

The internship project Report:

# *Realization of an ODOO platform: The recruitment module*



*At LEAR Corporation*

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# *Acknowledgement*

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# Résumé

Ce projet représente une solution automatique de beaucoup de travail manuel. Il offre une interface simple et fluide. Cela donne un flux de travail efficace du processus de recrutement. Toutes les données nécessaires pendant que ce processus est automatiquement enregistré, bien organisé et clairement affiché dans la base de données.

Le problème derrière cette solution est que le processus de recrutement exige de nombreux détails qui le rendent plus complexe: comme imprimer beaucoup de documents, passer beaucoup de temps pendant le processus, corriger les réponses .... Pour une grande entreprise, il est un gaspillage pour inciter les ingénieurs et les dirigeants à faire un tel travail paresseux.

Par conséquent, la plate-forme ODOO est la meilleure solution pour un problème interne. Il est gratuit pour sa version d'entreprise, open source et plus flexible que ses concurrents.

# *Abstract*

This project represent an automatic solution of a lot of manual hard work. It offers simple and fluid interface user. It gives an efficient workflow of the recruitment process. All the data needed while this process is automatically saved, well-organized and clearly shown in the database.

The problem behind this solution is that the recruitment process demands many little details that makes it more complex: like printing a lot of papers, spending much time during the process, correcting the answers.... For a big company, it is a waste to disturb engineers and leaders to do such lazy work.

Therefore ODOO platform is the best solution for an inner problem. It is free for its company version, open source and more flexible than its competitors.

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# *Introduction*

Our project is concentrating to satisfy a specific problematic. It is the recruitment process. Nowadays, some enterprises are suffering from the waste of time caused by some lazy work. They work hard and do many manual things that makes a simple work, that a machine can do itself, more complex. They print many papers (so a lot of energy behind), they correct all these papers (so a lot of time is waste there), and then make a decision to hire or not a candidate. As we know human make mistakes, so there are some competent candidates that will not be hired. There is a possible to repeat the same interview for the same job position, as a result a possibility of cheating is represented.

To avoid all these waste of time, energy and bad decisions, many solutions are offers by many information system management companies. There are some of them who are licensed and monthly playful, and some who are open source and free. The recruitment process is a simple work that can be done automatically and which does not demand a collaboration or license with another company to be done. Therefore the best solution is ODOO (On Demand Open Object). It is for free, open source and simple to be customized.

ODOO platform is an ERP (Enterprise Resource Planning) framework. It has a fluid user interface, easily customizable and possible to be developed. It represents the best inner information system management for a company.

The objective of this internship, is to automate the recruitment process for Lear Corporation enterprise using the recruitment module that is integrated in ODOO platform.

The present report is a summary for an engineering work done to complete the missions of the project. It includes three chapters:

The first chapter will represent the host enterprise, its areas of activities and its Research and Development department (R&D): Lear Corporation-Rabat.

The second chapter is concentrated on the process description, the bibliography and the definitions of the tools used in the project.

The third chapter contains the steps of the realization and the results.

# *CHAPTER 1:*

## *PRESENTATION OF THE HOST ENTERPRISE*

In this first chapter we will introduce the environment in which our project took place. To this end, we will present the host organization LEAR Corporation and its fields of activity, as well as the HARDWARE team which has supervised this work, and we will give an overall description of the course at the end of this chapter.

### *1. Presentation of LEAR group:*

#### *1.1. General presentation:*

LEAR Corporation is a US-based multinational that was founded in 1917 in Detroit under the name American Metal Products (AMP), a manufacturer of welded and stamped tubes and assemblies for the automotive and aerospace industries. It began operations with a manufacturing plant of 18 employees. Its first customers were major automakers: Ford Motors Company and General Motors Corporation.

Today, LEAR Corporation offers full-featured seats and high-performance automatic power management systems around the world. With 17.7 billion dollars in sales in 2014 (plus 9% compared to the previous year), LEAR ranks No. 177 among the world's 500 fortunes.

#### *1.2. Relocation of the LEAR Group worldwide:*

LEAR is present in 34 countries. It has 235 companies and units, divided between production plants, customer service centers and administrative centers, with more than 132,000 employees.

All LEAR Corporation plants are certified ISO TS 16949 (quality requirements for the automotive industry) and ISO 14001 (requirements specific to the implementation of an environmental management system).


#### *1.3. Lear Corporation Rabat :*

Lear announced the official opening of its new electronic facility in Rabat Technopolis on 18 May 2011. Construction of the plant began in April 2010 and was completed in December of the same year. The plant occupies an area of 14340 m<sup>2</sup>: 8200 m<sup>2</sup> for production, 2380 m<sup>2</sup> dedicated to the storage of raw materials and finished products and 3760 m<sup>2</sup> for administration and other services. This new unit planned to increase to 800 jobs by 2015, and to increase its investments fourfold.

### *2. Technical specifications of the enterprise:*



Tableau 1.1 : Fiche technique de LEAR Rabat

|   |   |
|---|---|
|  |   |
| Nom de la société   | LEAR Automotive Corporation   |
| Statut juridique  | S.A.S : Société par Action Simplifiée   |
| Siège social  | Parc Technopolis, Rocade Rabat Sala El Jadida   |
| Superficie du site  | 14 340 m <sup>2</sup>   |
| Date de création  | Avril 2010, inauguration officielle en Mai 2011   |
| Secteur d'activité  | Assemblage des cartes électroniques pour véhicules                                      |
| Chiffre d'affaire   | +228.000.000 Dhs (2014)   |
| Effectif  | 808 dont 73 cadres (2014)   |
| Clients principaux  | BMW, DAIMLER, Renault, Volvo, Mercedes, Jaguar Landrover, Audi, Volkswagen, MiniCooper. |

### 3. Areas of activity:

The company operates on two main activities:

LEAR Seating: the function of which is the manufacture of complete seat systems for Automobiles: seat covers made of fabric and leather (including all operations cutting and sewing), structures, mechanisms and foam (see fig. 1.1). The sales realized in 2012 at the level of this activity reached \$ 11.0 billion.



Figure 1: Car Seats

LEAR EPMS (Electronic Power Management Systems): which consists of the manufacture of electrical distribution systems and related components, including connectors, chip junction boxes and battery chargers (see fig. 1.2). His sales increased by \$ 1.9 billion in 2009 to \$ 3.5 billion in 2012.

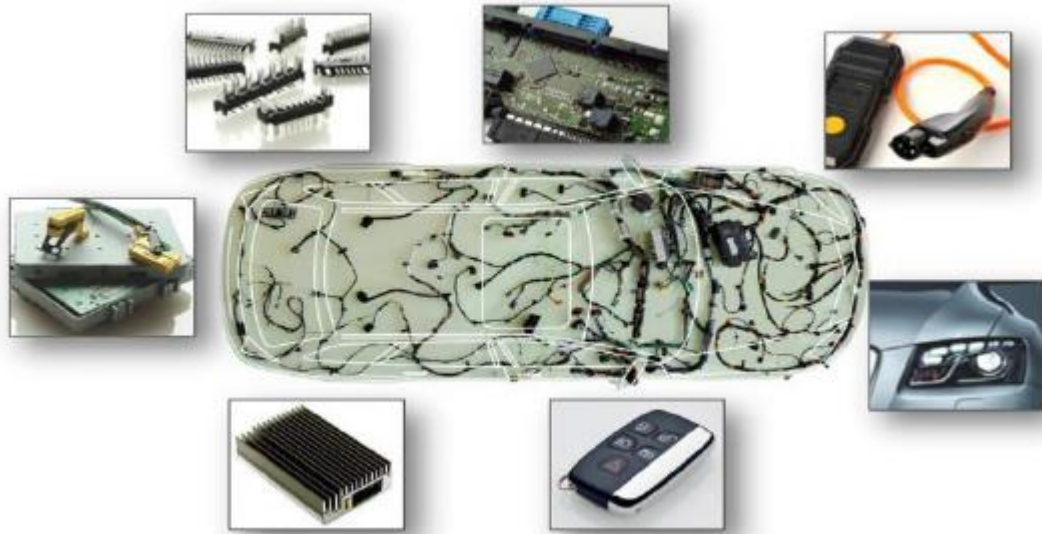


Figure 2: Examples of EPMS products

LEAR has among its customers major automakers (see fig. 1.3) such as FORD, BMW, MERCEDES, JAGUAR / LAND ROVER, RENAULT, PORSCHE, VOLVO, and others....

Thus LEAR products are embedded in more than 300 models of vehicles in the world:



Figure 3: Customers of LEAR

#### 4. Structure and general organization:

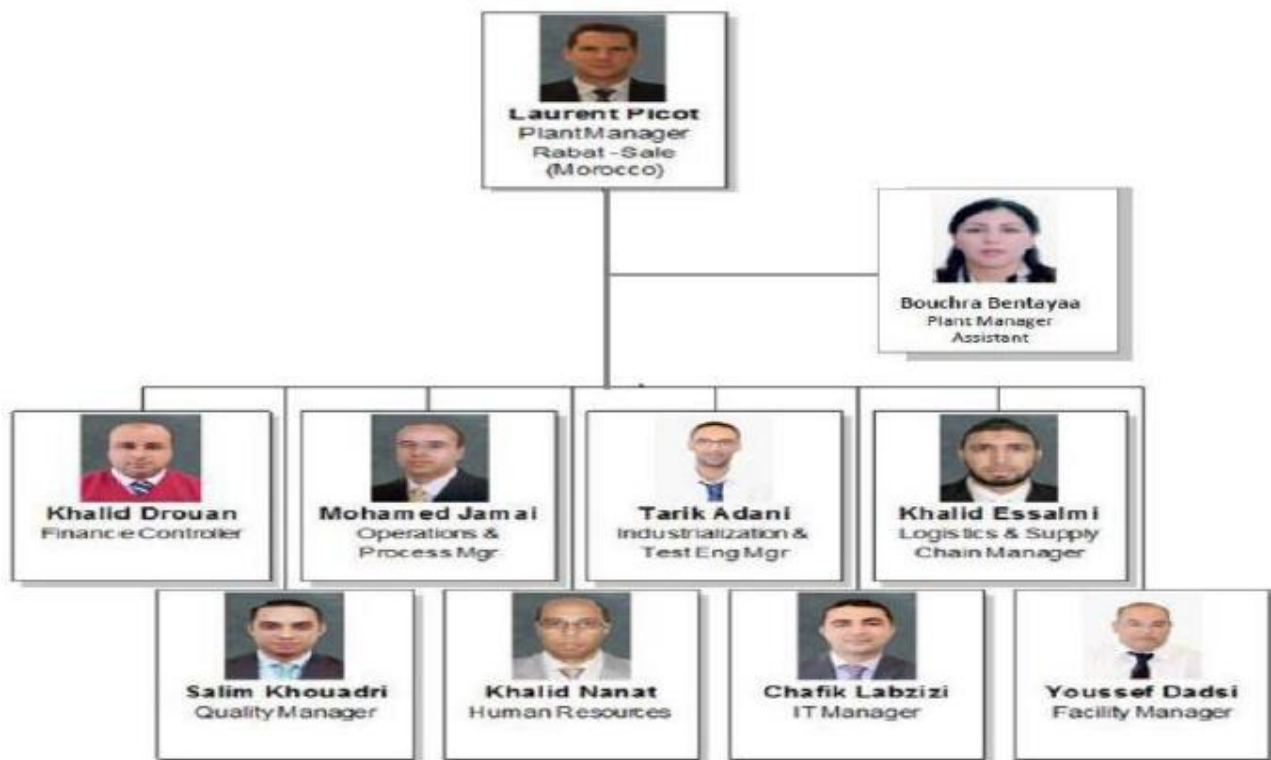


Figure 4: Organizational chart of the Lear Rabat Company

## 5. Service presentation:

### 5.1. Research and Development (R & D) Department:

With a 100% Moroccan team, LEAR Corporation is launching a new challenge, which consists in the installation of a development center in the strategic zone of North Africa. Towards the end of 2012, LEAR teams, subcontractors in other companies, meet in the site of Rabat after a month of training in Valls, Spain. This core group expanded to reach, in early 2015, 18 Software Development Engineers and 9 Hardware Engineers, divided into teams organized by projects. The diagram below shows the organization of the Lear Rabat R & D center:

