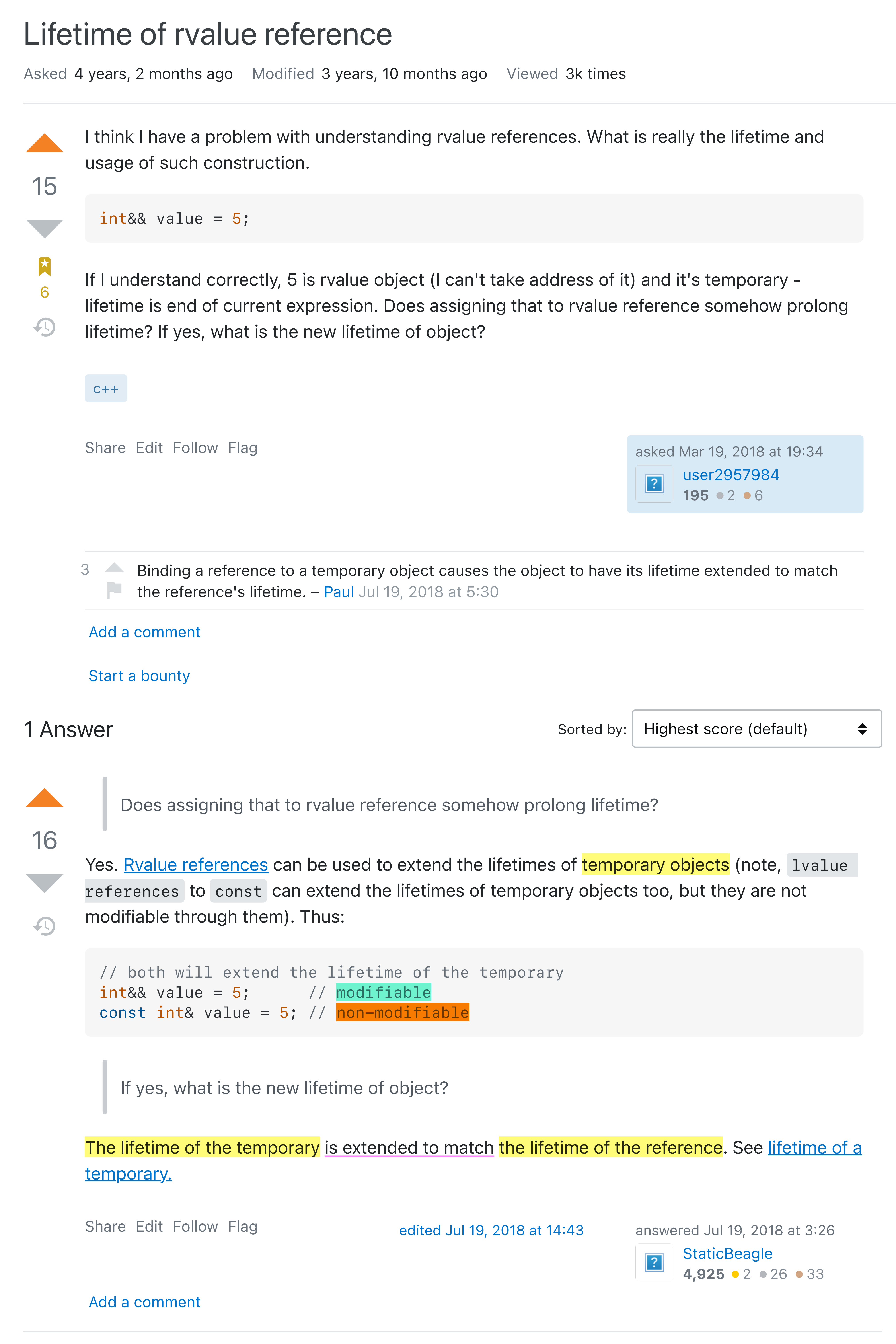

Lifetime of rvalue reference

Asked 4 years, 2 months ago Modified 3 years, 10 months ago Viewed 3k times

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I think I have a problem with understanding rvalue references. What is really the lifetime and usage of such construction.

```
int&& value = 5;
```

If I understand correctly, 5 is rvalue object (I can't take address of it) and it's temporary - lifetime is end of current expression. Does assigning that to rvalue reference somehow prolong lifetime? If yes, what is the new lifetime of object?

c++

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asked Mar 19, 2018 at 19:34
user2957984
195 ●2 ●6

3 Binding a reference to a temporary object causes the object to have its lifetime extended to match the reference's lifetime. – Paul Jul 19, 2018 at 5:30

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> Does assigning that to rvalue reference somehow prolong lifetime?

Yes. Rvalue references can be used to extend the lifetimes of temporary objects (note, `lvalue references` to `const` can extend the lifetimes of temporary objects too, but they are not modifiable through them). Thus:

```
// both will extend the lifetime of the temporary
int&& value = 5;       // modifiable
const int& value = 5; // non-modifiable
```

> If yes, what is the new lifetime of object?

The lifetime of the temporary is extended to match the lifetime of the reference. See lifetime of a temporary.

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edited Jul 19, 2018 at 14:43

answered Jul 19, 2018 at 3:26
StaticBeagle
4,925 ●2 ●26 ●33

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