Flusspferd - Feature # 165: Reconsider root<T> API

Status:	New	**Priority:**	Normal
Author:	Ash Berlin	**Category:**	C++-API
Created:	11/16/2009	**Assigned to:**	
Updated:	03/05/2010	**Due date:**	
Subject:	Reconsider root<T> API		

Description:

So the changes that Aristid landed as part of #147 seemed to cause compilation problems on OSX - related to a probably bug in Apple's build of GCC. Ignoring the fact that there is a bug in that gcc, the problem was that roots are not currently copyable.

From an API user point of view, it would make a lot more sense if you could copy root objects. As they currently stand they are too expensive to copy.

h2. Idea 1

One solution would be to make them much cheaper copy - probably by making them behave like pointers (i.e. have @operator ->()@ and @operator *()@ methods.)

Currently, since @root< object >@ inherits @object@ you can do:

<pre>
root_object obj(...);
obj.set_property(...);
</pre>

Under the this idea, it would change to @obj->set_property@. If we go with this route, we should probably change the class name to avoid confusion â€“ Perhaps to @handle@. Yes this is what v8 uses, its not entirely unintentional. -- in v8 @Handle<>@ is the base class shared by @Persistent<>@ (which is what we are talking about here), and @Local<>@ which is tied to a @HandleScope object@ â€“ which is similar but not quite the same as our @local_root_scope@ (HandleScope protects all local handles created while it is alive, where as our local_root_scope only protects newly created values.)

Anyway - the v8 handle API:

<pre>
Point* p = ...;
Local<Object> obj = point_templ->NewInstance();
obj->SetInternalField(0, External::New(p));
</pre>

h2. Idea2

The other idea is to have a shared-resource (a ref counter or similar) in the root object, and only remove the root when the last @root<>@ goes out of scope. Copying an @object@ or similar shouldn't be too expensive, and the root object will share the underlying @JSObject*@ or @jsval@.

The first idea might be a better idea as it might make adding a v8 engine easier.

History

11/16/2009 09:15 PM - Aristid Breitkreuz

Idea 2 would not work because each copy has a different gcptr.

But generally I like this, because it would make a lot of things easier.

11/16/2009 09:45 PM - Aristid Breitkreuz

- Category set to C++-API

- Target version set to 0.9

If we can, we should do this API-breaking thing in 0.9.

12/11/2009 12:42 AM - Aristid Breitkreuz

- Target version changed from 0.9 to 0.10