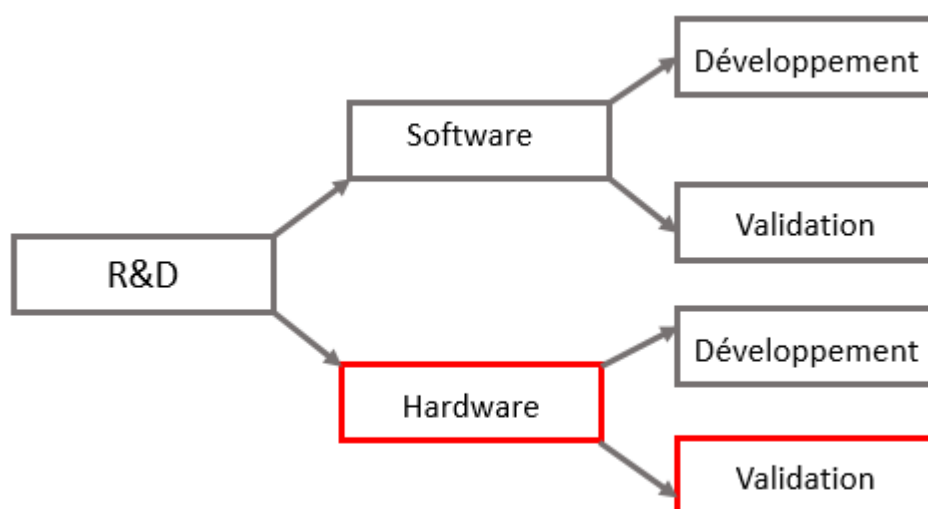


Figure 5: Organization of the Lear Rabat R & D center

### 5.2. The Software team:

The Hardware and Software development process follows a V-cycle, the hardware design and development phase of which is a major step (see Figure 6):

The internship took place within the SOFTWARE team, whose structure is as follows:

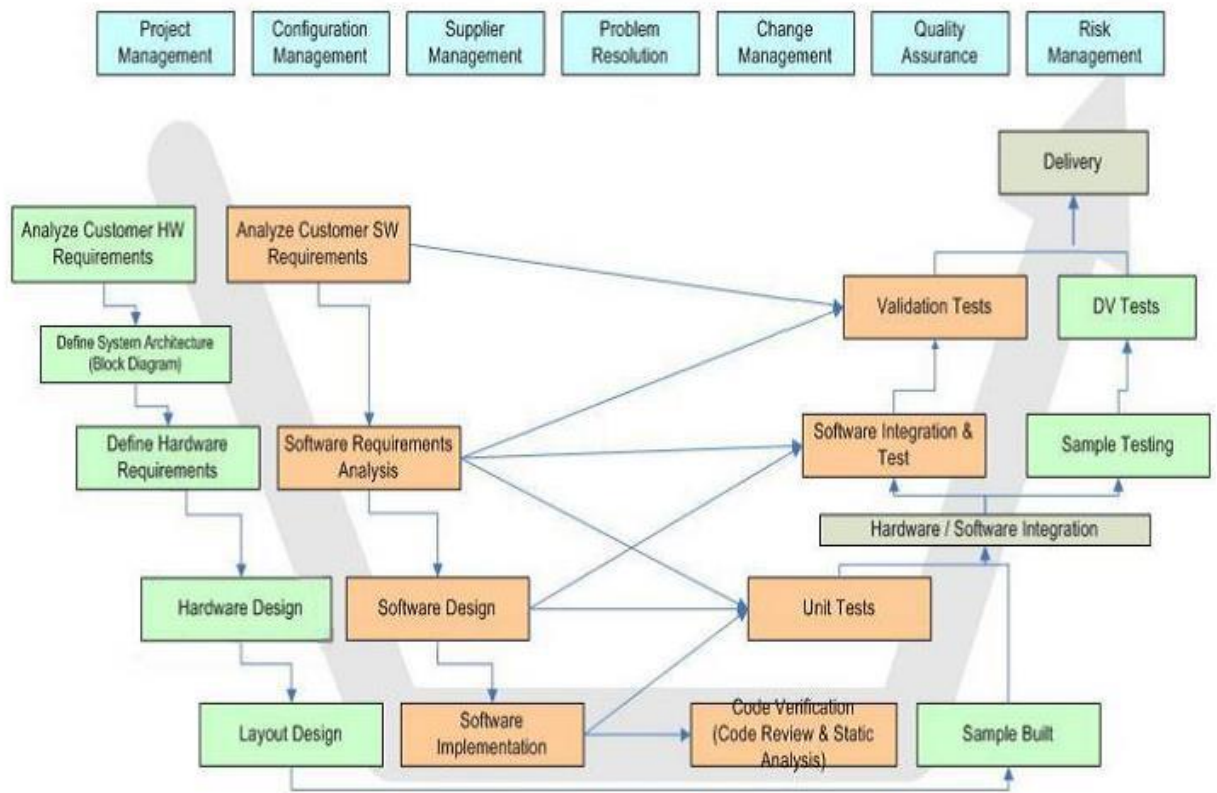


Figure 6: Hardware and Software Development Cycle

## CHAPTER 2:

### DETAILED STUDY OF THE PROJECT

#### *1- Process description:*

##### *1.1- Specifications:*

The project requirement in the first time a user interface to be acceded by different users. To start with, a website should be developed:

- In the beginning it will show to the user a page that allows him to sign in (username and a password fields)
- For the home page, it will contains buttons to select which interview the candidate is going to pass.
- Clicking on a button will lead the user to the next pages and show him the questions that he have to answer them.
- The candidate will have the ability to return to previous page.
- In last, the candidate will complete the interview by clicking on submit button and a report will be sent to the database.

In the middle we have the specifications of the interviews:

- The survey of the interview will contain six blocs or pages: the first for the personal informations (first name, second name and email), and the rest are five principle blocs (C programming, Python programming, Embedded C, Microcontroller and Bus and protocols of communication). Each page other than the first should have five questions, each question must have four answer choices and only one is correct and scored by 1 note.
- The survey should be changed automatically for each candidate.

Finally, the supervisor will have access to the answer reports that:

- Shows the answers chosen for each question and their correct answers.
- Shows the score of the candidate to decide either he is hired or not.
- An interface to pursuit the candidate easily while his process of the recruitment.

##### *1.2- Description of the course:*

The internship, within the Hardware team, took place in 3 phases:

**The first phase:** searching on bibliography of the tools that can be used in the project. Installing the programs needed to achieve the goal.

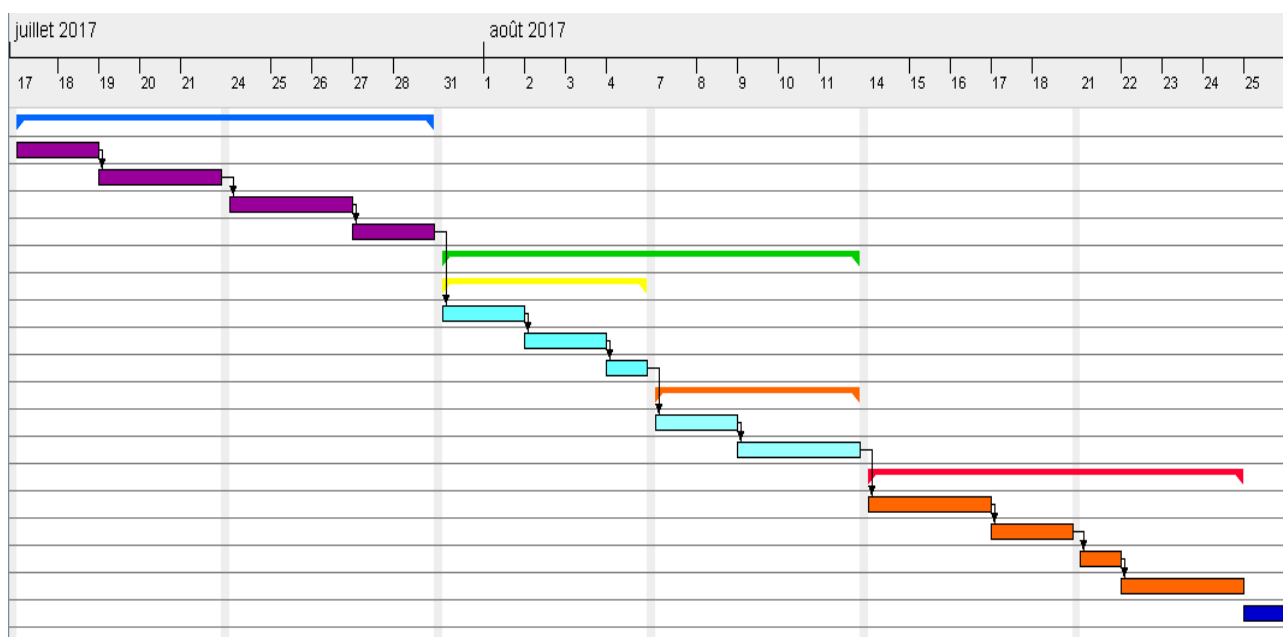
**The second phase:** installing ODOO 9 and Pycharm for Python compilation. Learn more about ODOO 9 and its utility, its customization and developing ability.



**The third phase:** develop the python file that will change the surveys automatically. Importing and updating data are included in this file also.

