

Circle is (statically*) safe C++



sean@red: ~/projects/circle4/talk

File Edit Selection Find View Goto Tools Project Preferences Help

safe1.cxx

safe1.cxx

File Edit View Go Help

← →

924 × 607 pixels 84.6 kB 100%

Line 1, Column 1

lifetime 22949 Spaces: 2 C++

Search Terminal Help

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target circle

projects/circle4/Rel

projects/circle4/Rel

ord for sean:

[100%] Built target circle

Install the project...

-- Install configuration: "Rele

-- Installing: /usr/bin/circle

-- Set runtime path of "/usr/bi

sean@red:~/projects/circle4/Rel

[sudo] password for sean:

Scanning dependencies of target

[0%] Building CXX object CMak

.o

/home/sean/projects/circle4/src

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switch(frontend.o

1 warning generated.

[1%] Linking CXX executable c

[100%] Built target circle

Install the project...

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sean@red:~/projects/circle4/Rel

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sean@red:~/projects/circle4/Rel

sean@red:~/projects/circle4/talk\$ sudo

sean@red:~/projects/circle4/talk\$ xdg-open billion.png

sean@red:~/projects/circle4/talk\$

Kinds of memory safety and their solutions

- Lifetime safety - static
 - Borrow checking.
 - A local solution to a non-local problem.
- Type safety (nullptr variety) - static
 - Relocation object model.
- Type safety (union variety) - static
 - Choice types and pattern matching.
- Thread/data race safety - static
 - Send/sync traits.
- Out-of-bounds subscript, divide-by-zero, etc - runtime
 - Panic!

Other unsafe stuff is banned in safe contexts.