.io/masterproject/
Search
The A-B*-A Pattern of Undoing Style in Cascading Style Sheets
Master thesis - Leonard Punt - Universiteit van Amsterdam
Console
HTML
CSS
Script
DOM
Net
Cookies
Search within Console panel
Clear
Persist
Profile
All
Errors
Warnings
Info
Debug Info
Cookies
Run
Clear
Copy
Pretty Print
History
/*! tool 06-10-2016 */ function CustomCSSStyleR...reduce:h,diff:i,guid:j,compareSpecificity:k}}();
GroupedStyleSheet { }
d,forEach:e,some:f,indexOf:g,reduce:h,diff:i,guid:j,compareSpecificity:k}}();


The A-B*-A Pattern of Undoing...
Amazon.ca
leonardpunt.github.io/masterproject/
Search
tern of Undoing Style in
ing Style Sheets
onard Punt - Universiteit van Amsterdam
Opening detections0.txt
You have chosen to open:
detections0.txt
which is: Document (596 bytes)
from: data:
What should Firefox do with this file?
Open with TextEdit (default)
Save File
Do this automatically for files like this from now on.
Cancel
OK
body
Run
Clear
Copy
Pretty Print
History
detect()
Ignoring rule CSSMediaRule screen and (max-width: 42em)
Ignoring rule CSSMediaRule screen and (min-width: 64em)
Ignoring rule CSSMediaRule screen and (min-width: 42em) and (max-width: 64em)
Ignoring rule CSSMediaRule screen and (max-width: 42em)
Ignoring rule CSSMediaRule screen and (min-width: 64em)
Ignoring rule CSSMediaRule screen and (min-width: 42em) and (max-width: 64em)
Ignoring rule CSSMediaRule screen and (max-width: 42em)
Found 4 smells
Took 307 milliseconds
undefined

```
-- SMELL: 1 --
Smell: A-B(1)-A on margin-top
- initial: 0px (p)
- enclosed: 5px (#some-id)
- reset: 0px (#some-id.some-class)
- refactorable: true
- nodes: <p id="some-id" class="some-class">
```


The A-B*-A Pattern of Undoing...
Amazon.ca
file:///Users/leonardpunt/Projects/UvA/masterproject/experiment/Amazon.ca/states.html
Search
amazonPrime
Learn more
Unlimited FREE Two-Day Shipping
Your Store
Deals Store
Gift Certificates
Sell
Help
en franÃ§ais
Search
All
Hello. Sign in
Your Account
0
Cart
Wish
List
Appstore for Android
Get Atomus HD for free today
Books
Music
Amazon Cloud Drive
5 GB of free storage
Movies & TV Shows
Kindle
Electronics
Amazon Appstore
Kindle
Cloud Drive
Free Amazon App
kindle fire HDX 8.9
Startlingly light
Shop now
Deals of the Week
Shop now
amazon
Your Account | Help
Sign In
What is your e-mail address?
My e-mail address is:
Do you have an Amazon.ca password?
No, I am a new customer.
Yes, I have a password:
Forgotten your password?
amazonPrime
Learn more
Unlimited FREE Two-Day Shipping
Your Store
Deals Store
Gift Certificates
Sell
Help
en franÃ§ais
Search
All
Hello. Sign in
Your Account
0
Cart
Wish
List

Wrap-up

- Try it out
- Future work
  - Capture/generate all possible DOM states
  - More advanced refactorings
  - Improve checking for semantic changes
- https://leonardpunt.github.io/masterproject/tool.zip