**controls and automatisms**

**Notification system**

**Notification** system  
This system also allows you to generate notifications manually or according to some very "powerful" rules (defined as "where" clauses).  
We now have 2 systems for generating alerts or reminders : indicators and notifications.

* Indicators, which highlight an element relative to the value of a predetermined target field (some dates, the comparison of work or cost) and can generate reminders or alerts before the target date or when a work or cost exceeds a reference by a certain percentage.
* Notifications, which generate reminders against a very flexible rule (a "where" clause) and may generate recurring reminders as long as the rule is valid  
  This system is a little "technical" (the way to write the rule, although assisted requires to understand what a where clause is) but very powerful (we can define the rule on any field of the element or its project).  
  In the same way, the selection of the recipient, relatively technical, allows to choose any field of the element or its project that contains a reference to a resource, a contact or a user.

I. Operation

I.1) General

The concept of user notification has been incorporated into projeqtor. A notification has a title, a content, a remitter. If it is generated by the notification system (see following paragraph), it is linked to an element of the system (Action, Invoice,…).

In order to automatically generate notifications based on certain field values of a system element, a notification system has been implemented.

This notification system, whose purpose is to automatically generate notifications, is based on notification generation definitions.

The definition of notification generation is based on the following:

▪ The element of the system that determines the notification, called "Notifiable Element" (notifiable)

▪ The notification rule notifying the elements related to the generation of a notification

▪ The date (referred to as the reference date) at which the notification must be generated

This is one of the dates of the notifiable item that is not the creation date.

▪ The generated notification receivers. Fields of the notifiable element (or its sub-elements) that refer to users

▪ The type of notification (Alert, Warning, Information)

▪ The title that can contain the field values ​​of the notifiable element or its sub-elements

▪ The content may also contain the field values ​​of the notifiable element or its sub-elements.

▪ The choice to send, or not, to all the sending of emails at the same time as the notifications

The notification system allows the triggering of notifications on time ranges larger than that of the reference date.

Indeed, it is possible to generate the notification

◦ every month for the year of the reference date

◦ all months up to date for the reference year

◦ every year and month of the reference date

◦ every year to a month fixed on the day of reference

◦ every year to one month and up to date (the reference date is no longer needed)

If the notification system is active (see setting), then

• a 'Notifications Not Read' panel.

This document is not defined to the users and not available in the request by type then by clicking this item you directly to the item)

An icon on the bottom right that shows the number of unread notifications and accesses the notifications screen

• in each detail of the notifiable classes is a section of the unread notifications corresponding to the element and the receiver.

• An update of unread notifications is performed every hour and changes the contents of the "Unread Notifications" panel, as well as the notification icon counter at the top right of the screen.

• If the Crons are active, one or more notification generators every hour (x being defined in the same parameter as before) in the definition of the definitions and values of the impacted elements.

miscellaneous

I.2) The parameterization

There are 2 global settings for the notification system:

• notificationSystemActiv

If YES, the notification system is implemented.

• CronCheckNotifications

Gives in seconds, the time interval between two generations of notification (and the Cron system is active) and between two the refresh of notifications on the HMI

I.3) Generation of notifications

Made by the CRON every hour

Made at each change (creation, modification, deletion) of rule definition

Not done on changes of other classes

I.3) The authorizations

II.5.a. Screens (Authorization)

The access rights for the 'Notification' menu were given to the 'standard' projeqtor profiles (idProfile = 1 to 7).

The access rights for the 'Notification Definition' menu have been given for the administrator profile (idProfile = 1).

I.4) Access Rights (AccessRight)

For notifications, rights:

• 'full' were given to the administrator profile.

• 'modifiers'

For the definition of the notification rules (notificationDefinition), the rights:

• "update" was given to the administrator profile.

• 'read only' for other profiles

II. The IHMs

II.1) After login

After logging in, a message generated after "Login accepted" that tells you that you have unread notifications:

II.2) Display of unread notifications

It is done at 2 levels on the main screen:

• Bottom right

A notification icon appears as soon as a notification is not intended for the user.

