Documentation Pandora ERP system.

2. Accounts and access control.

Description operation accounts table.
Accounts:

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-----------------+--------------------------+-----------+---------+------------------------------
accountID        | integer                  |           | not null |
aanhef           | character varying(8)     |           |          | ''::character varying
voornaam         | character varying(30)    |           |          | ''::character varying
tussenvoegsel    | character varying(10)    |           |          | ''::character varying
achternaam       | character varying(50)    |           |          | ''::character varying
postcode         | character varying(6)     |           |          | ''::character varying
huisnummer       | character varying(5)     |           |          |
telnr            | character varying(10)    |           |          |
toevoeging       | character varying(8)     |           |          | ''::character varying
email            | character varying(255)   |           |          |
password         | character varying(255)   |           |          |
account_created  | character varying(10)    |           |          |
account_count    | integer                  |           |          |
geboortedatum    | character varying(10)    |           |          |
p1               | character varying(8)     |           |          | 10111100
p2               | character varying(8)     |           |          | '00000000'::character varying
p3               | character varying(8)     |           |          | '00000000'::character varying
p4               | character varying(8)     |           |          | '00000000'::character varying
p5               | character varying(8)     |           |          | '00000000'::character varying
p6               | character varying(8)     |           |          | '00000000'::character varying
p7               | character varying(8)     |           |          | '00000000'::character varying
p8               | character varying(8)     |           |          | '00000000'::character varying
p9               | character varying(8)     |           |          | '00000000'::character varying
p10              | character varying(8)     |           |          | '00000000'::character varying
p11              | character varying(8)     |           |          | '00000000'::character varying
p12              | character varying(8)     |           |          | '00000000'::character varying
p13              | character varying(8)     |           |          | '00000000'::character varying
p14              | character varying(8)     |           |          | '00000000'::character varying
p15              | character varying(8)     |           |          | '00000000'::character varying
p16              | character varying(8)     |           |          | '00000000'::character varying
Indexes:
    "accounts_pkey" PRIMARY KEY, btree ("accountID")
Referenced by:
    TABLE "loonbetalingen" CONSTRAINT "account.accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
    TABLE "lev_accounts" CONSTRAINT "accounts_accountID" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
    TABLE "klanten" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
    TABLE "werknemers" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
    TABLE "koper_accounts" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
```

Above a screenshot of the table with its connections.
We will explain the fields accountID, email, password, postcode, huisnummer, account_created, account_count, geboortedatum, and the fields p1 – p16. The rest will be known.

accountID: The primary key of the table and also one possibility to logon. It's also possible to logon with the email adress. The accountID is an 11 check weight number, which begins with a 1 and is 9 positions, the last position is check number.
Email: second possibility to logon.
Password: The password is sha256 encrypted with a random public key (salt) and private key password of the user. The password must be at least 8 positions. It would be a small effort to extend this with for instance 2 numbers or special signs and so on.
The postcode and huisnummer is used by the module postcode and the tables postcodes, straat en plaats.
With the postcode 4 numbers and 2 capital letters and the house number the street and residence are looked up. It's the Dutch postcode table.
Account_created: the date the account is created. The format is yyyy-mm-dd
Account_count: number of times the account logon the system.
Geboortedatum: date of birth. Format yyyy-mm-dd
The fields p1 – p16 serve to give entrance to certain menus or submenus.
The data consists of 8 positions of zeros or ones.
The thirst position stand for access to mainmenu. 0 = no access, 1 = access.
The mainmenu is disabled for the user if it's 0.
The menuitems are:
p1 up to and including p16:

The indexes 0 for the menus are:

p1[0]-accounts, p2[0]-leveranciers (suppliers), p3[0]-werknemers (employees), p4[0]-inkoop (purchase), p5[0]-verkoop (sales), p6[0]-magazijn (warehouse), p7[0]-werken intern (works internally), p8[0]-werken extern (works externally), p9[0]-calculatie interne werken (calculation works internally), p10[0]-calculatie externe werken (calculation works externally), p11[0]-loonadministratie (payrol administration), p12[0]-boekhouding (accountancy), p13[0]-voorraadmanagement (inventory management), p14[0]-management informatie (management information), p15[0]-onderhoud (maintenance), p16[0]- herprinten van formulieren (reprint forms).

The indexes of the data positions 1 towards 7 stands for:

This positions are only accessable then the thirst position has been activated (menuitem).

p(x)x[1] = special access (sensitive information or strictly personal)
p(x)x[2] = ordering (purchase or sales)
p(x)x[3] = input new item
p(x)x[4] = change item
p(x)x[5] = print items
p(x)x[6] = request / query
p(x)x[7] = future reservation
where (x)x stands for 1 - 16

With the last menuitem reprint forms, only the menu is enabled / disabled
The possibility to print forms are linked via the other main menus.
If the mainmenu is accessible for the user but the submenu item is not, the submenu item is grayed out and not accessable.
The permissions to menus and submenus can be set, by an authorised person in the menu maintenance, mutate authorisations.
Default permissions are set when creating an account.
These permissions are:
Input account, change account, ordering online products, request your (own) order overviews,
printing (own) invoices.
The accounts can be linked to Employees, Sales (the employees of the sale company) or
Purchase (the employees of the purchasing company). The accounts of sales and purchase can only access there own company data.
Default the account is linked to klanten (clients). Specific for information about own orders and own payments.

When calling the program modules from het mainmenu one or more parameters are included. The main parameter is the emailadres of the user who is logged on. The purpose of this parameter is to remain accesscontrol by returning to the mainmenu with this parameter, so the authorisations can be set, without logging in again. Thurdermore several parameters are set by calling certain modules for next purposes:

1. Starting same modules with a routing parameter for different work departments, so the modules acts different.
   Example menu sales view online orders (Webverkooporders opvragen in Dutch) The buttons print packing slip and print invoice are disabled with this entrance. By menu warehouse (Magazijn) is button print backing slip enabled and by menu accounting (Boekhouding Dutch) is button print invoices enabled.

2. Starting a module with parameters and returning for executing the module with functions which changed values are held by the system. A good example here is data transaction hours (Uurverbruik muteren Dutch) by menus Internal works (Werken intern in Duch) and external works (Werken extern in Dutch)
   Here the last changed worknumber and accountnumber is held by the system. Also the state of the button Transaction (Muteren in Dutch) is colored red if a transaction fail and colored green if a transaction is succesfull.
   In this modules urenMutaties.py and urenImutaties.py also totals of worked and budgeted hours per discipline are showed, with there corcerning discipline for consumption hours usage information. (hours monitoring)

3. Starting a module with a parameter for writing and reading in different database tables by different menu entries.
   Example here is item call (Artikelafroep Dutch) by menus Internal works (Werken intern in Duch) and external works (Werken extern in Dutch).