

User Interface Protocol

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Aims

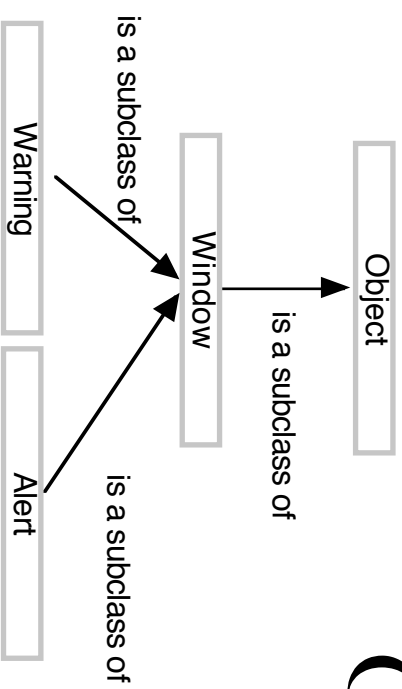
- To build a system that makes cross-platform User Interface development a whole lot easier.
- To build a system that can tailor the User Interface to a specific user's needs without additional work by the programmer

What The Project Involved

- Design of a Language to describe User Interface elements
- A portable Object-Oriented Runtime environment
- An easy way to port the system to either OO or non-OO
- A good deal of patience, thought and caffeine* .

*Or, if you choose to believe Metrowerks - "Blood, Sweat and Code"

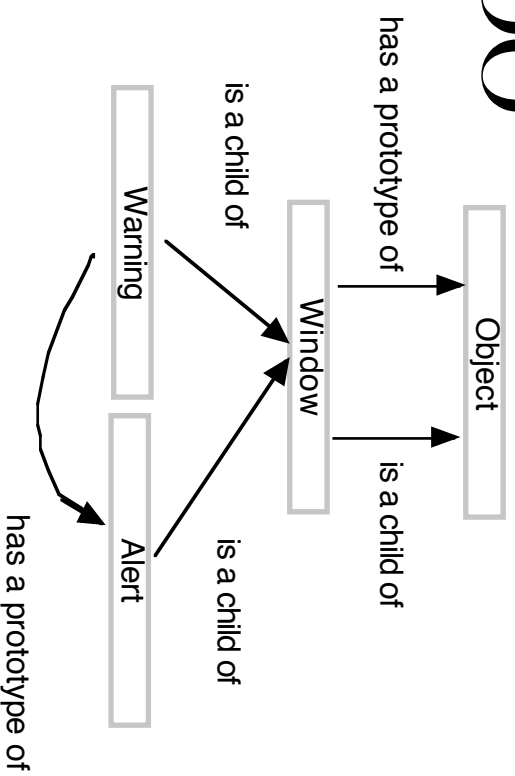
Class Based OO



Warning and Alert are very similar.

To keep this structure, they must be implemented separately

Prototype Based OO



but with prototypes, just say that Alert is Warning's prototype, and we have a relationship that keeps our tree!

A Simple Syntax for creating a UI

```
[object:Window]:Warning  
  {  
    proto = [object:Window:Alert];  
  };
```

```
//And for displaying a warning, we simply send a show  
//message
```

```
[object:Window:Warning].show(text = "Hello World!");
```

Status of the Language Parser

Supremely Microsofted.

i.e. it doesn't work properly.

Mainly due to issues with flex/bison and MacOS X.

Still hoping to make progress, but wasn't highest priority.

Status of the Runtime Environment

Relatively bug free

i.e. it does work properly, mostly.

We can create objects, traverse the object tree and send messages.

With more sophisticated trees and message sending, it may fall apart more spectacularly than NT4.

Status of the Demo App

Carbonised MacOS X Application
(should Also run under MacOS <= 9)

Creates

- object
- object:Window
- object:Window:Alert
- object:Window:Warning (with prototype of
object:Window:Alert)

sends a show message to

Object:Window:Warning with text =
“Hello World!”

So How Big is it? (minus the parser)

```
[localhost:~/Documents/ui/macui] stewart% wc -l *.c *.h
 80 List.c
 75 MacOS.c
171 Object.c
 36 main.c
 47 objectmain.c
 17 List.h
 19 MacOS.h
 46 Object.h
  0 UIHost.h
491 total
```