### 1.3- GANTT diagram:

| Nom   | Date de début | Date de fin |
|---|---------------|-------------|
| ♀ • Formation in ERP and ODOO                 | 17/07/17      | 28/07/17    |
| • Bibliography on ERP                         | 17/07/17      | 18/07/17    |
| • Bibliography on ODOO                        | 19/07/17      | 21/07/17    |
| • Intallation of ODOO 9, Postgres and PyCharm | 24/07/17      | 26/07/17    |
| • Customization and learning of OdOO platform | 27/07/17      | 28/07/17    |
| ♀ • Customization the recruitment module      | 31/07/17      | 11/08/17    |
| ♀ • Create a prototype of the project         | 31/07/17      | 04/08/17    |
| • Create a survey                             | 31/07/17      | 01/08/17    |
| • Customize the website                       | 02/08/17      | 03/08/17    |
| • Report the answers                          | 04/08/17      | 04/08/17    |
| ♀ • Import and Export manually                | 07/08/17      | 11/08/17    |
| • Export data by databaseID and external ID   | 07/08/17      | 08/08/17    |
| • Import data by databaseID and externalID    | 09/08/17      | 11/08/17    |
| ♀ • Developing the python file                | 14/08/17      | 24/08/17    |
| • Import data from python                     | 14/08/17      | 16/08/17    |
| • Updat data from python by their databaseID  | 17/08/17      | 18/08/17    |
| • Read CSV files from python and update data  | 21/08/17      | 21/08/17    |
| • Test and validation of the whole project    | 22/08/17      | 24/08/17    |
| • Reduction of the report                     | 25/08/17      | 25/08/17    |



## 2- ERP: Enterprise Resource Planning

### 2.1- Definition:

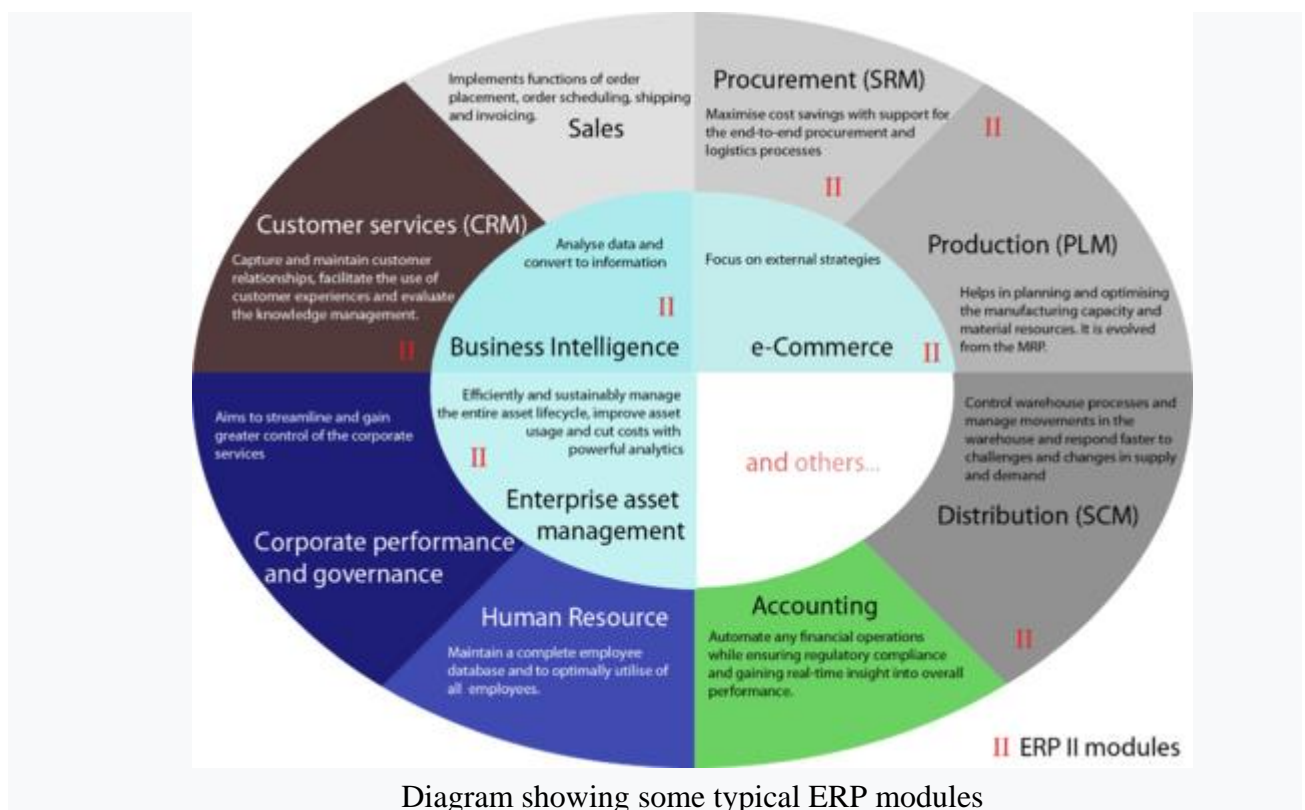


Diagram showing some typical ERP modules

Enterprise resource planning (ERP) is the integrated management of core business processes, often in real-time and mediated by software and technology. These business activities can include:

- product planning, purchase
- production planning
- manufacturing or service delivery
- marketing and sales
- materials management
- inventory management
- shipping and payment
- finance

ERP is usually referred to as category of business-management software—typically a suite of integrated applications—that an organization can use to collect, store, manage and interpret data from these many business activities.

ERP provides an integrated and continuously updated view of core business processes using common databases maintained by a database management system. ERP systems track business resources—cash, raw materials, production capacity—and the status of business commitments: orders, purchase orders, and payroll. The applications that make up the system share data across various departments (manufacturing, purchasing, sales, accounting, etc.) that provide the data. ERP facilitates information flow between all business functions and manages connections to outside stakeholders.

Enterprise system software is a multi-billion-dollar industry that produces components supporting a variety of business functions. IT investments have become the largest category of capital expenditure in United States-based businesses over the past decade. Though early ERP systems focused on large enterprises, smaller enterprises increasingly use ERP systems.

The ERP system integrates varied organizational systems and facilitates error-free transactions and production, thereby enhancing the organization's efficiency. However, developing an ERP system differs from traditional system development. ERP systems run on a variety of computer hardware and network configurations, typically using a database as an information repository.

## 2.2- Origin:

The Gartner Group first used the acronym ERP in the 1990s, where it was seen to extend the capabilities of material requirements planning (MRP), and the later manufacturing resource planning (MRP II), as well as computer-integrated manufacturing. Without replacing these terms, ERP came to represent a larger whole that reflected the evolution of application integration beyond manufacturing.

Not all ERP packages developed from a manufacturing core; ERP vendors variously began assembling their packages with accounting, maintenance, and human-resource components. By the mid-1990s ERP systems addressed all core enterprise functions. Governments and non-profit organizations also began to use ERP systems.

## 2.3- Characteristics:

ERP systems typically include the following characteristics:

- An integrated system
- Operates in (or near) real time
- A common database that supports all the applications
- A consistent look and feel across modules
- Installation of the system with elaborate application/data integration by the Information Technology (IT) department, provided the implementation is not done in small steps

## 2.4- Functional areas:

An ERP system covers the following common functional areas. In many ERP systems these are called and grouped together as *ERP modules*:

- Financial accounting: General ledger, fixed asset, payables including vouchering, matching and payment, receivables cash application and collections, cash management, financial consolidation
- Management accounting: Budgeting, costing, cost management, activity based costing
- Human resources: Recruiting, training, rostering, payroll, benefits, retirement and pension plans, diversity management, retirement, separation
- Manufacturing: Engineering, bill of materials, work orders, scheduling, capacity, workflow management, quality control, manufacturing process, manufacturing projects, manufacturing flow, product life cycle management
- Order Processing: Order to cash, order entry, credit checking, pricing, available to promise, inventory, shipping, sales analysis and reporting, sales commissioning.
- Supply chain management: Supply chain planning, supplier scheduling, product configurator, order to cash, purchasing, inventory, claim processing, and warehousing (receiving, put away, picking and packing).
- Project management: Project planning, resource planning, project costing, work breakdown structure, billing, time and expense, performance units, activity management
- Customer relationship management: Sales and marketing, commissions, service, customer contact, call center support — CRM systems are not always considered part of ERP systems but rather Business Support systems (BSS).
- Data services : Various "self-service" interfaces for customers, suppliers and/or employees

## 2.5- Implementations:

ERP's scope usually implies significant changes to staff work processes and practices. Generally, three types of services are available to help implement such changes—consulting, customization, and support. Implementation time depends on business size, number of modules, customization, the scope of process changes, and the readiness of the customer to take ownership for



the project. Modular ERP systems can be implemented in stages. The typical project for a large enterprise takes about 14 months and requires around 150 consultants. Small projects can require months; multinational and other large implementations can take years. Customization can substantially increase implementation times.

Besides that, information processing influences various business functions e.g. some large corporations like Wal-Mart use a just in time inventory system. This reduces inventory storage and increases delivery efficiency, and requires up-to-date data. Before 2014, Walmart used a system called Inforem developed by IBM to manage replenishment.

### **2.5.1- Process preparation**

Implementing ERP typically requires changes in existing business processes. Poor understanding of needed process changes prior to starting implementation is a main reason for project failure. The difficulties could be related to the system, business process, infrastructure, training, or lack of motivation.

It is therefore crucial that organizations thoroughly analyze business processes before they implement ERP software. Analysis can identify opportunities for process modernization. It also enables an assessment of the alignment of current processes with those provided by the ERP system. Research indicates that risk of business process mismatch is decreased by:

- Linking current processes to the organization's strategy
- Analyzing the effectiveness of each process
- Understanding existing automated solutions

ERP implementation is considerably more difficult (and politically charged) in decentralized organizations, because they often have different processes, business rules, data semantics, authorization hierarchies, and decision centers. This may require migrating some business units before others, delaying implementation to work through the necessary changes for each unit, possibly reducing integration (e.g., linking via Master Data management) or customizing the system to meet specific needs.

A potential disadvantage is that adopting "standard" processes can lead to a loss of competitive advantage. While this has happened, losses in one area are often offset by gains in other areas, increasing overall competitive advantage.

### **2.5.2- Configuration**

Configuring an ERP system is largely a matter of balancing the way the organization wants the system to work with the way it was designed to work. ERP systems typically include many settings that modify system operations. For example, an organization can select the type of inventory accounting—FIFO or LIFO—to use; whether to recognize revenue by geographical unit, product line, or distribution channel; and whether to pay for shipping costs on customer returns.

### **2.5.3- Two tier enterprise resource planning**

Two-tier ERP software and hardware lets companies run the equivalent of two ERP systems at once: one at the corporate level and one at the division or subsidiary level. For example, a manufacturing company uses an ERP system to manage across the organization. This company uses independent global or regional distribution, production or sales centers, and service providers to support the main company's customers. Each independent center or subsidiary may have its own business models, workflows, and business processes.

Given the realities of globalization, enterprises continuously evaluate how to optimize their regional, divisional, and product or manufacturing strategies to support strategic goals and reduce time-to-market while increasing profitability and delivering value. With two-tier ERP, the regional distribution, production, or sales centers and service providers continue operating under their own business model—separate from the main company, using their own ERP systems. Since these smaller

companies' processes and workflows are not tied to main company's processes and workflows, they can respond to local business requirements in multiple locations.

Factors that affect enterprises' adoption of two-tier ERP systems include:

- Manufacturing globalization, the economics of sourcing in emerging economies
- Potential for quicker, less costly ERP implementations at subsidiaries, based on selecting software more suited to smaller companies
- Extra effort, (often involving the use of Enterprise application integration) is required where data must pass between two ERP systems Two-tier ERP strategies give enterprises agility in responding to market demands and in aligning IT systems at a corporate level while inevitably resulting in more systems as compared to one ERP system used throughout the organization.

