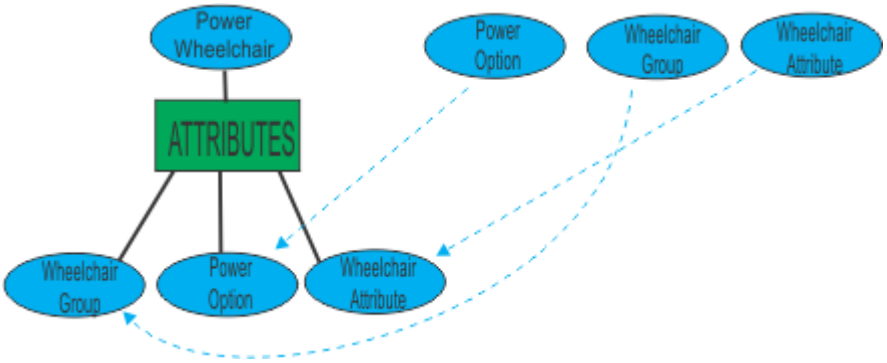
Code Parsing

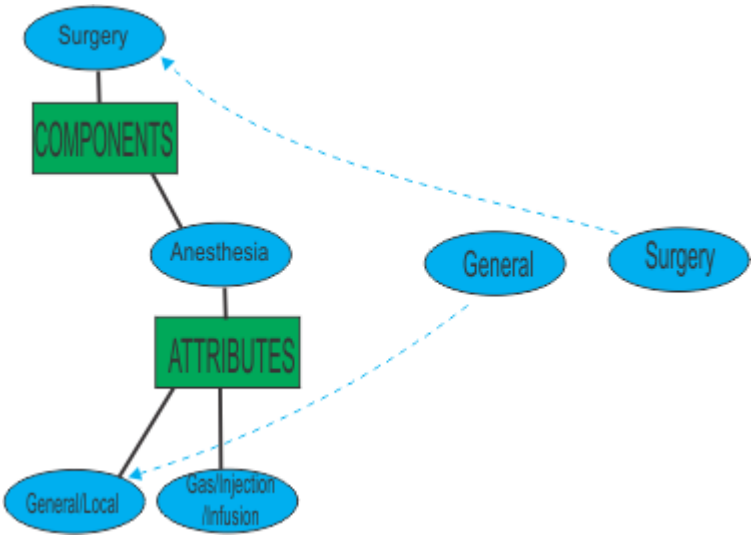
We have codes with staccato grammar. An object is named, and then its attributes are scattered, in no particular order, to its right. We can build many grammar patterns initially, and scramble to catch up when a new attribute is introduced, or we can make objects “grabby”, so that only the new attribute needs to be added to the appropriate object. What does grabby mean?



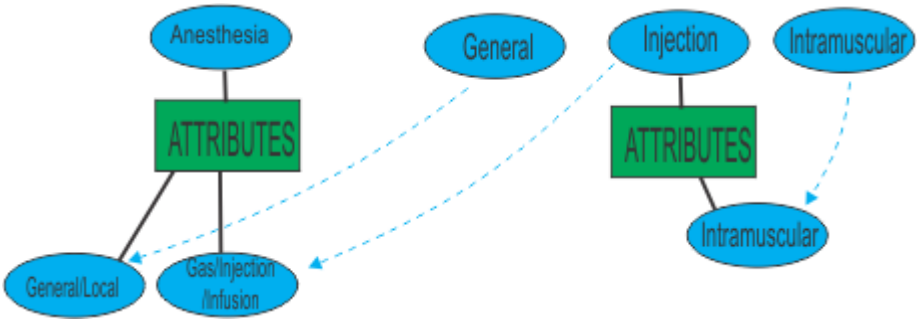
The objects on the right are linked to objects linked to the head object.

