

Unité d'Enseignement en Informatique
Année 2013-2014

Master M1 EFREI – ASI – BI
Devoir Écrit de ERP – Second Session June, 2014
(2h00 duration, no document allowed)

Rule: All answers must be written in English.

Exercise 1: (2 points)

In the 1960's and the beginning of the 1970's, before the first software editors and the first Enterprise Application Software appear, software was specifically developed by companies themselves.

- 1) For a company, what are the advantages and disadvantages of developing software by itself?
- 2) For a company, what are the advantages and disadvantages of using EAS developed by and editor?

Extra developments are often required to fill the gap between the functional covering of the ERP and the needs of the company.

- 3) What language is used to develop the modules of SAP ERP?
- 4) What language is used to develop the modules of OpenERP?

Exercise 2: (6 points)

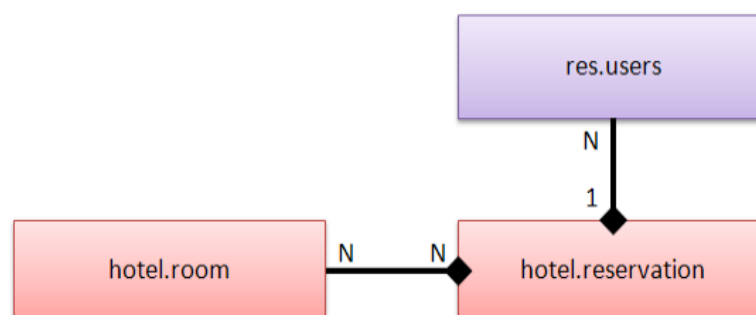
An analysis of three ERP software solutions, showing which applications are integrated (I) to the central core of the ERP and which are installable modules (M), is presented below:

Application	ERP1	ERP2	ERP3
Sales	I	M	I
Purchasing		M	I
Warehouse Management	I	M	I
CRM		M	I
MRP	I	M	I
Accounting		M	M
Human Resources		M	M
CMMS	I	M	

- 1) Which of these ERP is the easiest and fastest to install? Why?
- 2) Which of these ERP is the hardest and longest to install? Why?
- 3) Which one would you recommend for a big international company? Why?

Exercise 3: (12 points)

We want to verticalize OpenERP for the management of a hotel. Even if a verticalization already exists, we want to write a new one best suited for our needs. The data model of our specifications is detailed below:



The writing of source code of `hotel.room` has already begun. See the tow files `hotel.py` and `hotel_view.xml` in the following. You have to pursue this development.

Write the model and the view for the model `hotel.reservation`, knowing that:

- Each reservation has a checkin and checkout date;
- A reservation is owned by one (and only one) client, but a client can own several reservations;
- A reservation can book several rooms;
- Each reservation must detail the number of children and adults who will sleep at the hotel;
- The system must inform whether the reservation has already been paid or not;
- We want to be able to:
 - Filter paid and not paid reservations,
 - Filter reservations with more than 2 children,
 - Filter reservations with adults and no children,
 - Filter reservations with adults and children,
 - Filter reservations where checkin date is the current day,
 - Filter reservations where checkout date is the current day,
 - Group reservations by client id.

Documentation:

Getting the current date in XML files:

```
context_today().strftime('%Y-%m-%d')
```

hotel.py	
1	<code>from openerp.osv import osv</code>
2	<code>from openerp.osv import fields</code>
3	<code>from openerp.tools.translate import _</code>
4	<code>import time</code>
5	
6	<code>class hotel_room(osv.osv):</code>
7	<code> """ Room """</code>
8	<code> _name = 'hotel.room'</code>
9	<code> _description = "Hotel Room"</code>
10	<code> _columns = {</code>
11	<code> 'name': fields.integer('Room number', required=True),</code>
12	<code> 'single_bed': fields.integer('Number of single beds', required=True),</code>
13	<code> 'double_bed': fields.integer('Number of double beds', required=True),</code>
14	<code> 'shower': fields.boolean('Presence of a shower', required=True),</code>
15	<code> 'bath': fields.boolean('Presence of a bath', required=True),</code>
16	<code> 'balcony': fields.boolean('Presence of a balcony', required=True),</code>
17	<code> 'table': fields.boolean('Presence of a table', required=True),</code>
18	<code> 'couch': fields.boolean('Presence of a couch', required=True),</code>
19	<code> 'smoking': fields.boolean('Smoking allowed', required=True),</code>
20	<code> }</code>
21	<code> _sql_constraints = [</code>
22	<code> ('name', 'UNIQUE(name)', 'The number of a room must be unique')</code>
23	<code>]</code>
24	<code> _order = 'name ASC'</code>
25	