#### 2.5.4- Customization

ERP systems are theoretically based on industry best practices, and their makers intend that organizations deploy them *as is*. ERP vendors do offer customers configuration options that let organizations incorporate their own business rules, but gaps in features often remain even after configuration is complete.

ERP customers have several options to reconcile feature gaps, each with their own pros/cons. Technical solutions include rewriting part of the delivered software, writing a homegrown module to work within the ERP system, or interfacing to an external system. These three options constitute varying degrees of system customization—with the first being the most invasive and costly to maintain. Alternatively, there are non-technical options such as changing business practices or organizational policies to better match the delivered ERP feature set. Key differences between customization and configuration include:

- Customization is always optional, whereas the software must always be configured before use (e.g., setting up cost/profit center structures, organizational trees, purchase approval rules, etc.).
- The software is designed to handle various configurations, and behaves predictably in any allowed configuration.
- The effect of configuration changes on system behavior and performance is predictable and is the responsibility of the ERP vendor. The effect of customization is less predictable. It is the customer's responsibility, and increases testing activities.
- Configuration changes survive upgrades to new software versions. Some customizations (e.g., code that uses pre-defined "hooks" that are called before/after displaying data screens) survive upgrades, though they require retesting. Other customizations (e.g., those involving changes to fundamental data structures) are overwritten during upgrades and must be re-implemented.

Customization advantages include that it:

- Improves user acceptance
- Offers the potential to obtain competitive advantage vis-à-vis companies using only standard features

Customization disadvantages include that it:

- Increases time and resources required to implement and maintain
- Inhibits seamless communication between suppliers and customers who use the same ERP system uncustomized
- Can create over reliance on customization, undermining the principles of ERP as a standardizing software platform

#### 2.5.5- Extensions

ERP systems can be extended with third-party software. ERP vendors typically provide access to data and features through published interfaces. Extensions offer features such as:

- Reporting, and republishing
- Capturing transactional data, e.g., using scanners, tills or RFID
- Access to specialized data and capabilities, such as syndicated marketing data and associated trend analytics
- Advanced planning and scheduling (APS)
- Managing facilities, and transmission in real-time

#### 2.5.6- Data migration

Data migration is the process of moving, copying, and restructuring data from an existing system to the ERP system. Migration is critical to implementation success and requires significant planning. Unfortunately, since migration is one of the final activities before the production phase, it often receives insufficient attention. The following steps can structure migration planning:

- Identify data to migrate
- Determine migration timing
- Generate data templates
- Freeze the toolset
- Decide on migration-related setups
- Define data archiving policies and procedures

#### 2.5.7- Advantages

The fundamental advantage of ERP is that the integration of myriad business processes saves time and expense. Management can make decisions faster and with fewer errors. Data becomes visible across the organization. Tasks that benefit from this integration include:

- Sales forecasting, which allows inventory optimization.
- Chronological history of every transaction through relevant data compilation in every area of operation.
- Order tracking, from acceptance through fulfillment
- Revenue tracking, from invoice through cash receipt
- Matching purchase orders (what was ordered), inventory receipts (what arrived), and costing (what the vendor invoiced)

ERP systems centralize business data, which:

- Eliminates the need to synchronize changes between multiple systems—consolidation of finance, marketing, sales, human resource, and manufacturing applications
- Brings legitimacy and transparency to each bit of statistical data
- Facilitates standard product naming/coding
- Provides a comprehensive enterprise view (no "islands of information"), making real-time information available to management anywhere, anytime to make proper decisions
- Protects sensitive data by consolidating multiple security systems into a single structure

#### 2.5.8- Benefits

- ERP can improve quality and efficiency of the business. By keeping a company's internal business processes running smoothly, ERP can lead to better outputs that may benefit the company, such as in customer service and manufacturing.
- ERP supports upper level management by providing information for decision making.
- ERP creates a more agile company that adapts better to change. It also makes a company more flexible and less rigidly structured so organization components operate more cohesively, enhancing the business—internally and externally.
- ERP can improve data security. A common control system, such as the kind offered by ERP systems, allows organizations the ability to more easily ensure key company data is not compromised.

- ERP provides increased opportunities for collaboration. Data takes many forms in the modern enterprise. Documents, files, forms, audio and video, emails. Often, each data medium has its own mechanism for allowing collaboration. ERP provides a collaborative platform that lets employees spend more time collaborating on content rather than mastering the learning curve of communicating in various formats across distributed systems.

#### 2.5.9- Disadvantages

- Customization can be problematic. Compared to the best-of-breed approach, ERP can be seen as meeting an organization's lowest common denominator needs, forcing the organization to find workarounds to meet unique demands.
- Re-engineering business processes to fit the ERP system may damage competitiveness or divert focus from other critical activities.
- ERP can cost more than less integrated or less comprehensive solutions.
- High ERP switching costs can increase the ERP vendor's negotiating power, which can increase support, maintenance, and upgrade expenses.
- Overcoming resistance to sharing sensitive information between departments can divert management attention.
- Integration of truly independent businesses can create unnecessary dependencies.
- Extensive training requirements take resources from daily operations.
- Harmonization of ERP systems can be a mammoth task (especially for big companies) and requires a lot of time, planning, and money.

### **3- ODOO: On Demand Open Object**

#### 3.1- Definition:

Odoo is an all-in-one management software that offers a range of business applications that form a complete suite of enterprise management applications. The Odoo solution is ideal for SMEs, but fits both small and large companies alike. Odoo is an all-in-one business software capable of covering all business needs, including CRM, Website/e-Commerce, billing, accounting, manufacturing, warehouse- and project management, and inventory, all seamlessly integrated.

Odoo offers three separate versions of the solution; Odoo Enterprise, Odoo Online SaaS (Software as a Service) version, and the Odoo Community version. The Enterprise version is self-hosted, it includes all the apps, and the pricing starts at \$360 per user per year, with a minimum of 5 users. The Odoo Online version is hosted on a cloud, and the first app is offered for free as a standalone app for unlimited users. After the first app, there is a fixed monthly subscription fee for the apps used and the number of users. The Community version is the open source version. The Source code for the OpenObject framework and core ERP (enterprise resource planning) modules is curated by the Belgium-based Odoo S.A. The last fully featured Open Source version was 8.0 (LTS), available on GitHub under AGPLv3. Odoo is the most popular open source ERP system.

#### 3.2- Company history:

In 2005, Fabien Pinckaers, the founder and current CEO of Odoo, started to develop his first software product, TinyERP. His dream was for his product and company to become a major player in the enterprise world with a cool, innovative, open source product. However, three years later he came to realize that having the word 'tiny' in the product name was not the right approach if he wanted to "change the enterprise world". The name was then changed to OpenERP. The company started to evolve quickly and in 2010, OpenERP had become a 100+ employee company. The OpenERP product was powerful, but Fabien Pinckaers felt that they had become too distracted by providing services to customers that the product had suffered and become unattractive. He wanted to make sure that the product came first in order to be able to offer an exceptional product. Therefore, the decision was made to redirect the company's main focus towards software publishing rather than

services, and the business model changed accordingly, with increased focus on building a strong partner network and maintenance offers.

The new company strategy was well received, as the fast growth indicated, and in 2013 it won a Deloitte award for being that fastest growing company in Belgium, with 1549% growth over a five-year period. In 2014, things took a turn as the company developed new technology that allowed them to enter new markets and move beyond the boundaries of traditional ERP players. As OpenERP was no longer exclusively an ERP it was time to move forward and change the name to something that didn't affiliate them with solely being an ERP. In May 2014, the company was renamed Odoo, a name that has no restrictions and can allow the company to grow in whichever direction. The company has continued its growth and in 2015, Odoo was named one of the fastest growing companies in Europe by Inc. Magazine.

### 3.3- Release history:

- Old version, no official support, community support only
- Long Term Stable version, still supported
- Latest version
- Future version

| Program name | Version | Release date                           | Significant changes   | Software license                        |
|--------------|---------|--|---|---|
| Tiny ERP     | 1.0     | February 2005                          | First release   | <a href="#">GNU GPL</a>                 |
|              | 2.0     | May 2005                               |   | GNU GPL                                 |
|              | 3.0     | September 2005                         |   | GNU GPL                                 |
|              | 4.0     | December 2006                          |   | GNU GPL                                 |
| OpenERP      | 5.0     | April 2009                             |   | GNU GPL                                 |
|              | 6.0     | January 2011                           | First web client  | <a href="#">GNU AGPL<sup>[21]</sup></a> |
|              | 6.1     | February 2012                          | First Ajax web client, discontinued GTK client  | GNU AGPL                                |
|              | 7.0     | December 22, 2012                      | Improved web client and usability   | GNU AGPL                                |
| Odoo         | 8.0     | September 18, 2014                     | Revamped Inventory and WMS, Support for CMS: Website builder, e-commerce, point of sale and business intelligence | GNU AGPL                                |
|              | 9.0     | October 1, 2015                        | Revamped Accounting features, Odoo Community split from Odoo Enterprise <sup>[22]</sup>                           | <a href="#">GNU LGPL v3</a>             |
|              | 10.0    | October 5, 2016                        | Revamped Manufacturing features   | GNU LGPL v3                             |
|              | 11.0    | Around October 4, 2017 <sup>[23]</sup> | Revamped Studio, Revamped Services Support, Revamped Reporting <sup>[24][25]</sup>                                | <a href="#">GNU LGPL v3</a>             |