They need not be attributes –

Anesthesia for surgery



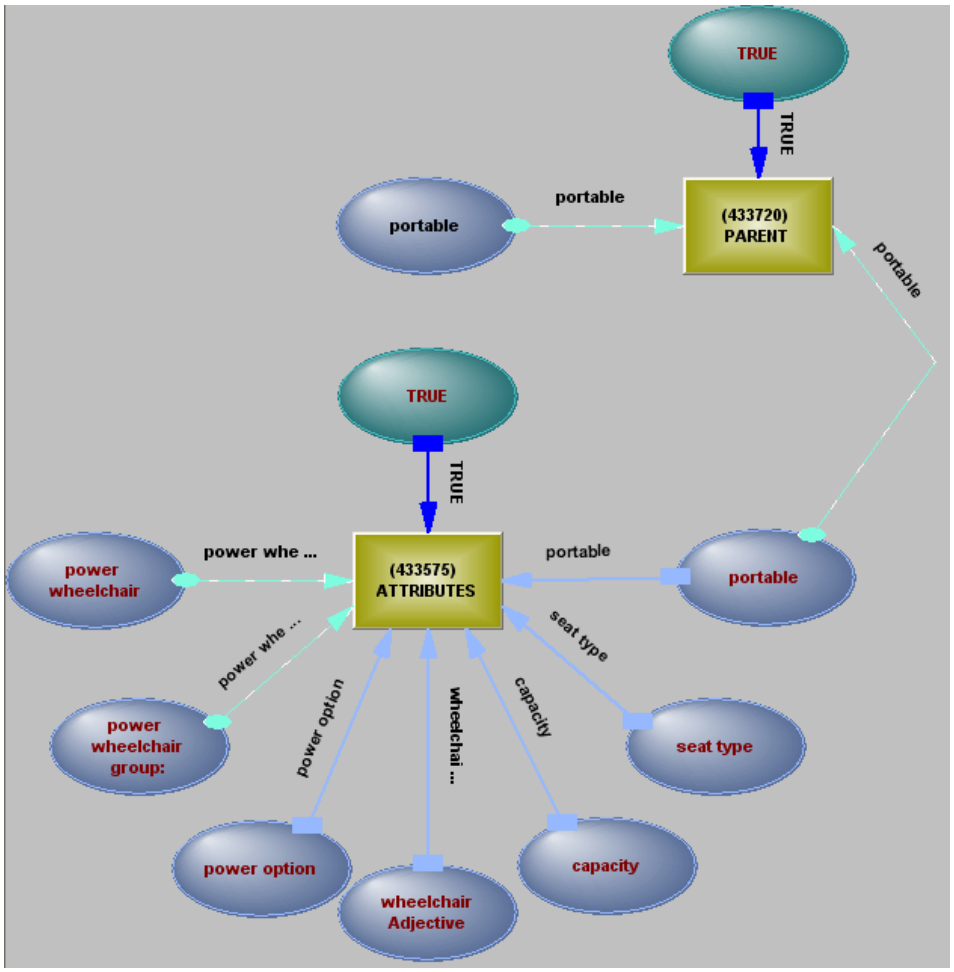
It need not operate at one level –there can be grabbers in the chain.



The method grabs what it can, then cleans up the resulting mess of commas and semicolons – that is, double commas and comma/semicolon and semicolon/comma combinations are eliminated.

The method is only relevant for codes, where attributes follow the main object. An example:

> Power wheelchair, group 1 standard, portable, sling/solid seat and back, patient weight capacity up to and including 300 pounds



The attributes of Power Wheelchair are constant children of the real objects – portable, capacity, etc. The order is of no importance. Capacity is one level up from Patient Weight Capacity.

A similar method could be used to handle chains of prepositions, where the target of the preposition is not always clear. That is, the preposition searches for an object which would have a use for the object to its right.

> The rotor bought for $3,000 for the helicopter.

The money is for bought and the rotor is for the helicopter (he bought it for the helicopter – bought is supporting two “for”s). This allows prepositions to leap over other phrases.

Too Much Detail

Some codes go into too much detail:

E2311	Power wheelchair accessory, electronic connection between wheelchair controller and 2 or more power seating system motors, including all related electronics, indicator feature, mechanical function selection switch, and fixed mounting hardware

The “all related electronics..mounting hardware” may be useful when checking the delivery advice, but not for recognising the object linked with the code.

How can we know when we have the crux?

Can we differentiate it from other similar codes?

“Power wheelchair accessory” is not enough.

We could automatically drop the “including..” phrase, or we could do a search through other codes with the same prefix to ensure uniqueness.

This way, we would see

Power wheelchair accessory, electronic connection between wheelchair controller and one power seating system motor, including all related electronics, ..

Power wheelchair accessory, electronic connection between wheelchair controller and 2 or more power seating system motors, including all related electronics, ..

Or

Power wheelchair accessory, nonstandard seat frame width, 20-23 in

Power wheelchair accessory, nonstandard seat frame width, 24-27 in

We have to do everything, in other words.

Head control is a good example:

There are two proportional cases:

Power wheelchair accessory, head control interface, mechanical, proportional, including all related electronics, mechanical direction change switch, and fixed mounting hardware

Power wheelchair accessory, head control or extremity control interface, electronic, proportional, including all related electronics and fixed mounting hardware

One is mechanical, one is electronic.

There are two nonproportional cases:

Power wheelchair accessory, head control interface, contact switch mechanism, nonproportional, including all related electronics, mechanical stop switch, mechanical direction change switch, head array, and fixed mounting hardware

Power wheelchair accessory, head control interface, proximity switch mechanism, nonproportional, including all related electronics, mechanical stop switch, mechanical direction change switch, head array, and fixed mounting hardware

One uses contact switch mechanism, one uses proximity switch mechanism.

We can throw away stuff to the right of a differentiator. Should we keep “head array”?

We could treat “all related electronics” and “fixed mounting hardware” as meaningless boilerplate.

