MICHIGAN STATE UNIVERSITY

Beta Presentation

Improvements to Select Dropdown for Firefox

The Capstone Experience

Team Mozilla

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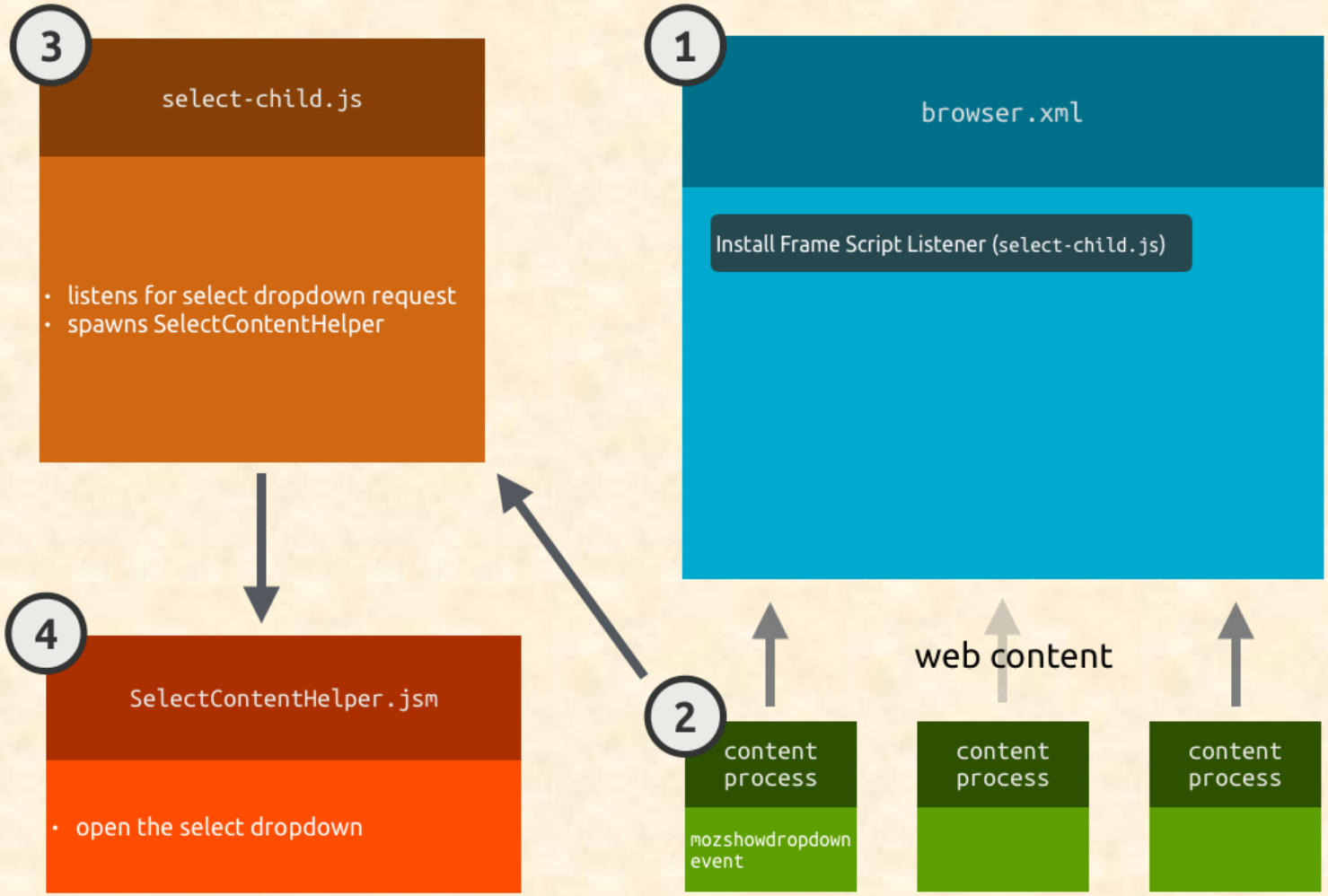
From Students…
…to Professionals

