Documentation Pandora ERP system.

9. Management support.

Tables:

magazijnvoorraad (stock)

```
bisystem=# \d magazijnvoorraad
                        Table "public.magazijnvoorraad"
  Column   |         Type          | Collation | Nullable |        Default
-----------+-----------------------+-----------+----------+-----------------------
 jaarmaand | character varying(7) |           | not null | ''::character varying
 incourant | double precision     |           |          | 0
 totaal    | double precision     |           |          | 0
 courant   | double precision     |           |          | 0
Indexes:
    "magazijnvoorraad_pkey" PRIMARY KEY, btree (jaarmaand)
```

With executing the program, the thirst module Pandora.py is started.
In this module some maintenance tasks are checked before the logon window is showed.
The main purpose off these checks are to determine of calculations should be made for:
Total stock, current stock and obsolete stock.
Obsolete stock is determined on transaction date (boekdatum) older than a year in table artikelen.
Necessarily this period can be shortened for instance in a half year or 3 quarters of a year.
To do so apply a program change in Pandora.py.
These calculations are made monthly on the begin of every month.
The next calculations have to been made once when a year has started.
For this purpose, the table artikelen includes two fields jaarverbruik_1 and jaarverbruik_2.
(annual consumption)
The jaarverbruik fields of the year before last year is cleared, so it's ready for calculations for the new year.
The module determines an odd or even year and the parameter 3 annual consumption from table params_system is set (0-even, 1- odd), when calculations are made, so it's only executed once.
Furthermore the table artikelen fields art_min_voorraad (minimum stock) and art_bestelgrootte (article order size) are determined for all items using annual consumption, price, order costs (table params_finance 8) and warehouse_margin (table params_finance 6), both determined by minimum stock and by reservation.
When an article switches from category the figures are present.
These items are determined by the formula of Camp.
Camp formula: Q = √2DF/HP

Q = Quantity

- D = Demand / year
- F = Fixed Costs (order costs conversion costs)
- H = Stock costs as a percentage of the price
- P = Price of the product

With the figures of the table magazijnvoorraad (warehouse-stock) a floating bar graph is executed, so the management gets insight view of financial stock figures.
With the menu Magazijn line derving (warehouse-loss), it is possible to write of the product as loss. Furthermore the items can be amortize as expenses by damage, shelf life or warehouse differences.

It is possible for the management to influence stock by changing the order- and inventory cost. (Handling, storage costs, warehouse- and interest loss).
Adjustment in params_finance 6 and 8 in Menu Accounting line 8. Parameters Finance.

One can choose instead of year stock, half year stock, quarter year stock or even monthly to apply. But this requires adjustment of the program modules and tables. But is possible for fine tuning.

Resultaten

```
bisystem=# \d resultaten
                          Table "public.resultaten"
     Column      |         Type          | Collation | Nullable |        Default
-----------------+-----------------------+-----------+----------+-----------------------
 resID           | integer               |           | not null |
 statusweek      | character(6)          |           |          | ''::bpchar
 blonen          | double precision      |           |          | 0
 wlonen          | double precision      |           |          | 0
 bmaterialen     | double precision      |           |          | 0
 wmaterialen     | double precision      |           |          | 0
 bmaterieel      | double precision      |           |          | 0
 wmaterieel      | double precision      |           |          | 0
 binhuur         | double precision      |           |          | 0
 winhuur         | double precision      |           |          | 0
 bprojectkosten  | double precision      |           |          | 0
 wprojectkosten  | double precision      |           |          | 0
 btotaal         | double precision      |           |          | 0
 wtotaal         | double precision      |           |          | 0
 bdiensten       | double precision      |           |          | 0
 wdiensten       | double precision      |           |          | 0
 betaald_bedrag  | double precision      |           |          | 0
 meerminderwerk  | double precision      |           |          | 0
 boekweek        | character varying(6)  |           |          | ''::character varying
 onderhandenwerk | double precision      |           |          | 0
 aanneemsom      | double precision      |           |          | 0
 bruto_winst     | double precision      |           |          | 0
Indexes:
    "resultaten_resID_pkey" PRIMARY KEY, btree ("resID")
```

Artikelen:

The field reserveringsaldo (reservation balance) is added by the approved calculation items, and deducted if the products are delivered.

The field bestelsaldo (ordering balance) is added by the supplier orders if ordered (bestelstatus (order status) - is unset so ordering is not possible) and deducted if the products become stock. After delivery and approval the bestelstatus is set so ordering is possible if stock allows it.

From the transactions in + or – the values of the products are counted and added in the fields of werken budget of costs. Budgets from orders and calculations and costs from transactions.

Lonen:
The working hours from the budget comes from the calculations and the hour transactions are added in the werken table from the employees. The working rates are determined by table params_hours field overhead-factor. This factor is determined by overhead on wages machinecosts, indirect costs, housing, transportation and so on.
This is not further elaborated in the program. (could be extended in accounting).

With this calculations a capacity planning for employees could be made.

Diensten:

The services (hire external activities, material, housing, earth works and so on) budget are added from the calculations, and the costs are added from the invoices of the sub-contractors.

By the transaction of all these items calculations are made of total costs of the work.

For staging the works are split in next financial stages.

A. Work in preparation (calculation, order)

B. First costs are made.

C. Costs reached 33% of budget.

D. Costs reached 50% of budget

E. Costs reached 75% of budget

F. Costs reached 90% of budget.

G. Costs reached 100% of budget and more/less work is approved.

H. Work is totally ready and paid by customer.

In our system the following payments are agreed with the customer.

C. 1st Payment of 33%

E. 2nd Payment of 33%

F. 3th Payment of 20%

G. 4th Payment of 14% + more/less work

If the work is initiated the year and weeknumber yyyyww is stored and also the staging (A).

By every next staging the year and weeknumber is changed and the staging (B-H) is stored.

By making calculations every week the course of these changings with their value changes are recorded in table resultaten. With the recording week and the staging change week and the changing in value calculations, the financial graphs are exploded.

Some prognosis values are from table params_graphs revenues id 10 and profit id 8.

Futhermore values are counted per status in values and numbers .(see resultaten-status)

resultaten_status

```
bisystem=# \d resultaten_status
                          Table "public.resultaten_status"
     Column     |         Type          | Collation | Nullable |        Default
----------------+-----------------------+-----------+----------+-----------------------
 rID            | integer               |           | not null |
 status         | character varying(1)  |           |          | 'A'::character varying
 aanneemsom     | double precision      |           |          | 0
 kosten         | double precision      |           |          | 0
 boekweek       | character varying(6)  |           |          | ''::character varying
 aantal         | integer               |           |          | 0
 betaald        | double precision      |           |          | 0
 meerminderwerk | double precision      |           |          | 0
Indexes:
    "resultaten_status_pkey" PRIMARY KEY, btree ("rID")
```

With these financial graphs it is possible for the management to adjust the work, by hiring more or less employees, or hiring sub-contractors and so on.

It would be possible to extend these stagings for more steps in financial control.

But this requires adjustment of the program modules and tables.