A, B

Codes can use the form

Object, Component

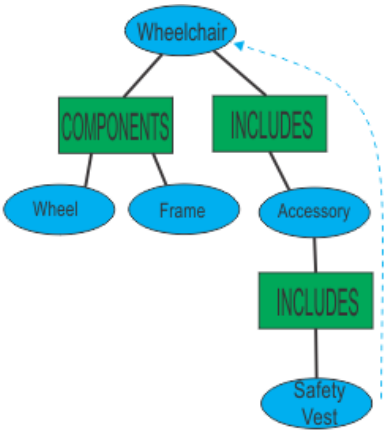
Or

Component, Object

Safety Vest, Wheelchair

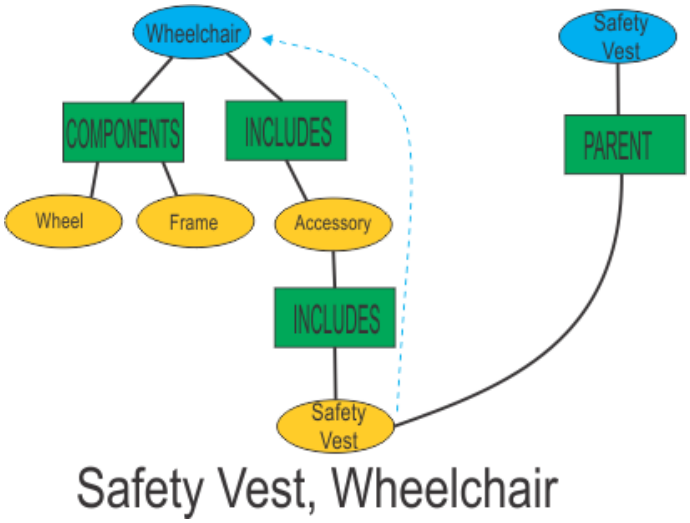
Is an example.

We can use a structure



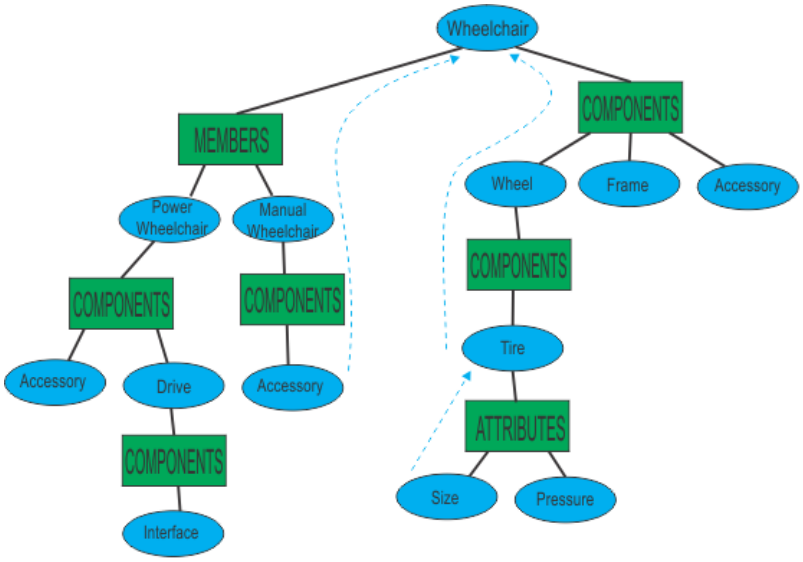
Safety Vest, Wheelchair

We should mention that the structures shown have a layer of separation from real objects, so not all safety vests are included in wheelchair accessories. That is,



Safety Vest, Wheelchair

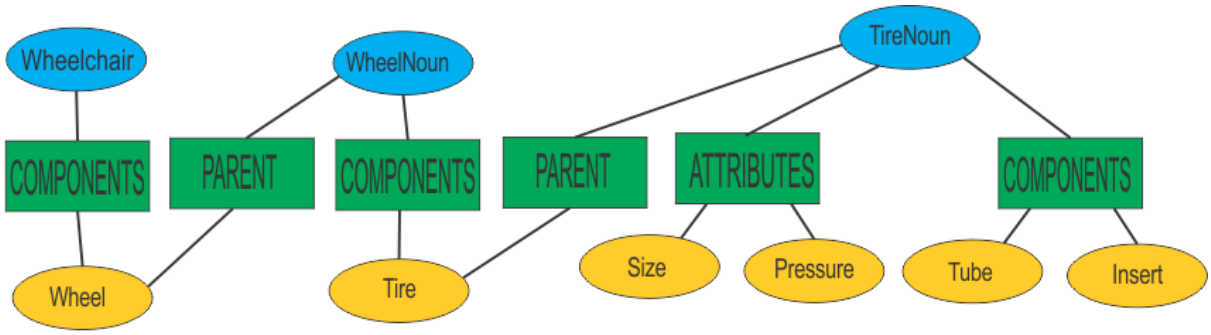
Object, Component has an example:



Manual Wheelchair Accessory, Caster Tire, Any Size

Note how “Any Size” refers to the tyre, while Caster Tyre is a component of the basic wheelchair object.

The hierarchy shown is virtual. A wheelchair has wheels, but so do a lot of other things.



Virtual Hierarchy

We will create a specialised parent searcher, which treats COMPONENTS, INCLUDES, ATTRIBUTES as all valid paths (a more general version of group parents, which includes INCLUDES), and can search through a virtual hierarchy.