Clicking on the icon gives direct access to the notifications screen.

• Below the menus

A tree whose title indicates the number of unread notifications intended for the user.

This tree has the following levels:

• Level 1: The types of notifications

• Level 2: The trigger for notifications

• Level 3: The Notification Definition to Product Notifications

• Level 4: The id of the element that generated the notification. The icon allows direct access to the item.

The icon allows you to refresh notifications without waiting for the scheduled update.

The icon provides direct access to the notifications screen.

II.3) Definition of notifications

This is the screen used to define the "programmed" parameters of the programming generation.

• Section 'Description':

◦ Name: This is the name that appears on level 3 of the unread notification tree

◦ Notifiable element: This list represents the elements of "Notifiable elements"

Type: The type of the notification. This type represents level 1 of the unread notification tree.

◦ Closed: As everywhere in projeQtor.

• Section "Title of the notification"

◦ Title: The title of the notification (the subject of the email is the option 'Send email' is selected).

It can contain fields of the "notifiable" element and its linked elements through an idXXX (where XXX represents the name of the linked element). In this case, the syntax must be: # {the field name}.

Example: # {billId} - Invoice not paid - Sent on # {sendDate}

If the rule (see below) of the instruction on the invoice of 'billId' 2017-10-30-0001 whose sending date is 30-10-2017 then the title of the notification SERA:

2017-10-30-0001 - Invoice not paid - Submitted on 10-30-2017

The following elements allow you to integrate dynamic fields:

The comboBox 'Element' allows you to choose the selected notifiable element or one of its key linked elements.

The comboxBox 'Field' allows you to choose the dynamic field of the element selected in 'Element'.

The 'Insert' button allows you to insert where the cursor is in the title the dynamic field with the right synthax.

◦ Content: This is the content of the notification (to the email, if the 'Send Email' option is selected).

In the same way as for the title, it can contain fields of the "notifiable" element and its elements leas by an idXXXX.

• Rule to apply: This rule determines which instance of the item will generate a notification.

The syntax is the one we take for a WHERE clause in an SQL statement.

Example: Declares a notification for all invoices whose amount has been paid <total amount AND whose project name is 'ACME'

# {paymentAmount} <# {fullAmount}

AND

# {idProject.name} = 'ACME'

AND

isnull (# {paymentDate)

Note: The rule to apply is not mandatory. If the rule is empty, then only the reference date is used to determine whether or not a notification is generated.

In addition to choosing a dynamic field, you can choose to use an operator or function with the following elements:

• Reference Date: This is the notification date of the creation of the notification.

Example: 'Due date' (paymentDueDate) is selected.

For all invoices that are not the previous rule, a notification will be generated if the due date is greater than or equal to the current date.

• Month: If checked, the generator (notification) applies to the year from the reference date to the reference day.

• Fixed Day: If a day is chosen (not empty), the generator (if the rule applies).

• Year: If the year is checked, the generator is a notification every year to the month and the day of the reference date

• Fixed month: If a month is chosen, the generator (a rule) a notification each year to the fixed month and the day of the reference date

• Fixed day: If a day is chosen, the data generator (not apply) is notified each year to the year of the reference date on the day fixed.

Note: If Year Checked, month and day corrects, then it is a birthday. The statement generator a notification every year to come in the month and on the set day. The reference date is no longer used for anything in this case.

• Notify before: This is a number of days before the notification date for which the notification is to be generated

• Send to: These are the types of people who are notified.

The syntax is as follows: One of the words in the "Help - Authorized Recipients" section separated by a ';

The following items allow you to choose the type of remitter:

• Sent e-mail: If checked, an e-mail will be generated even if the notification for each type of person has been defined.

III. The translations

They were made in the file 'lang.xls' with the value 7.0.0\_NS of the column 'Version'.