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Subject: Heap-leaks and polymorphic containers  
Posted by [mrjt](#) on Mon, 12 May 2008 15:41:09 GMT  
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It is my understanding that the following code should execute without any memory leaks:

```
struct Item {
    String name;
};

struct Collection : public Item
{
    Array<Item> items;
};

GUI_APP_MAIN
{
    // Example 1
    Array<Item> array;
    array.Create<Collection>().items.Add();

    // Example 2
    Collection *col = new Collection();
    col->items.Add();
    Item *item = (Item *)col;
    delete item;
}
```

But for some reason the destructor for 'items' isn't getting called. Adding a virtual destructor to force clearance just causes a crash in MemoryFreeDebug.

Is something broken or am I just missing something obvious?

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Subject: Re: Heap-leaks and polymorphic containers  
Posted by [mirek](#) on Mon, 12 May 2008 17:05:28 GMT  
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mrjt wrote on Mon, 12 May 2008 11:41 It is my understanding that the following code should execute without any memory leaks:

```
struct Item {
    String name;
};

struct Collection : public Item
{
    Array<Item> items;
};

GUI_APP_MAIN
```

```

{
    // Example 1
    Array<Item> array;
    array.Create<Collection>().items.Add();

    // Example 2
    Collection *col = new Collection();
    col->items.Add();
    Item *item = (Item *)col;
    delete item;
}

```

But for some reason the destructor for 'items' isn't getting called. Adding a virtual destructor to force clearance just causes a crash in MemoryFreeDebug.

Is something broken or am I just missing something obvious?

Well, virtual destructor is absolutely required here.

The crash in MemoryFreeDebug... well, who knows, I would say it has another reason.

Mirek

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Subject: Re: Heap-leaks and polymorphic containers  
 Posted by [mrjt](#) on Tue, 13 May 2008 13:46:55 GMT  
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luzr wrote on Mon, 12 May 2008 18:05 Well, virtual destructor is absolutely required here. Hmm. I understand why this works (the implicit destructor isn't virtual):

```

struct Item : public Moveable<Item> {
    String name;

```

```

    virtual ~Item() { }
};

```

```

struct Collection : public Item
{
    Array<Item> items;
};

```

GUI\_APP\_MAIN

```

{
    Collection *col = new Collection();
    col->items.Add();
    Item *item = (Item *)col;
    delete item;
}

```

But what baffles me is why this works with Vector, but not Array (the Array's destructor doesn't get

```
called but the Vector one does).
struct Item : public Moveable<Item> {
    String name;
};

struct Collection : public Item
{
    Vector<Item> items; // Heap leak if changed to Array
};

GUI_APP_MAIN
{
    Collection *col = new Collection();
    col->items.Add();
    Item *item = (Item *)col;
    delete item;
}
```

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Subject: Re: Heap-leaks and polymorphic containers  
Posted by [mirek](#) on Tue, 13 May 2008 14:00:21 GMT  
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Arrrrgh, a bug in leak detector...

Vector is using "MemoryAllocSz" variant, which is not implement with leak checking.

Mirek

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Subject: Re: Heap-leaks and polymorphic containers  
Posted by [mrjt](#) on Tue, 13 May 2008 14:02:27 GMT  
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Thank god! I was beginning to think I was delusional

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Subject: Re: Heap-leaks and polymorphic containers  
Posted by [mdelfede](#) on Tue, 13 May 2008 21:39:17 GMT  
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luzr wrote on Tue, 13 May 2008 16:00Arrrrgh, a bug in leak detector...

Vector is using "MemoryAllocSz" variant, which is not implement with leak checking.

Mirek

That one drove me crazy when I was looking for memory violation bug !

Max

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Subject: Re: Heap-leaks and polymorphic containers  
Posted by [mirek](#) on Wed, 14 May 2008 06:30:06 GMT  
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mdelfede wrote on Tue, 13 May 2008 17:39luzr wrote on Tue, 13 May 2008 16:00Arrrgh, a bug in leak detector...

Vector is using "MemoryAllocSz" variant, which is not implement with leak checking.

Mirek

That one drove me crazy when I was looking for memory violation bug !

Max

Yeah, a time to fix this.

Mirek

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