



OBJECTS HISTORY

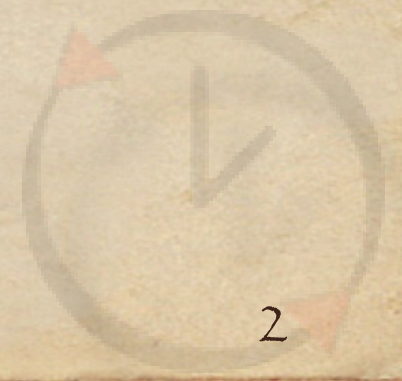
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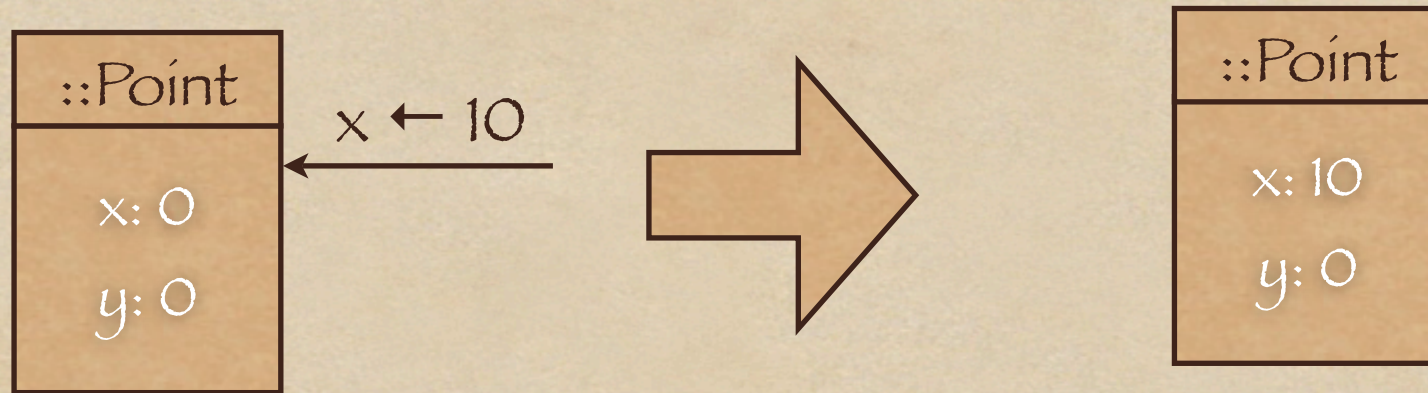
For ESUG'06 - At Prague

What is Objects History ?

- ◆ Object-Oriented Model
to save history (each state)
of live objects
efficiently

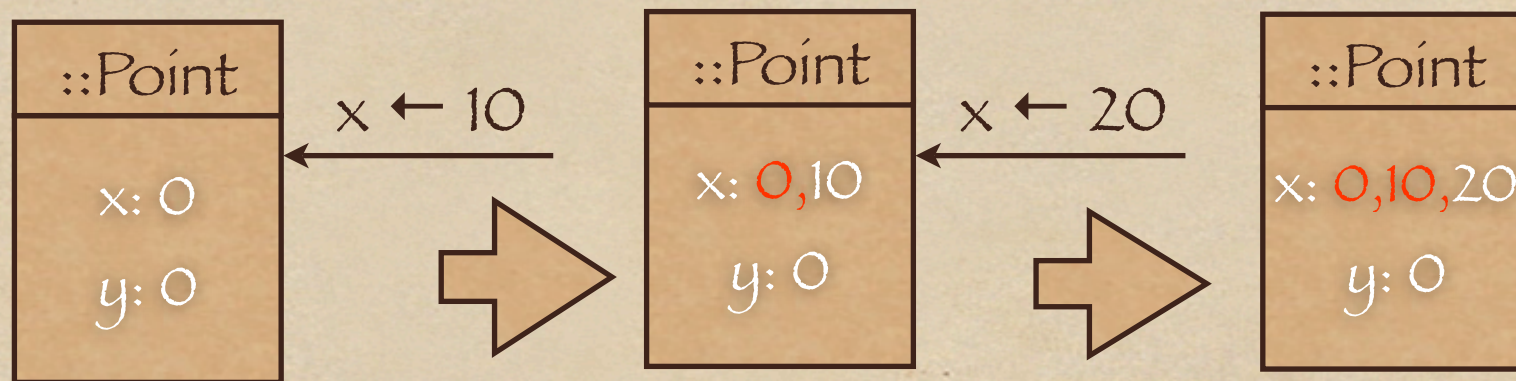


Example : Without Objects History



Old values of attributes
are lost !

Example : With Objects History



Possible questions to the *system*

- ◆ What are all states of this object ? What are all values of x ?
- ◆ What are the values of x when y equals 10 ?
- ◆ What is the state of this object at time t ?

(t can be any time)

Applications (1/3)

- ◆ Classical applications
 - ◆ CVS, SVN, ...
 - ◆ Add history to existing applications
 - ◆ Undo/Redo in Text Editor
 - ◆ SmallWiki
 - ◆ ...

Applications (2/3)

- ◆ Adding states to execution traces
 - ◆ To be able to inspect state of objects at any given point in past
 - ◆ “Timeless breakpoints”

Applications (3/3)

- ◆ Use Objects History to allow backtrack with side-effects in Soul

```
class (?c),  
[?c compile: ?code],  
classNameMatching (?c, 'A*')
```


State of research

- ◆ Prototype for VisualWorks 7.4 and Squeak 3.9
- ◆ Prototype of a trace recorder using Objects History (VW 7.4)
- ◆ Made text editors of VW 7.4 persistent using Objects History to undo / redo

Future Work

- ◆ Optimization of Objects History
- ◆ Incorporate Objects History into existing applications
 - ◆ Collaboration with Marcus Denker
 - ◆ ByteSurgeon + Objects History =
an efficient Trace Recorder ?

Questions ?