Project Overview

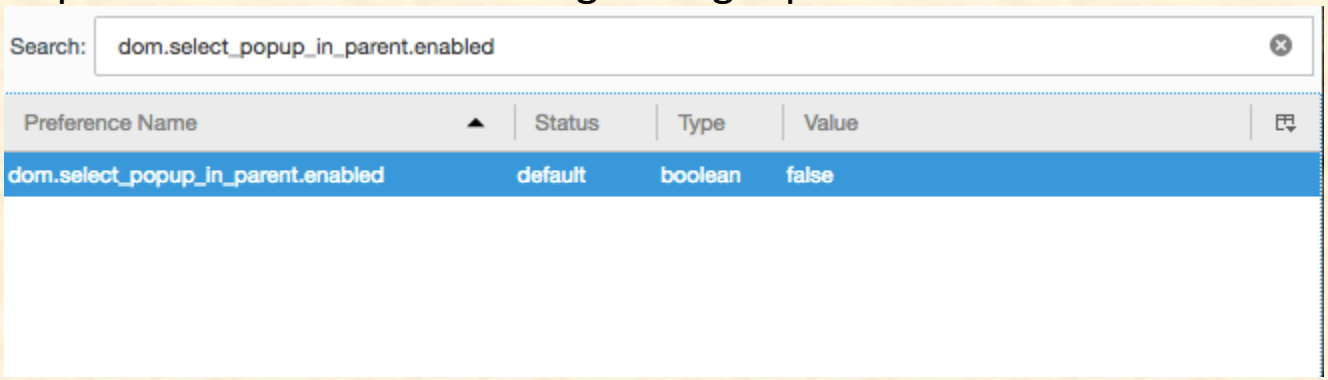
- Select dropdown styling improvements
  - Improve grouping & disabled states
  - Larger Windows touch options
  - Web developer option styling
- Select dropdown search functionality
  - For longer lists (40+ options)
  - Case insensitive inner search
- Update single-process dropdown implementation to follow the multi-process (e10s) architecture

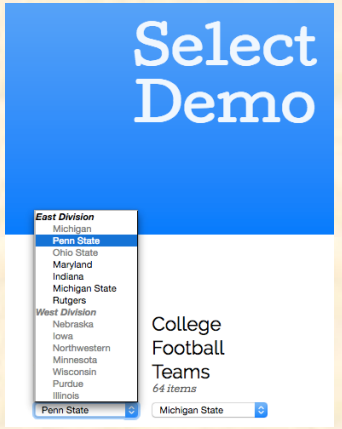
System Architecture



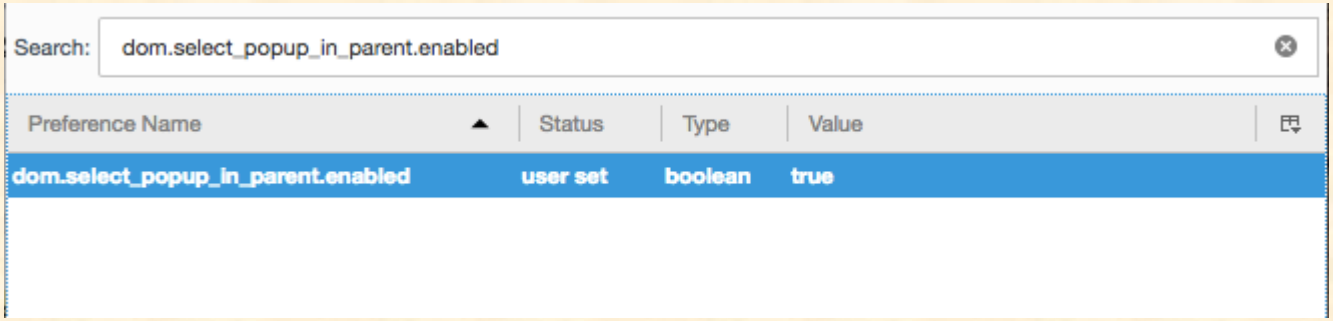
Backend Changes

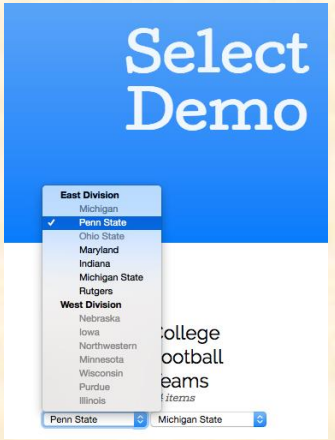
Runtime Preference turned off: Results in single-process dropdown implementation while running in single-process mode