# CHAPTER 3:

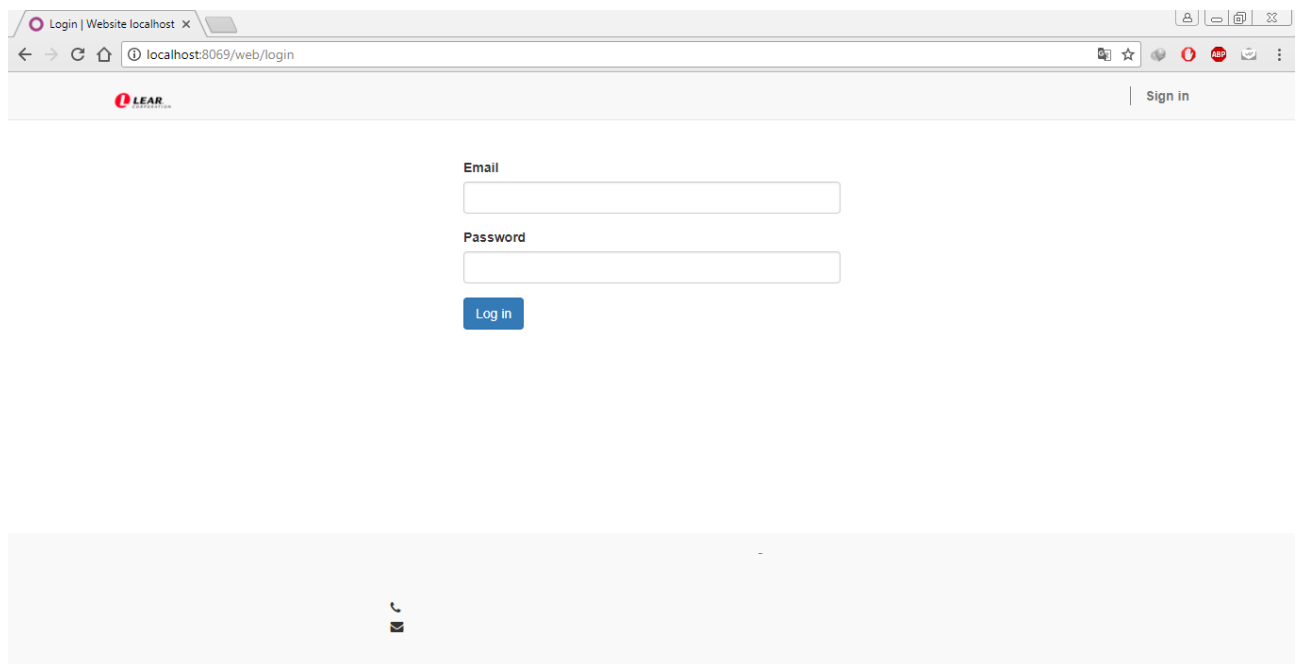
## REALIZATION

### 1. Administrator :

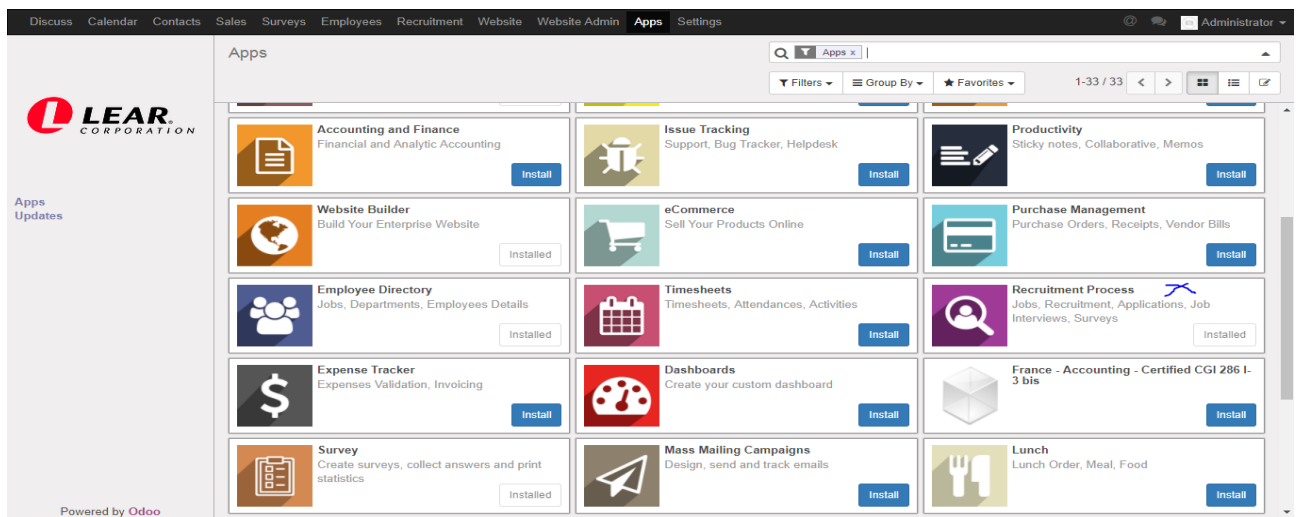
#### 1.1- Creating the survey:

In this part we will explain in detail what the administrator should do to get all the project's needs done:

After creating the database, setting the name and the password of the administrator by ODOO platform, we log in to the data base from the website page by clicking on “sign in”:

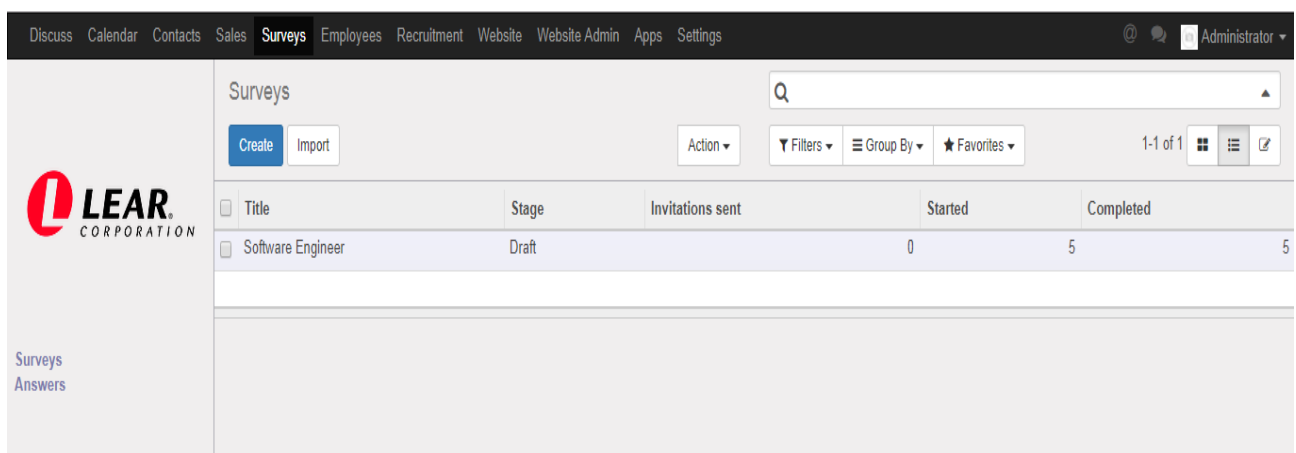
A screenshot of a web browser window showing the ODOO login page. The browser's address bar displays 'localhost:8069/web/login'. The page features the ODOO logo on the left and a 'Sign in' link on the right. The main content area contains two input fields: 'Email' and 'Password', each with a corresponding label above it. Below these fields is a blue 'Log in' button. At the bottom of the page, there is a small icon of a person.

Then we install the recruitment module named “Recruitment Process” from the App Store of ODOO by clicking on “Apps”:

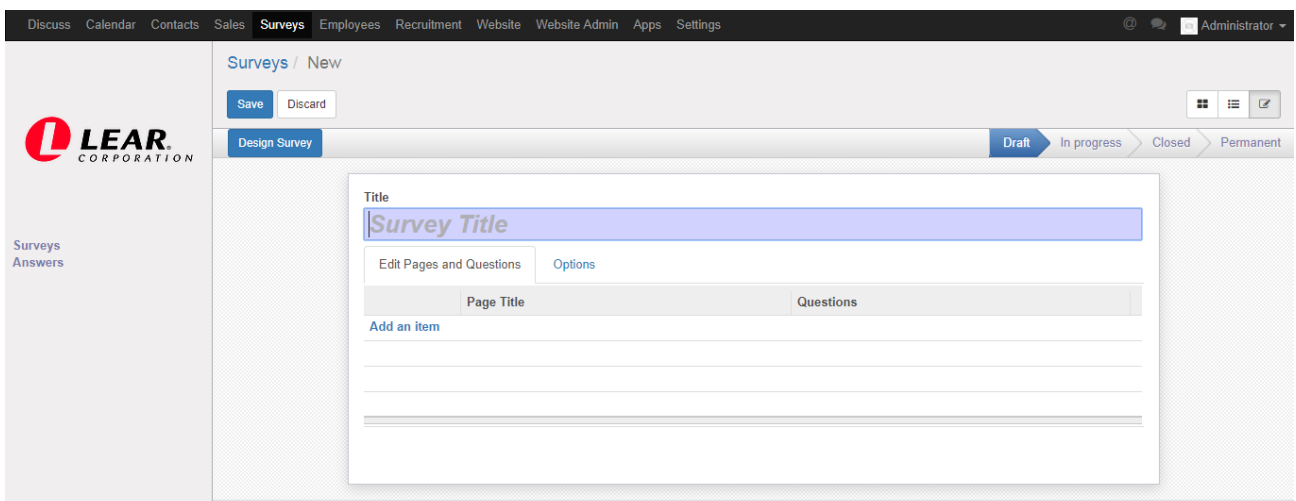


After the installation of the recruitment module, all the modules needed will be also installed: Surveys, Website...

We go to the survey module by clicking on “Surveys”:

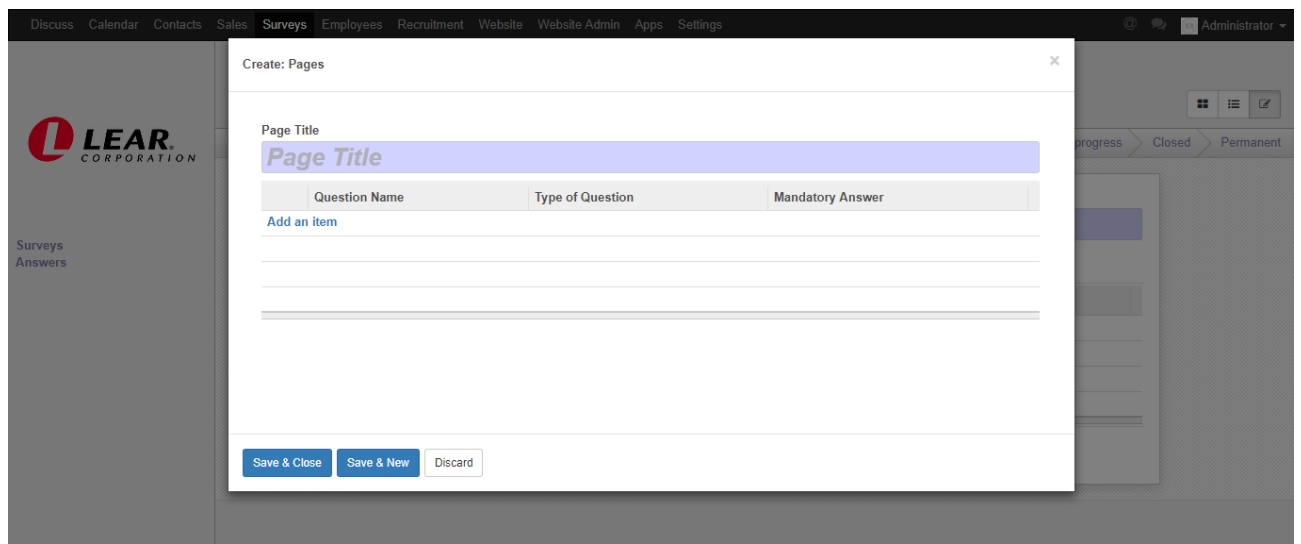


Then we create for the first and only time the surveys that we want to use during the recruitment. To do so we on “create” and then the following page appears:

