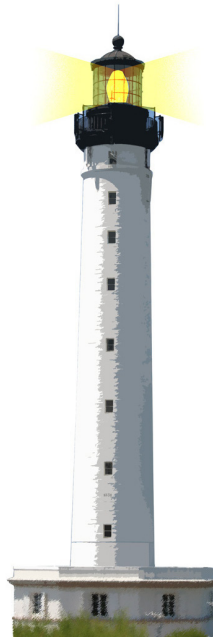


About Registration

When class method-based registration is too much

S. Ducasse



Goal

- Thinking about system dynamics
- Alternatives to class methods as registration mechanism
- Impact of dynamic registration



Using class methods as registration

- Class is a real object
- We can send a message to a class
- Each class can answer specifically

```
Object allSubclasses collect: [ :each | each foo ]
```

Each class will be able

- to define its own `foo` method and
- to reuse the one of its superclass



Remember the previous lectures

```
PillarParser >> documentClasses  
  ^ DocumentItem allSubclasses  
  sorted: [ :class1 :class2 | class1 priority < class2 priority ]
```

```
PillarParser >> parse: line  
  self documentClasses  
    detect: [ :subclass |  
      (subclass canParse: line)  
        ifTrue: [ ^ subclass newFromLine: line ] ]
```



Registration for 'Free'

Pros:

- Each time a new class is loaded it is taken into account

Cons:

- We do it **all the time for nothing**
- We are querying the system for nothing!
- It is expensive



Solution 1: Explicit static list

```
PillarParser >> documentClasses  
^ { Section . List . Paragraph }  
  sorted: [ :class1 :class2 | class1 priority < class2 priority ]
```

Statically sorting the list

In fact we could precompute priority too

```
PillarParser >> documentClasses  
  ^ { Section . Paragraph . List }
```

Pros:

- Do not have to query all the classes all the time

Cons:

- You have to keep it up to date
- Watch out because we may not want to list explicitly class to avoid dependencies to other packages



Solution 2: Explicit registration mechanism

E.g., classes can explicit register to the parser

```
Section class >> initialize  
PillarParser registerClass: self
```

```
List class >> initialize  
PillarParser registerClass: self
```

```
PillarParser >> documentClasses  
^ RegisteredClasses
```

- No need to maintain the list manually
- Dynamic but do not force to query the system all the time



A registration mechanism supports extension

```
Extra class >> initialize  
PillarParser registerClass: self
```

- External classes can also register
- Without introducing unwanted dependency
- Without scanning all the classes of the system

Unregistration

With explicit registration, the unregistration can be also a concern.

- The registration holder (here `PillarParser`) should offer way to retract a registration
- Registered classes have the responsibility to unregister themselves.



Conclusion

- XXX subclasses is a cool pattern
- But it has a cost!
- Better use an explicit registration
 - it is dynamic but does not query for nothing
- Design is about tradeoffs



A course by

S. Ducasse, L. Fabresse, G. Polito, and Pablo Tesone



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