

University of
Kent

The Open Telecom Platform

Libraries

Protocols, web server, distribution, ...

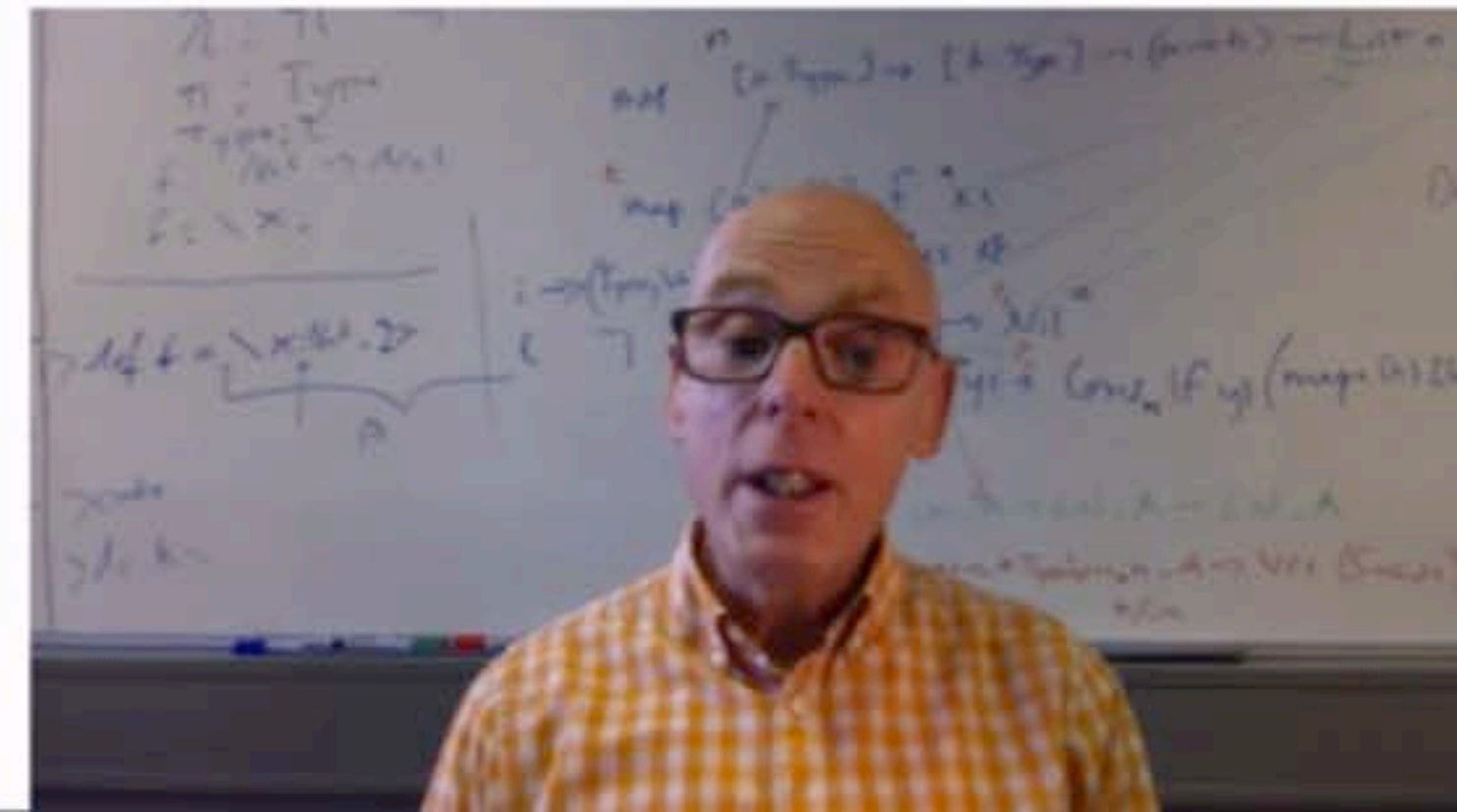
Design patterns

Server, finite state machine, event handler, supervisor, ...

Generic behaviours

Implement the design patterns ...