Runtime Preference turned on: Results in multi-process dropdown implementation while running in single-process mode



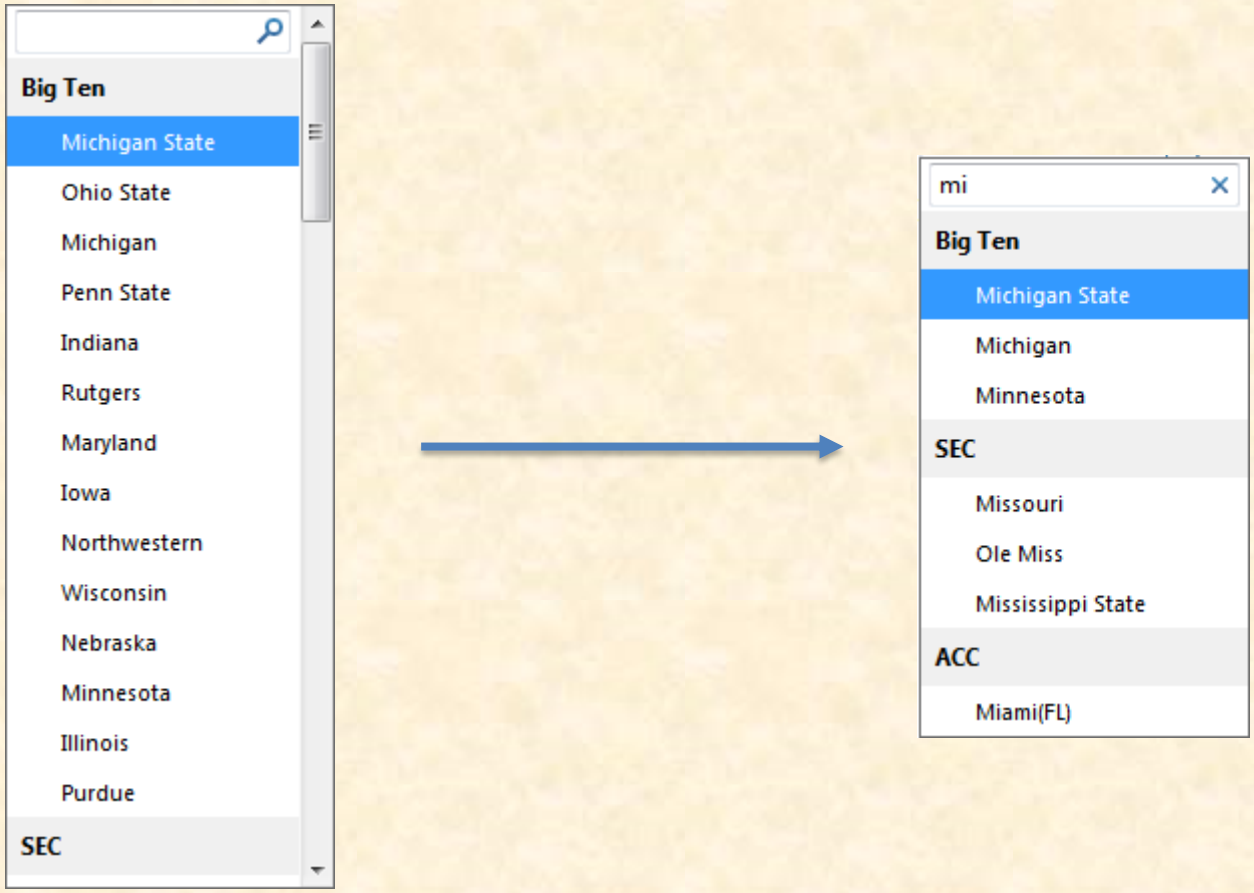


Updated Styling of Dropdown

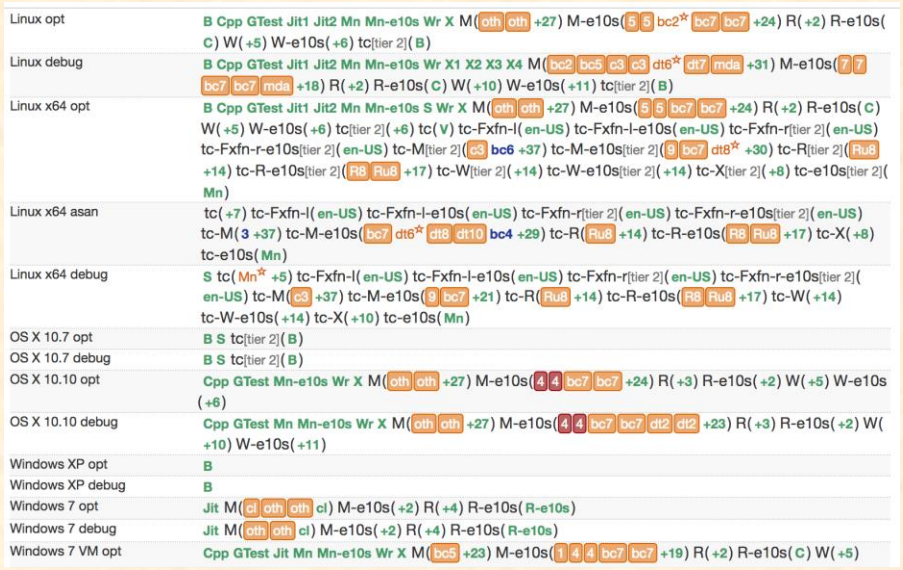
Old Dropdown Styling:

New Dropdown Styling:

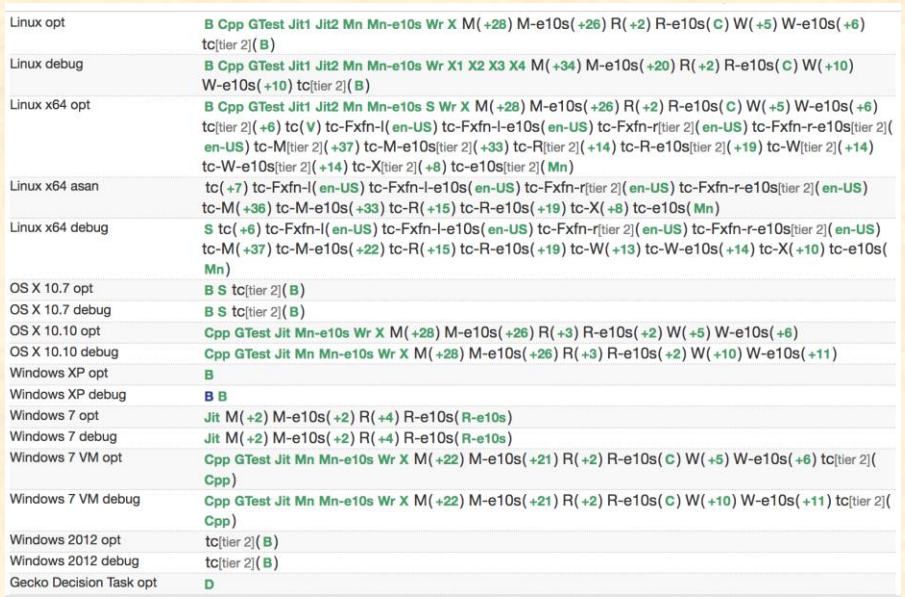
Search Functionality



Test Fixing & Rewriting



Linux opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X M(oth oth +27) M-e10s(5 5 bc2* bc7 bc7 +24) R(+2) R-e10s(C) W(+5) W-e10s(+6) tc[tier 2](B)
Linux debug	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X1 X2 X3 X4 M(bc2 bc5 c3 c3 dt6* dt7 mda +31) M-e10s(7 7 bc7 bc7 mda +18) R(+2) R-e10s(C) W(+10) W-e10s(+11) tc[tier 2](B)
Linux x64 opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s S Wr X M(oth oth +27) M-e10s(5 5 bc7 bc7 +24) R(+2) R-e10s(C) W(+5) W-e10s(+6) tc[tier 2](+6) tc(V) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M[tier 2](c3 bc6 +37) tc-M-e10s[tier 2](3 bc7 dt8* +30) tc-R[tier 2](Ru8 +14) tc-R-e10s[tier 2](R8 Ru8 +17) tc-W[tier 2](+14) tc-W-e10s[tier 2](+14) tc-X[tier 2](+8) tc-e10s[tier 2](Mn)
Linux x64 asan	tc(+7) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M(3 +37) tc-M-e10s(bc7 dt6* dt8 dt10 bc4 +29) tc-R(Ru8 +14) tc-R-e10s(R8 Ru8 +17) tc-X(+8) tc-e10s(Mn)
Linux x64 debug	S tc(Mn* +5) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M(c3 +37) tc-M-e10s(3 bc7 +21) tc-R(Ru8 +14) tc-R-e10s(R8 Ru8 +17) tc-W(+14) tc-W-e10s(+14) tc-X(+10) tc-e10s(Mn)
OS X 10.7 opt	B S tc[tier 2](B)
OS X 10.7 debug	B S tc[tier 2](B)
OS X 10.10 opt	Cpp GTest Mn-e10s Wr X M(oth oth +27) M-e10s(4 4 bc7 bc7 +24) R(+3) R-e10s(+2) W(+5) W-e10s(+6)
OS X 10.10 debug	Cpp GTest Mn Mn-e10s Wr X M(oth oth +27) M-e10s(4 4 bc7 bc7 dt2 dt2 +23) R(+3) R-e10s(+2) W(+10) W-e10s(+11)
Windows XP opt	B
Windows XP debug	B
Windows 7 opt	Jit M(cl oth oth cl) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 debug	Jit M(oth oth cl) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 VM opt	Cpp GTest Jit Mn Mn-e10s Wr X M(bc5 +23) M-e10s(1 4 4 bc7 bc7 +19) R(+2) R-e10s(C) W(+5)