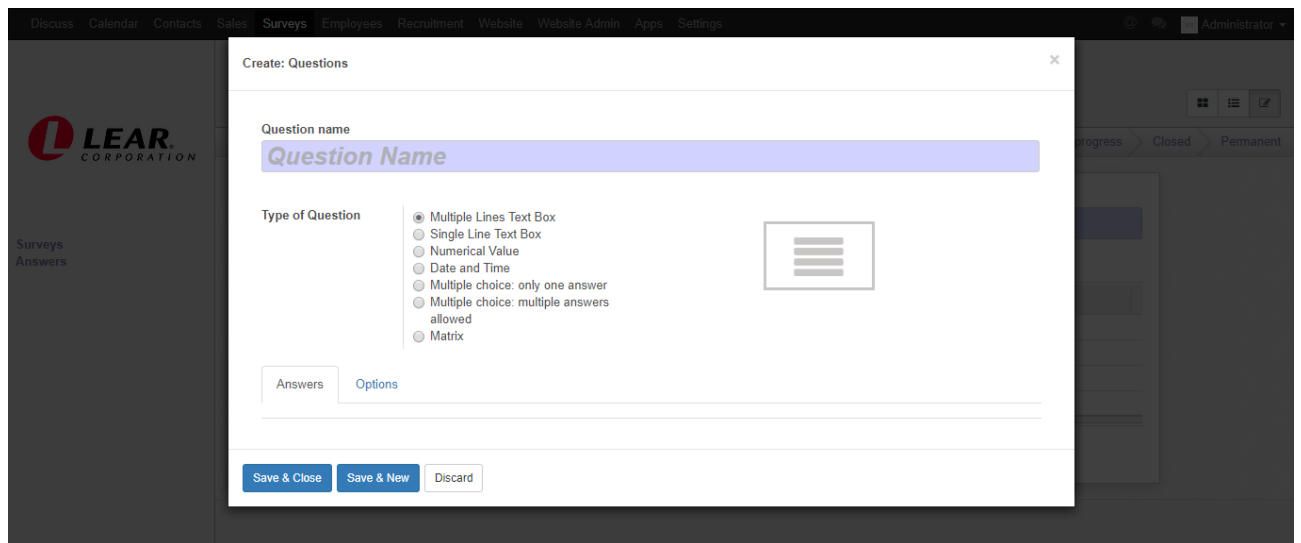


To add the blocs or pages to the survey, we click on “Add an item”:

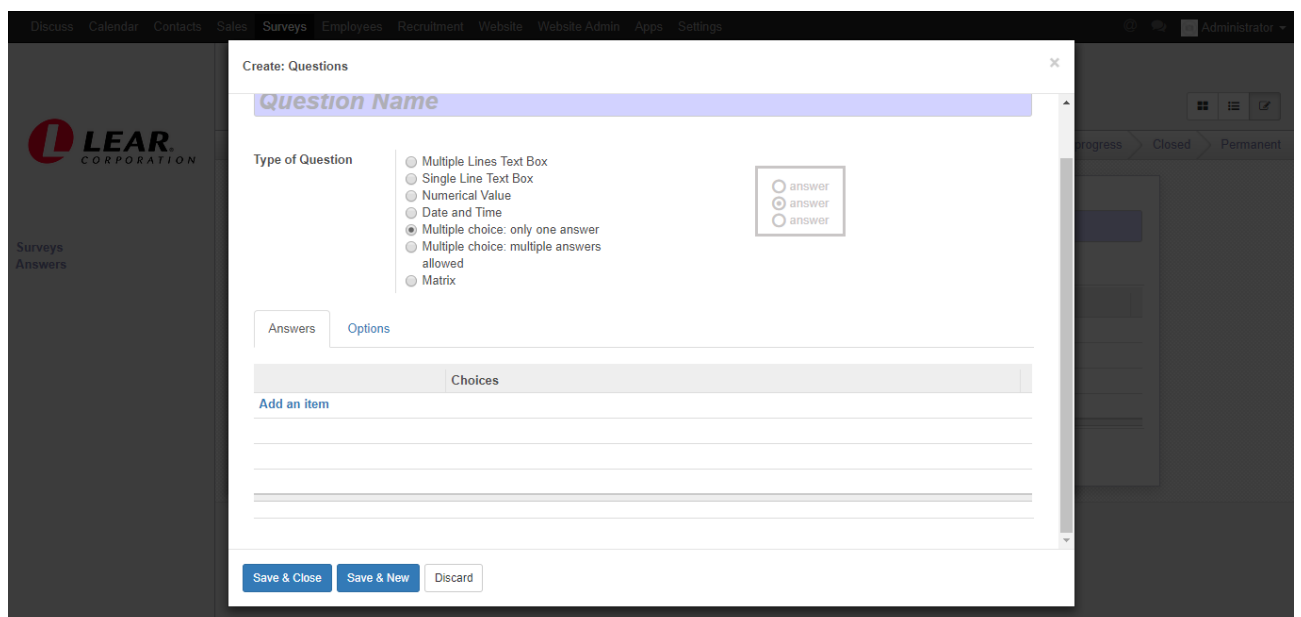




To add question to the pages, we click on “Add an item”:



For the question of multiple choice, we can add choices by clicking on “Multiple choice: only one answer” for the radio buttons choice, or “Multiple choice: multiple answers” for the checkbox buttons, then click on “Add an item”:



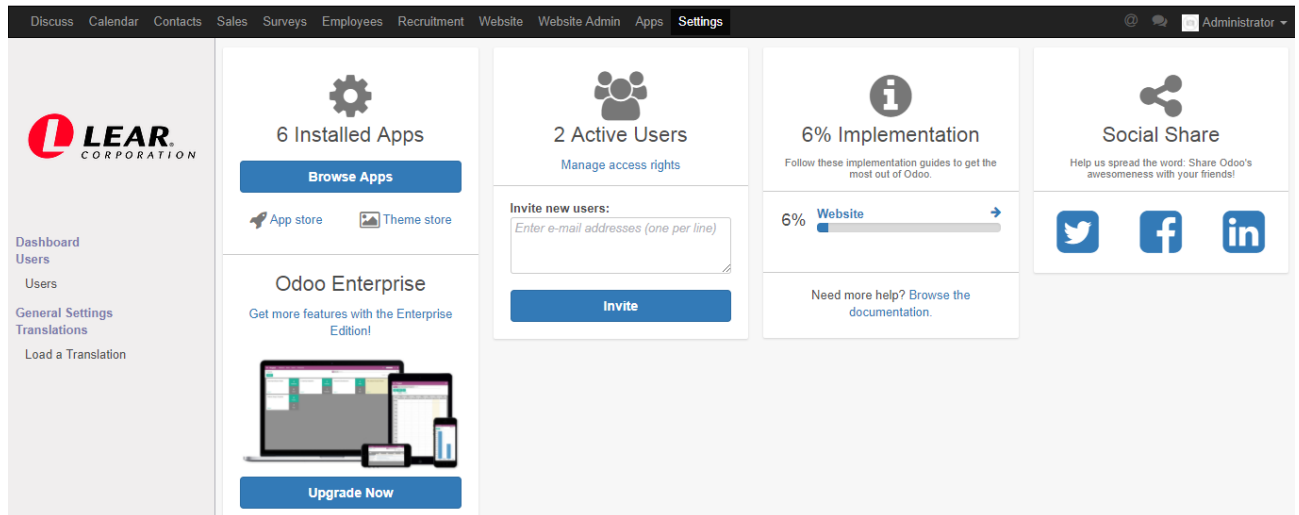


After creating and saving the data entered for the surveys, we implicitly created many “database ids” for each item (Survey, page, question and label (choice)) that we can use after to update our database.

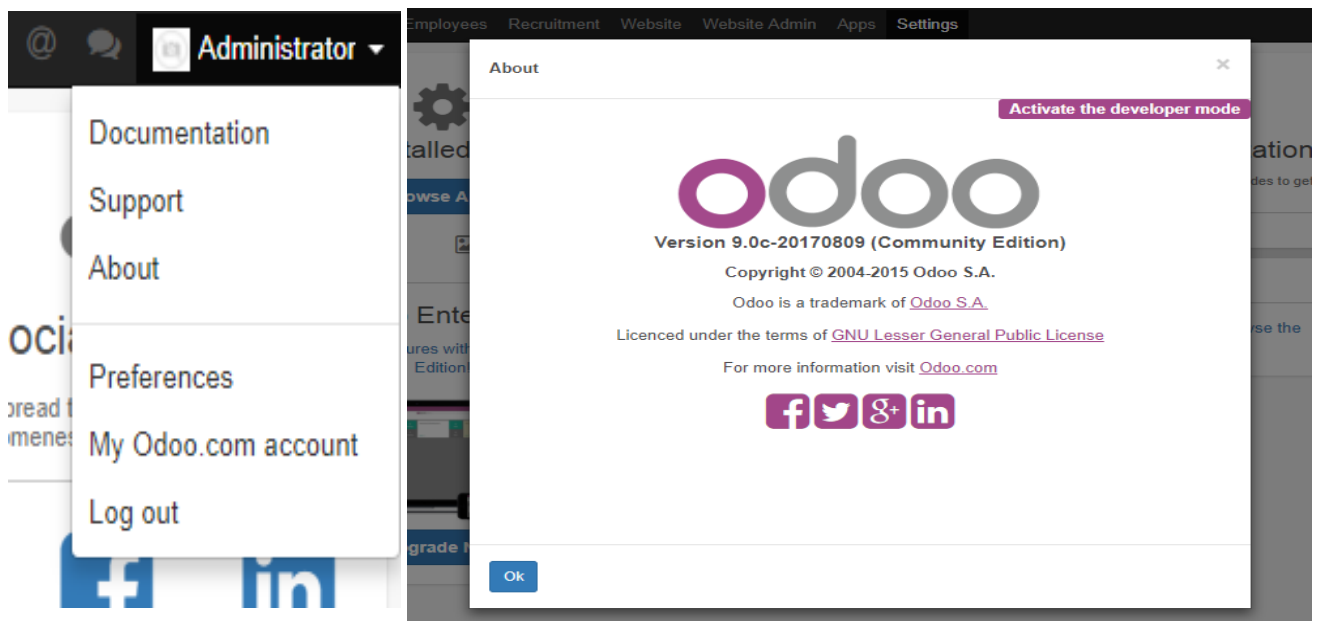
### 1.2- Creating users:

The platform will be used by many users (supervisors and candidates), so the administrator have to limit the access rights of each user:

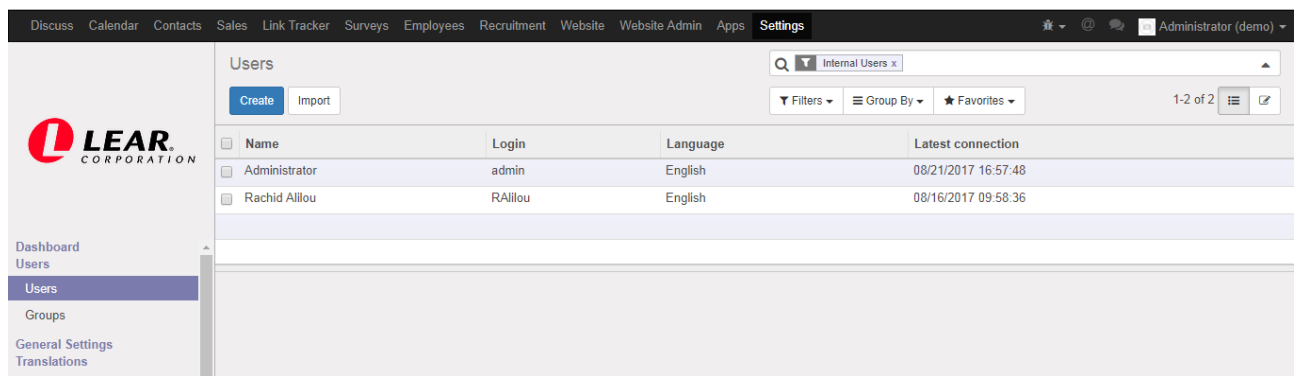
To do so, we go to settings:



