
Subject: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [Mindtraveller](#) on Fri, 08 May 2009 07:48:49 GMT

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Let`s imagine we have some Moveable class M. And we make it`s vector with Vector<M>. So it is possible to use it without any additional constructors if we add new items with Vector<M>::AddPick. But when we need to add something somewhere inside vector and try to call Vector<M>::Insert, compiler requires M to have deep copy ctor. Actually it is not really necessary to have deep copy in this case, as picking would be sufficient. Isn`t it? So I propose adding InsertPick(int i, pick_ T&).

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [mrjt](#) on Fri, 08 May 2009 08:07:32 GMT

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Well, perhaps it should be added for symmetry, but doesn't this:

```
Vector<M> v;  
M a;  
..  
v.Insert(0) = a;
```

Do exactly the same thing?

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [Mindtraveller](#) on Fri, 08 May 2009 08:30:29 GMT

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Actually it doesn`t. Differences are:

- you require M to have default constructor, which is not strong requirement for Vector element
- you have one redundant call (ctor and operator= instead of ctor), which sometimes is crucial (picking was made for efficiency, right?)

And IMO this code is little bit less clear than plain v.InsertPick(a).

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [mirek](#) on Fri, 08 May 2009 19:21:30 GMT

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Mindtraveller wrote on Fri, 08 May 2009 04:30 Actually it doesn`t. Differences are:

- you require M to have default constructor, which is not strong requirement for Vector element

Does it?

Quote:

- you have one redundant call (ctor and operator= instead of ctor), which sometimes is crucial (picking was made for efficiency, right?)

And IMO this code is little bit less clear than plain `v.InsertPick(a)`.

While I can agree with symmetry point and clarity issue, I do not see how adding `InsertPick` should solve above problem.

Maybe you can rewrite `mrjt`'s example with `InsertPick`?

Mirek

Subject: Re: Proposal: add `Vector::InsertPick(int i, pick_ T&)`

Posted by [Mindtraveller](#) on Fri, 08 May 2009 22:05:54 GMT

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luzr wrote on Fri, 08 May 2009 23:21Mindtraveller wrote on Fri, 08 May 2009 04:30Actually it doesn't. Differences are:

- you require `M` to have default constructor, which is not strong requirement for `Vector` element

1. Does it?

Quote:

- you have one redundant call (ctor and operator= instead of ctor), which sometimes is crucial (picking was made for efficiency, right?)

And IMO this code is little bit less clear than plain `v.InsertPick(a)`.

2. While I can agree with symmetry point and clarity issue, I do not see how adding `InsertPick` should solve above problem.

3. Maybe you can rewrite `mrjt`'s example with `InsertPick`?

Mirek

1. I'm not quite shure I understand what you mean by this question.

If I understand correctly and the question is about default ctor requirement, TheIDE help says:

Quote: General requirement: `T` is required to be moveable and must have either deep copy constructor, pick constructor or default constructor.

Adds new element to Vector and picks value of parameter to it.

Requires T to have pick constructor.

-- so it is not necessary for M to have default /deep copy ctor to have Vector<M> and do AddPick.

2. I hope that InsertPick won't make me writing default constructors or optional deep copy to insert element into queue. This should solve the problem with deep copy where I want to pick only.

```
3. Vector<M> v;
```

```
M a;
```

```
..
```

```
v.InsertPick(a);
```

```
Or maybe you mean InsertPick(int i, pick_ Vector<M> &) ?
```

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)

Posted by [mirek](#) on Sat, 09 May 2009 07:02:30 GMT

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Yes, my mistake, you are right.

I will add InsertPick ASAP.

Mirek

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)

Posted by [mirek](#) on Sat, 09 May 2009 07:06:51 GMT

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This should do the trick:

```
template <class T>
void Vector<T>::InsertPick(int i, pick_ T& x)
{
    if(!count) return;
    ASSERT(&x < vector || &x > vector + items);
    RawInsert(q, count);
    ::new(vector[q]) T(x);
}
```

```
template <class T>
void Array<T>::InsertPick(int i, pick_ T& x)
{
    vector.InsertN(i, 1);
    vector[i] = new T(x);
}
```

}

Mirek

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [Mindtraveller](#) on Sat, 09 May 2009 19:52:50 GMT
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Thank you very much! U++ is great at it`s support.

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [hans](#) on Sun, 10 May 2009 17:56:19 GMT
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Hi,
I think

```
template <class T>
void Vector<T>::InsertPick(int i, pick_ T& x)
{
    if(!count) return;
    ASSERT(&x < vector || &x > vector + items);
    RawInsert(q, count);
    ::new(vector[q]) T(x);
}
```

is wrong, should be:

```
template <class T>
void Vector<T>::InsertPick(int q, pick_ T& x)
{
    ASSERT(&x < vector || &x > vector + items);
    RawInsert(q, 1);
    ::new(vector[q]) T(x);
}
```

Thanks, Hans.

Subject: Re: Proposal: add Vector::InsertPick(int i, pick_ T&)
Posted by [mirek](#) on Sun, 10 May 2009 21:11:23 GMT

hans wrote on Sun, 10 May 2009 13:56Hi,
I think

```
template <class T>
void Vector<T>::InsertPick(int i, pick_ T& x)
{
    if(!count) return;
    ASSERT(&x < vector || &x > vector + items);
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template <class T>
void Vector<T>::InsertPick(int q, pick_ T& x)
{
    ASSERT(&x < vector || &x > vector + items);
    RawInsert(q, 1);
    ::new(vector[q]) T(x);
}
```

Thanks, Hans.

Thank you, you are right, of course.

Mirek