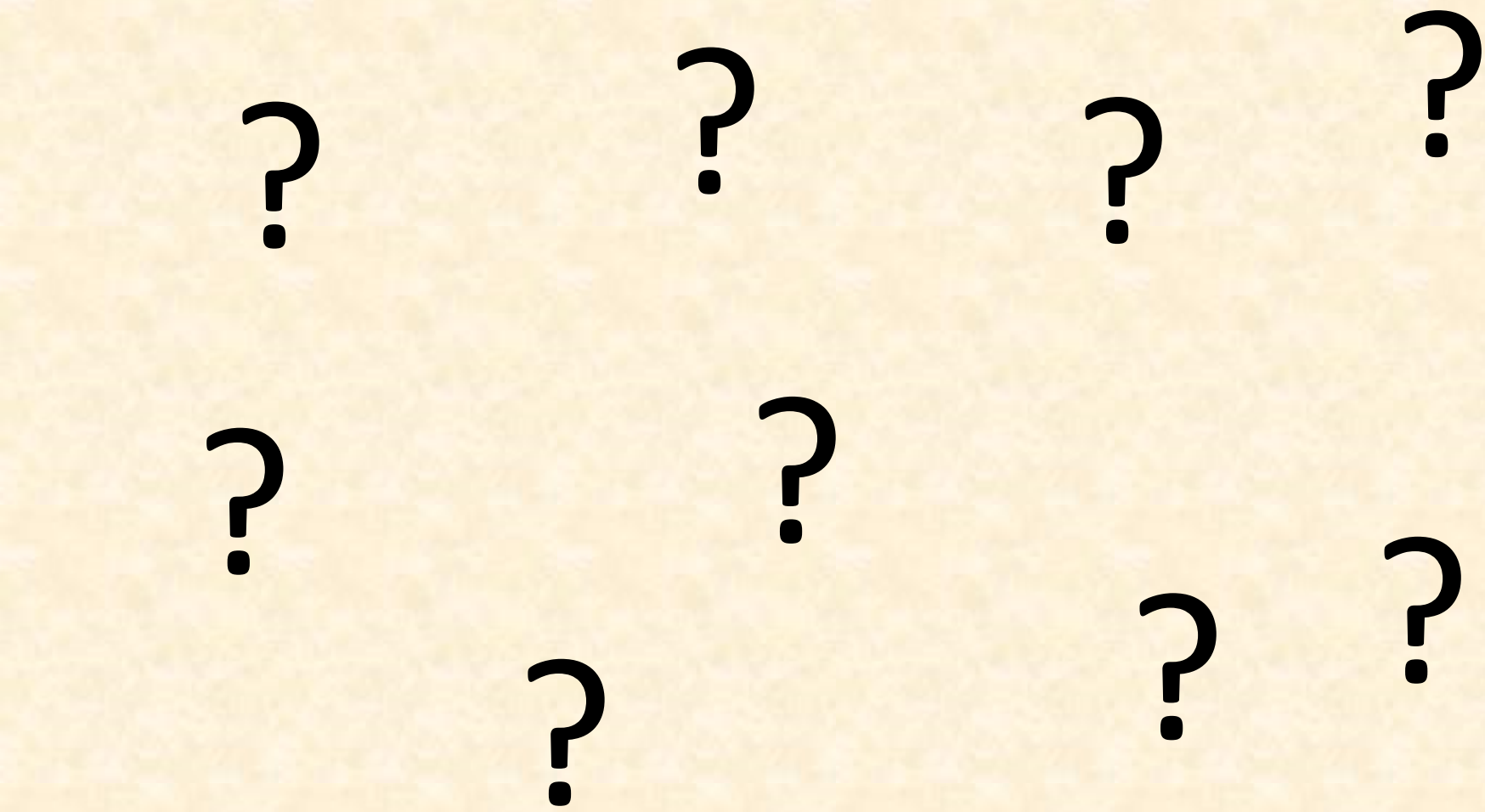


Linux opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X M(+28) M-e10s(+26) R(+2) R-e10s(C) W(+5) W-e10s(+6) tc[tier 2](B)
Linux debug	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X1 X2 X3 X4 M(+34) M-e10s(+20) R(+2) R-e10s(C) W(+10) W-e10s(+10) tc[tier 2](B)
Linux x64 opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s S Wr X M(+28) M-e10s(+26) R(+2) R-e10s(C) W(+5) W-e10s(+6) tc[tier 2](+6) tc(V) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M[tier 2](+37) tc-M-e10s[tier 2](+33) tc-R[tier 2](+14) tc-R-e10s[tier 2](+19) tc-W[tier 2](+14) tc-W-e10s[tier 2](+14) tc-X[tier 2](+8) tc-e10s[tier 2](Mn)
Linux x64 asan	tc(+7) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M(+36) tc-M-e10s(+33) tc-R(+15) tc-R-e10s(+19) tc-X(+8) tc-e10s(Mn)
Linux x64 debug	S tc(+6) tc-Fxfn-l(en-US) tc-Fxfn-l-e10s(en-US) tc-Fxfn-r[tier 2](en-US) tc-Fxfn-r-e10s[tier 2](en-US) tc-M(+37) tc-M-e10s(+22) tc-R(+15) tc-R-e10s(+19) tc-W(+13) tc-W-e10s(+14) tc-X(+10) tc-e10s(Mn)
OS X 10.7 opt	B S tc[tier 2](B)
OS X 10.7 debug	B S tc[tier 2](B)