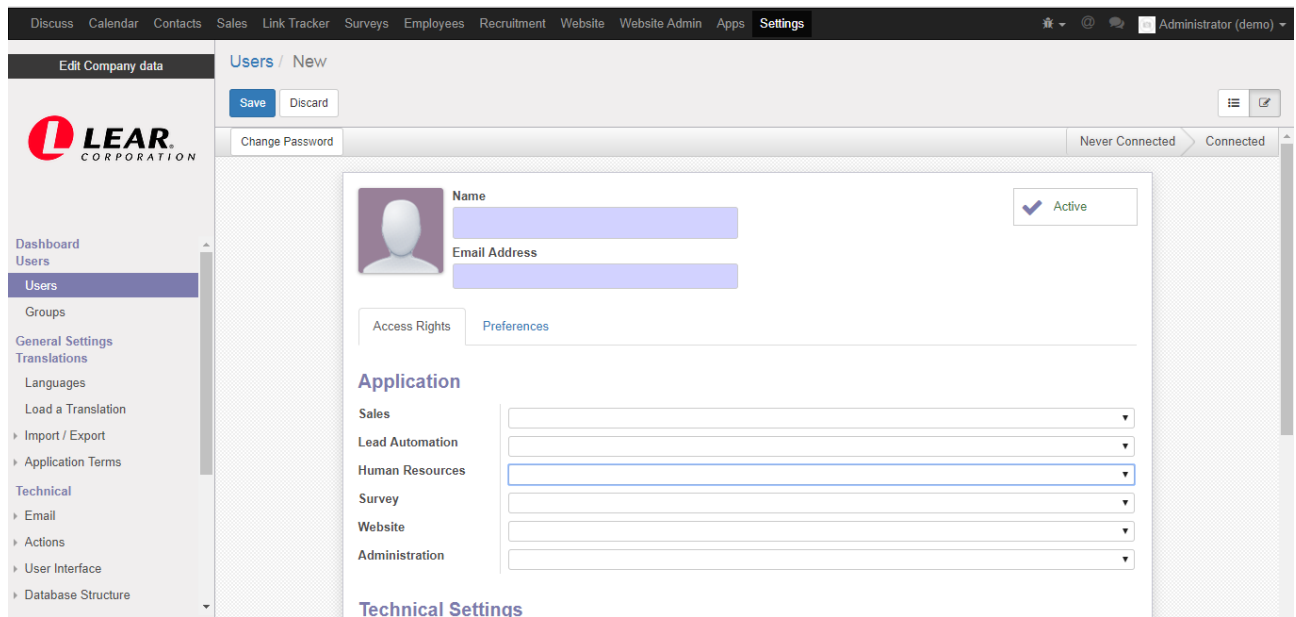
Then we activate the developer mode: click on “administrator”→”about”→”Activate the developer mode”:



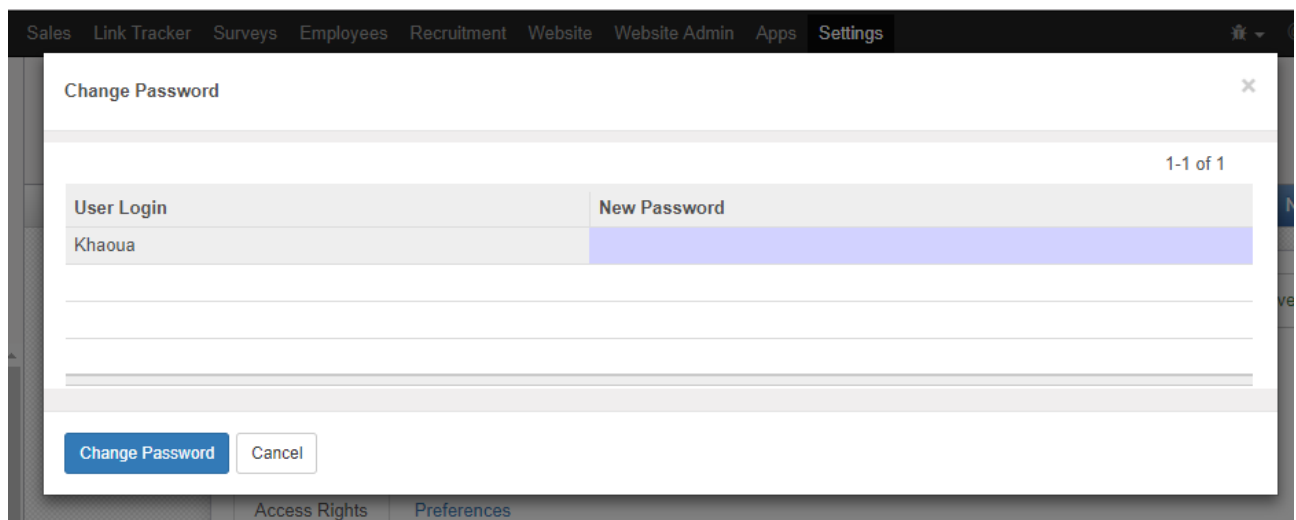
Then we create a user by clicking on “create”:



We enter the informations of the user and set his access rights:



Here we set name and the login name (Email Address) of the user. Actually, it must not have the email form, but we can also give it the same name to facilitate the login. We can also change the password by clicking on “Change Password”:



Bellow the information part, we have the part of access rights. Hare we can limit the apps used by the user:

Sales Link Tracker Surveys Employees Recruitment Website Website Admin Apps **Settings** 3 / 3

Users / Khaoua

Save Discard

Access Rights Preferences

### Application

Sales

Lead Automation

Human Resources

Survey

Website

Administration

### Technical Settings

Attendances ☐

Enable Light Multi Company ☐

### Extra Rights

Contact Creation ☒

Multi Currencies ☐

Multi Companies ☐

### Other Extra Rights

Portal ☐

Public ☐

For the home page of each user, it can change in the references part by setting the “Home Action” on the desired page:

Sales Link Tracker Surveys Employees Recruitment Website Website Admin Apps **Settings** 3 / 3

Users / Khaoua

Save Discard

Access Rights Preferences

### Localization

Language

Timezone

### Menus Customization

Home Action

### Messaging and Social

Email Messages and Notifications ☐ Never ☒ All Messages

Signature

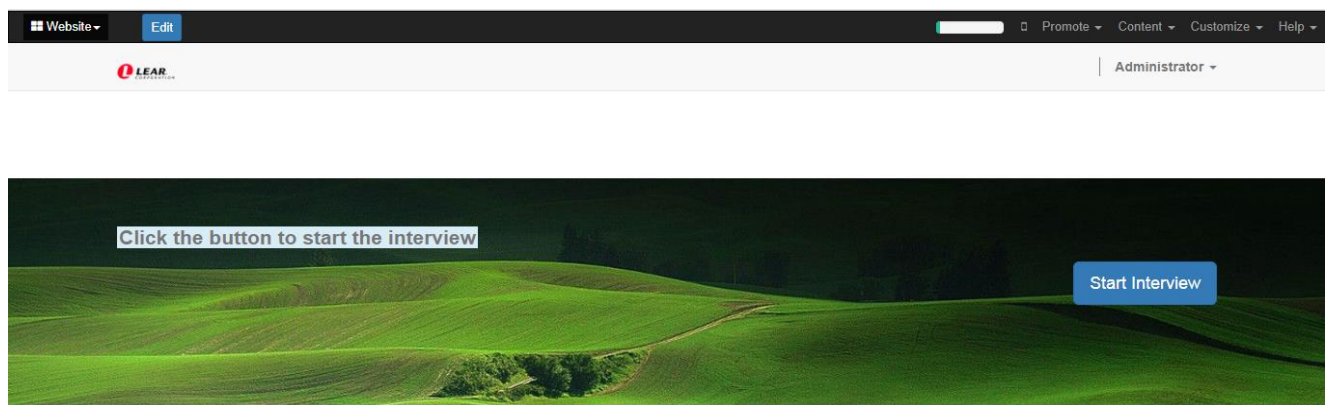
**B** *I* U

To create a user (Candidate for example), we set the every application to “null”.

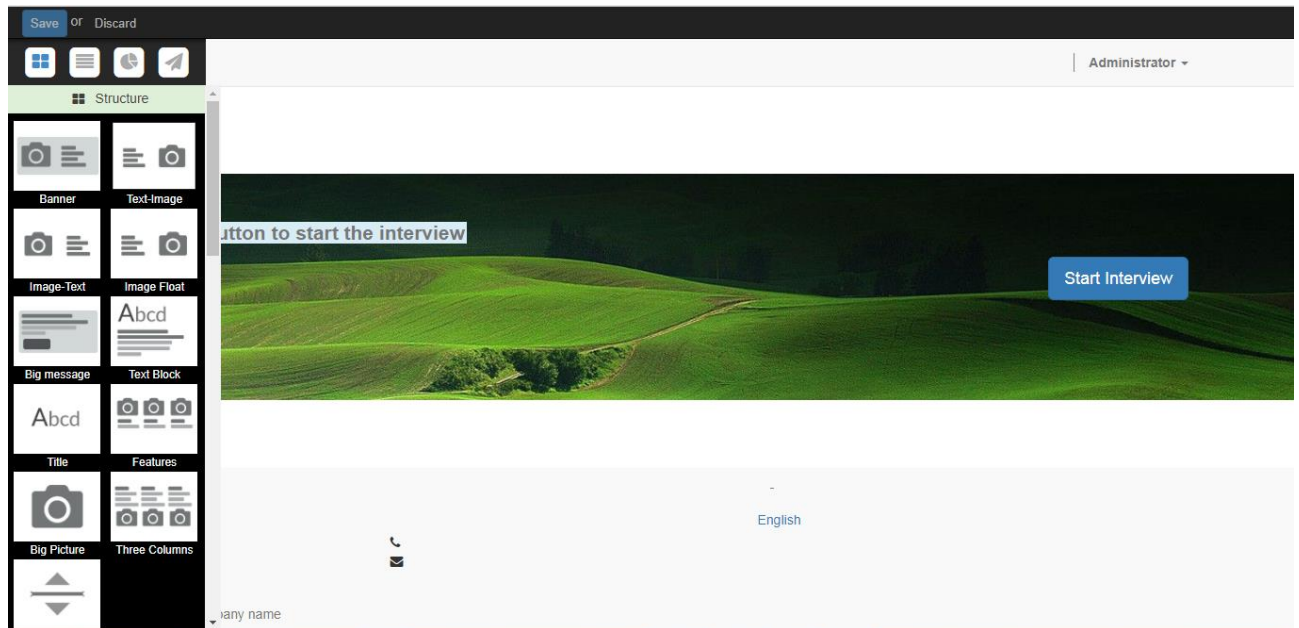
To create a supervisor (he can add an employee to a job position, see the answers of his users, follow them...), we set the human resources app on “officer”, and the survey app on “user”.

