Business Rules for linking Orders and Invoices

This discussion paper aims to clarify the rules to apply when linking *Order*s and *Invoice*s (or, more precisely, their corresponding *Order Item*s and *Invoice Item*s). It also tackles how changes to either *Order*s or *Invoice*s should be handled once they are have become immutable (due to accounting/reporting or treasury).

# Business Problem

The original motivation included these two related issues:

* (EST-1571) discover that the seller was incorrect on an *Order*; needs fixing
* (EST-1602) realise that an *Order* should be discarded (eg is a duplicate scan), but it has already been marked as completed/approved

This led into two sorts of discussions:

* how to make Estatio more user-friendly by defaulting information where possible when linking *Order*s and *Invoice*s together
* a deeper discussion about what additional constraints there are on whether an *Order* or an *Invoice* and its child items has become immutable.

This paper tackles the **first** of these issues.

# Terminology

"Dimensions" are a means of characterising an *Order* or an *Invoice*.

* defined at parent level, ie *Invoice* or the *Order*:
  + seller party (also called supplier)
* defined at item level *Invoice Item* or the *Order Item* :
  + property
  + charge
  + project
  + budget
  + period

The invoice *type* determines the approval cycle; it also determines which dimensions are mandatory/must be left blank.

* capex/service charge/property expense : have a two-stage approval cycle
  + capex: project is required, budget is blank
  + service charge: project is blank, budget is required
  + property expense: neither is required
* local expense : single-stage approval cycle
* corporate expense : a (different) single-stage approval cycle

# 

# Input/validation Rules

## Categorising New Invoice + Linking Immediately

given:

* already have *Order* with some or all of these dimensions on it: seller, charge, project, budget item, (period)
* and categorising a "new" *Invoice* (still modifiable):
  + (a) enter order number, and it’s valid
    - given list of *Order Item*s for that *Order*
  + (b) enter seller
    - given list of *Order Item*s of all of the *Order*s (not completely invoiced) of that seller

when:

* select item and save

then

* Estatio creates a link the *Invoice Item* to that *Order Item*
* copies over info from *Order* to *Invoice* based on the type of the *Invoice*:
  + specifically, the seller
* copies over info from *Order Item* to *Invoice Item* based on the type of the *Invoice*:
  + if invoice is **capex**
    - copies over charge, project (and property? - at the moment it does when using the viewmodel …​)
    - ignores budget item, period
  + if invoice is **service charge**
    - copies over: charge, budget item (and property? - at the moment it does when using the viewmodel …​)
    - ignores budget item, period
  + if invoice is **property expense**
    - copies over: charge (and property? - at the moment it does when using the viewmodel …​)
    - ignores project, budget item, period

**Note**

QN: What if some dimensions have been added to the *InvoiceItem* already?

* do we ignore them and just overwrite?
* or, do not allow it to be overwritten, and instead use it to constrain the list of candidate *Order item*s?
  + if this last, then if enter just an *Order Item* and it’s incompatible with data already entered on the *Invoice Item*, then what?

## Linking Invoice Items "afterwards"

given:

* *Invoice Item* to be linked that currently has no links, but has dimensions entered onto it
* then:

**Note**

QN:

do we use those dimensions as a way of excluding those *Order Item*s that do not meet those dimensions?

or, do we just ignore any dimensions already entered on the *Invoice Item*, and show all (not completed invoiced) *Order Item*s; and overwrite dimensions from *Order Item* onto *Invoice Item*?

or, do we show all (not completed invoiced) *Order Item*s but not allow an *Order Item* to be selected that has mismatched dimensions? [This is what we currently do]

or, perhaps a half-way house? show candidate items, including those that mismatch on the dimensions, but allow those selected to be copied if requested (eg an "overwrite" flag or flags)

## Linking Invoice Items "afterwards", unmodifiable Invoice

given:

* *Invoice Item* to be linked that currently is linked to another *Order Item*, and want to link to further *Order Item*(s)
* eg, if the invoice had to be paid to the suppliers before orders for the invoice existed (so this is a post-payment fixing up the accruals of costs)
* **Note**
* QNs
* My guess is that the selected *Order Item* must have compatible dimensions with the *Invoice Item*'s dimensions, because those dimensions are fixed by the existing link to some other *Order Item*?