

The Graphical Environment Language (GEL)

... as designed and implemented by
Antony Harfield in 2007

The Graphical Environment Language

More documentation of GEL can be found here:
<http://empub.dcs.warwick.ac.uk/projects/gelHarfield2006/doc/gelguide.html>

The associated definitive notation is %angel ...

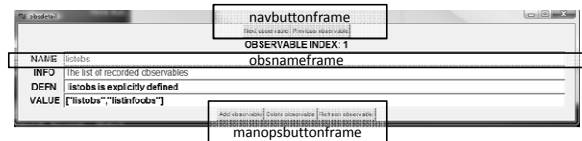
... much simpler than %scout, but exploiting a
different - less primitive - mode of observation

Simple illustration of use of %angel



symbolinfoBeynon2011

Simple illustration of use of %angel



%angel

```
obsdetail = window {
```

```
content = [manopsbuttonframe, navbuttonframe, obsindex,
obsnameframe, obsinfoframe, obsdefnframe, obsvalueframe]
```

```
};
```

Frames in %angel

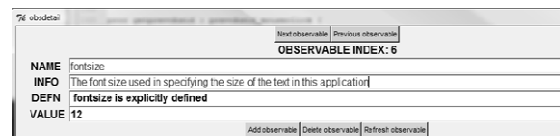
```
obsnameframe = frame {
content = [obsnamelab, obsname] };
```



```
obsnamelab = label {
text = "NAME ";
font = [fontname // " " // str(fontsize) // " bold"];
width = 6; EDEN SYNTAX FOR A STRING
side = "left" };
```

```
obsname = textbox {
text = obsid;
font = fontname // " " // str(fontsize);
foreground = "red";
width = 100;
height = 1 };
```

The application displays definitions of the Edén observables fontname & fontsize ...



More frames in %angel ...

```
manopbuttonframe = frame {
  content = [addobsid, delobsid, refobsid];
  side = "bottom" };

addobsid = button {
  text = "Add observable";
  font = fontname // " " // str(2*fontsize/3);
  background = "lightgreen";
  side = "left" };
```



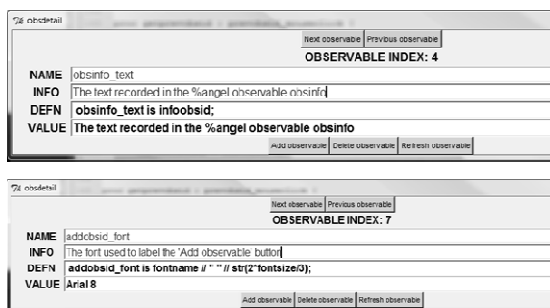
Mouse button actions for %angel

```
%eden
proc addnewobs : addobsid_mouseclick {
  if (addobsid_mouseclick==1) {
    listobs = listobs // [obsname_text];
    listinfoobs = listinfoobs // [obsinfo_text];
  }
  currentindex = listobs#-1
  obsname_text is obsid;
  obsinfo_text is infoobsid;
};
```

COMPARE %angel SYNTAX

```
%angel
obsname = textbox {
  text = obsid;
  ... };
```

The application can display the Eden definitions of its %angel observables ...



Comparing Angel and Scout

- Angel and Scout exploit different metaphors
- Can't prescribe state as precisely using %angel as you can in %scout – yet it is “higher-level”
- Can put Scout windows inside GEL – see the manual
- Angel is good for framing environments in which to express and orchestrate agency