OS X 10.10 opt	Cpp GTest Jit Mn-e10s Wr X M(+28) M-e10s(+26) R(+3) R-e10s(+2) W(+5) W-e10s(+6)
OS X 10.10 debug	Cpp GTest Jit Mn Mn-e10s Wr X M(+28) M-e10s(+26) R(+3) R-e10s(+2) W(+10) W-e10s(+11)
Windows XP opt	B
Windows XP debug	B B
Windows 7 opt	Jit M(+2) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 debug	Jit M(+2) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 VM opt	Cpp GTest Jit Mn Mn-e10s Wr X M(+22) M-e10s(+21) R(+2) R-e10s(C) W(+5) W-e10s(+6) tc[tier 2](Cpp)
Windows 7 VM debug	Cpp GTest Jit Mn Mn-e10s Wr X M(+22) M-e10s(+21) R(+2) R-e10s(C) W(+10) W-e10s(+11) tc[tier 2](Cpp)
Windows 2012 opt	tc[tier 2](B)
Windows 2012 debug	tc[tier 2](B)
Gecko Decision Task opt	D

Before – Orange/Red blocks are failed tests

After – Green blocks are passed tests

What's left to do?

- Web Developer Styling
  - Fix bug with group headers
- Search
  - Modify remaining tests to account for addition of search functionality
  - Make changes based on Mozilla Review responses and feedback from Nightly deployment
- Backend
  - Create more tests to account for backend changes
- Stretch Goal: Dropdown opening animations

Questions?