hotel_view.xml

```

1 <?xml version="1.0"?>
2 <openerp>
3   <data>
4
5     <!-- Top menu item -->
6     <menuitem name="Hotel"
7               id="base.menu_hotel_root"
8               sequence="120"
9               groups="base.group_user"/>
10
11    <!-- Configuration menu item -->
12    <menuitem name="Configuration"
13             parent="base.menu_hotel_root"
14             id="menu_hotel_configuration"
15             sequence="20" />
16
17    <!-- New Room Form View -->
18    <record model="ir.ui.view" id="view_hotel_room_form">
19      <field name="name">hotel.room.form</field>
20      <field name="model">hotel.room</field>
21      <field name="arch" type="xml">
22        <form string="Hotel" version="7.0">
23          <sheet>
24            <label for="name"/> <field name="name"/>
25            <label for="single_bed"/> <field name="single_bed" widget="integer"/>
26            <label for="double_bed"/> <field name="double_bed" widget="integer"/>
27            <label for="shower"/> <field name="shower"/>
28            <label for="bath"/> <field name="bath"/>
29            <label for="balcony"/> <field name="balcony"/>
30            <label for="table"/> <field name="table"/>
31            <label for="couch"/> <field name="couch"/>
32            <label for="smoking"/> <field name="smoking"/>
33          </sheet>
34        </form>
35      </field>
36    </record>
37
38    <!-- Room Tree View -->
39    <record model="ir.ui.view" id="view_hotel_room_tree">
40      <field name="name">hotel.room.tree</field>
41      <field name="model">hotel.room</field>
42      <field name="arch" type="xml">
43        <tree string="Hotels">
44          <field name="name"/>
45          <field name="single_bed"/>
46          <field name="double_bed"/>
47          <field name="shower"/>
48          <field name="bath"/>
49          <field name="balcony"/>
50          <field name="table"/>
51          <field name="couch"/>
52          <field name="smoking"/>
53        </tree>
54      </field>
55    </record>
56
57    <!-- Room Search -->
58    <record model="ir.ui.view" id="view_hotel_room_search">
59      <field name="name">hotel.room.search</field>
60      <field name="model">hotel.room</field>
61      <field name="arch" type="xml">
62        <search string="Hotels">
63          <filter string="Smoking allowed" domain="[('smoking','=', True)]" help="Smoking
64 allowed in room"/>
65          <filter string="Smoking not allowed" domain="[('smoking','=', False)]" help="Smoking
66 not allowed in room"/>
67          <filter string="With double bed" domain="[('double_bed','>', 0)]" help="Having at
68 least one double bed"/>
69          <filter string="With bath" domain="[('bath','=', True)]" help="With a shower"/>
70          <filter string="With shower" domain="[('shower','=', True)]" help="With a bath"/>
71          <group expand="0" string="Group By...">
72            <filter string="Smoking" help="By smoking" context="{ 'group_by': 'smoking' }"/>
73            <filter string="Shower" help="By shower" context="{ 'group_by': 'shower' }"/>
74            <filter string="Bath" help="By bath" context="{ 'group_by': 'bath' }"/>
75          </group>
76        </search>
77      </field>
78    </record>

```

```
76
77     <!-- Hotel Room Action -->
78
79     <record model="ir.actions.act_window" id="action_hotel_room">
80         <field name="name">Hotels</field>
81         <field name="res_model">hotel.room</field>
82         <field name="view_type">form</field>
83         <field name="view_mode">tree,form</field>
84         <field name="search_view_id" ref="view_hotel_room_search"/>
85     </record>
86
87     <menuitem name="Rooms"
88         parent="menu_hotel_configuration"
89         id="menu_hotel_room"
90         action="action_hotel_room"
91         sequence="1"/>
92
93 </data>
94 </openerp>
```