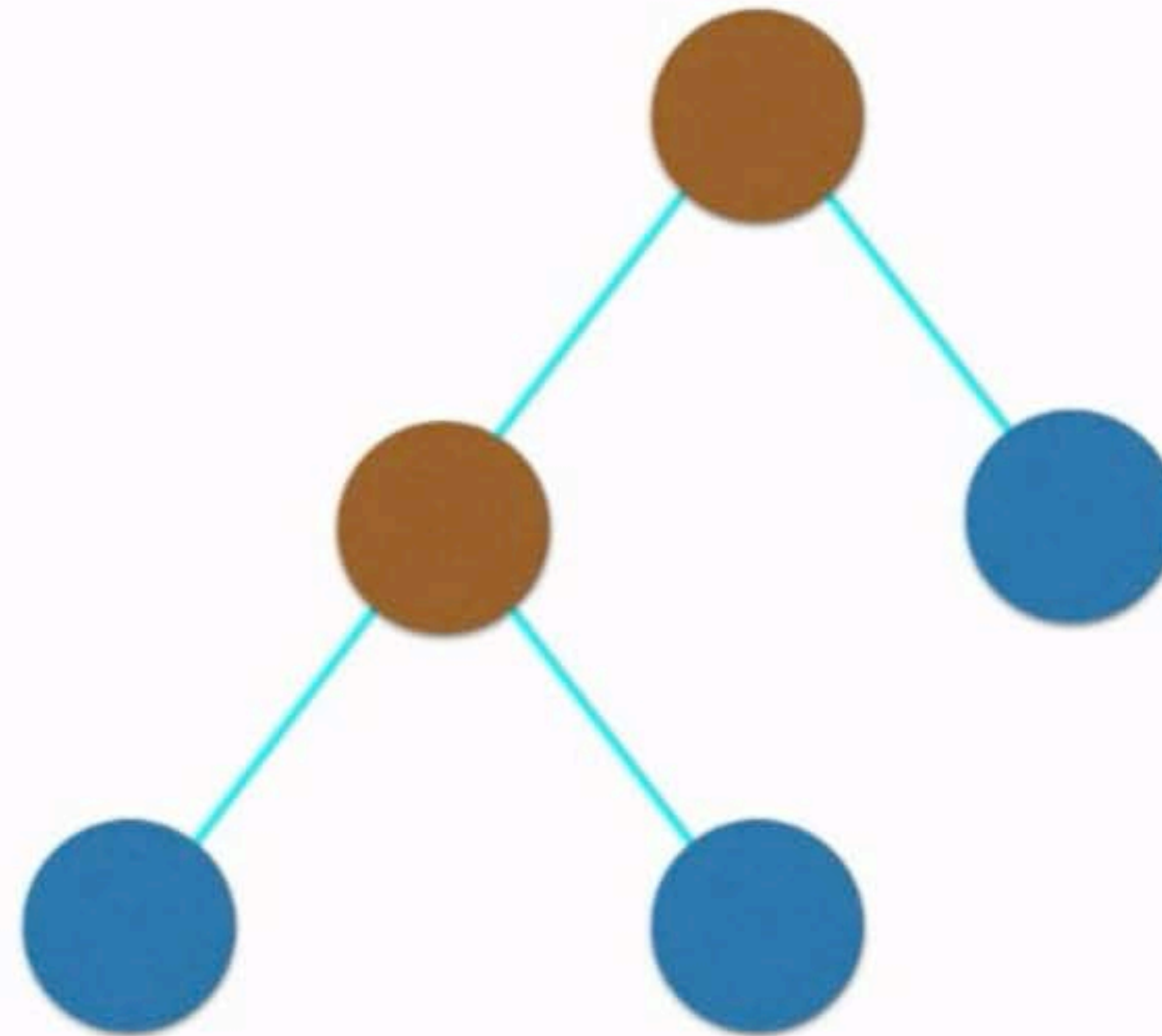
... all you need to do is plug in your specific functionality.



Supervisors

Generic

- Spawning the supervisor
- Starting the children
- Monitoring the children
- Restarting the children
- Stopping the supervisor
- Cleaning up



Specific

- Which children to start
- Specific child handling
- Start, Restart, ...
- Child dependencies
- Supervisor name
- Supervisor behaviours

Behaviours

Higher-order functions: pass functions as parameters, e.g.

```
map(F,[]) -> [];
map(F,[X|Xs]) -> [F(X)|map(F,Xs)].
```

A `behaviour` does the same thing at the module level.

Supply an implementation module for the `callback` interface to use it.

```
-module(set).
-export([behaviour_info/1]).
-export([insert/3,nil/1]).
```

```
behaviour_info(callbacks) ->
    [ {lt,2}, {eq,2} ... ]; ...
```

```
insert(Mod,X,[Y|Ys]) ->
    case Mod:lt(X,Y) of ...
```

```
nil(_Mod) -> [].
```

```
-module(nums).
-behaviour(set).
-export([lt/2,eq/2,]).
-export([insert/2,nil/0]).
```

```
lt(A,B) -> A<B.
```

```
eq(A,B) -> A==B.
```

```
insert(A,As) -> set:insert(?MODULE,A,As).
nil() -> set:nil(?MODULE).
```


Rely/guarantee contract

A `behaviour` relies on someone providing an implementation of the callback functions `lt` and `eq` ...

... given these, it will supply implementations of `set` functions, namely `insert` and `nil`.

```
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-export([behaviour_info/1]).  
-export([insert/3,nil/1]).
```

```
behaviour_info(callbacks) ->  
    [ {lt,2}, {eq,2} ... ]; ...
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insert(Mod,X,[Y|Ys]) ->  
    case Mod:lt(X,Y) of ...
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nil(_Mod) -> [].
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```
-module(nums).  
-behaviour(set).  
-export([lt/2,eq/2,]).  
-export([insert/2,nil/0]).
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```
lt(A,B) -> A<B.
```

```
eq(A,B) -> A==B.
```

```
insert(A,As) -> set:insert(?MODULE,A,As).  
nil()        -> set:nil(?MODULE).
```

The logo of the University of Kent is centered on a white background. It features the words "University of" in a smaller, blue, sans-serif font, positioned above the word "Kent" in a larger, bold, blue, serif font. The entire logo is set against a light gray rectangular background.

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