### 1.3- Website Editing:

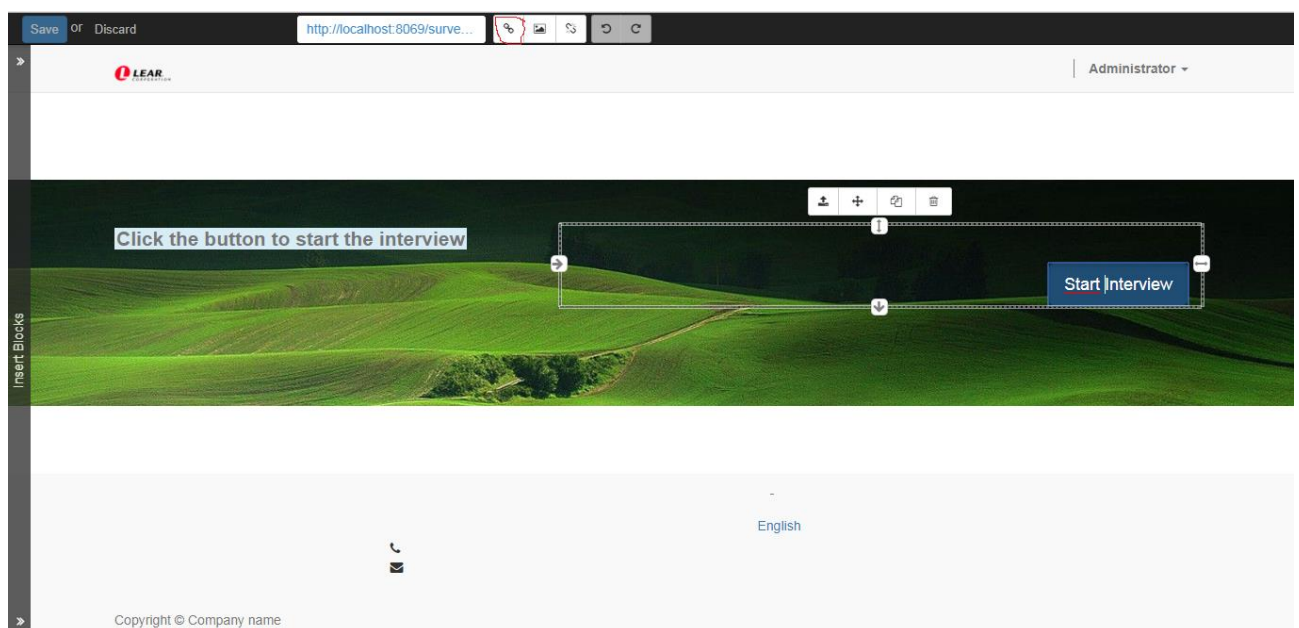
To edit the website page, we simply click on “edit” button:



Then we can add buttons, or pictures...:



Like we see in the home page, we already added a button to access to the interview. We can customize the button (name, link, color...) by clicking on it while editing the page:



After clicking on button circled, we can access to edit page of the button selected:

**Link to**

**Link Label**

Start Interview

**Page**

New or existing page

**URL or Email Address** Open in new window

http://localhost:8069/survey/start/software-engineer2-574/phantom?debug=

**Style**

Color Style

Size

**Preview**

Start Interview

Save or Discard

Here we can totally customize the button.

To set link of a specific survey, we go to “Surveys”, enter to a chosen survey and then click on “Test Survey”:

Discuss Calendar Contacts Sales Link Tracker **Surveys** Employees Recruitment Website Website Admin Apps Settings

Administrator (demo)

Surveys / Software Engineer

Edit Create Attachment(s) Action

Design Survey **Test Survey** Print Survey Share and invite by email View results

Draft In progress Closed Permanent

Surveys  
Answers  
Configuration  
Pages  
Questions  
Labels  
User Input Lines

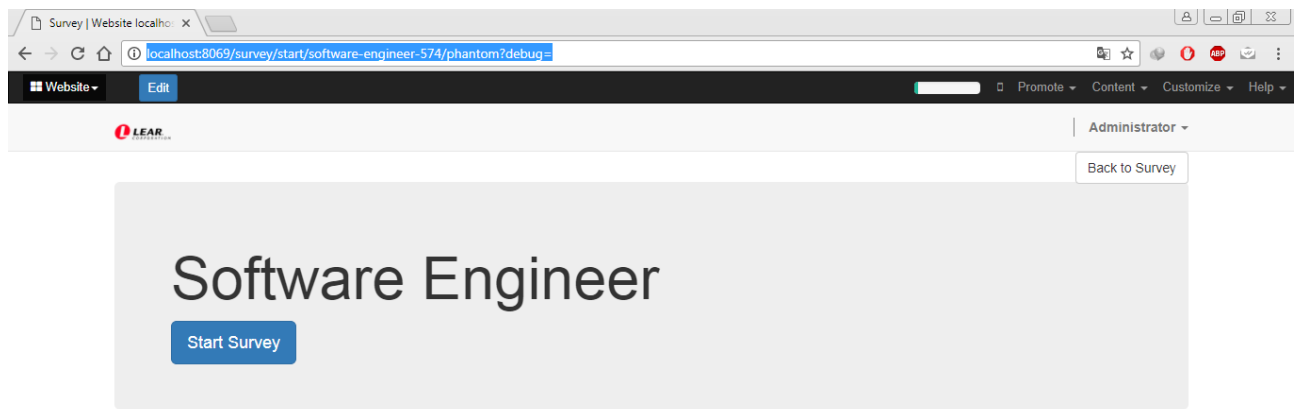
**Software Engineer**

Edit Pages and Questions Options

1-3 of 3

| Page Title         | Questions   |
|--------------------|-------------|
| C programming      | (3 records) |
| Python Programming | (3 records) |
| Embedded C         | (3 records) |

This will lead us to the following website page:

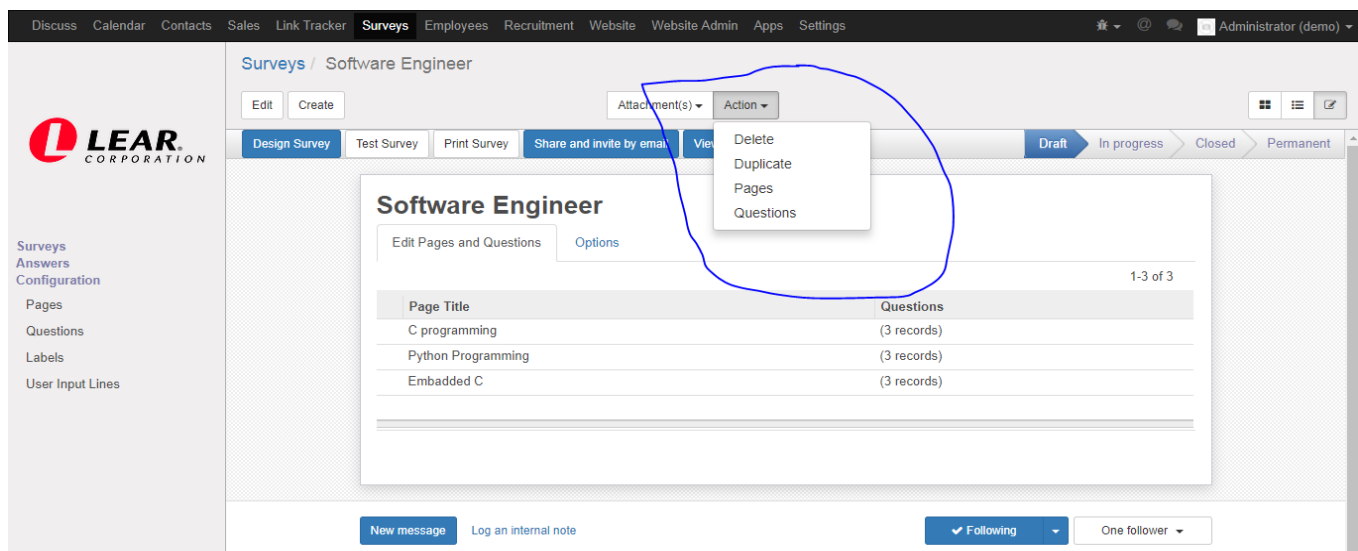


Finally we take the link of the page and paste it to the button desired.

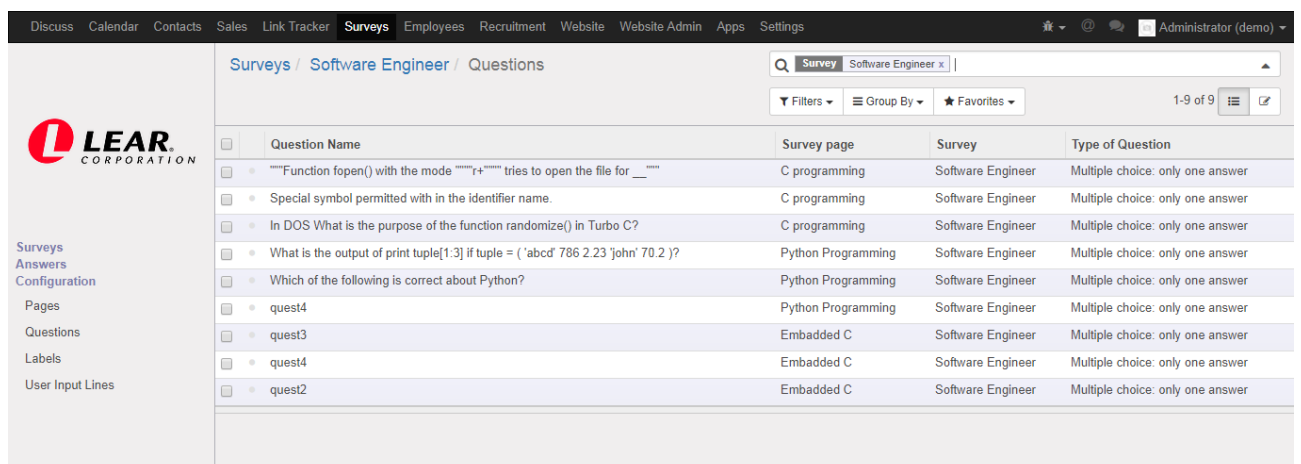
#### 1.4- Update the surveys questions:

In this session, we need first to export the database ids of each item:

To get it done, we go to “Surveys”, click on a specific survey, then click on “Action” and choose “questions”:



After that, the following page will appear:



Then we select all the questions that we want to update so as to export all the ids that we need:

[Discuss](#)
[Calendar](#)
[Links](#)
[Tracker](#)
[Surveys](#)
[Employees](#)
[Recruitment](#)
[Website](#)
[Website Admin](#)
[Apps](#)
[Settings](#)

[🔍](#)
[🔔](#)
[👤](#)
[Administrator \(demo\)](#)

[Surveys](#) / [Software Engineer](#) / [Questions](#)

Action

Filters

Group By

Favorites

1-9 of 9

| <input checked="" type="checkbox"/> | Question Name   | Page               | Survey            | Type of Question                 |
|-------------------------------------|---|--------------------|-------------------|----------------------------------|
| <input checked="" type="checkbox"/> | Function fopen() with the mode "r+" tries to open the file for ____               | C programming      | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | Special symbol permitted with in the identifier name.                             | C programming      | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | In DOS What is the purpose of the function randomize() in Turbo C?                | C programming      | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | What is the output of print tuple{1:3} if tuple = ('abcd' 786 2.23 'john' 70.2 )? | Python Programming | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | Which of the following is correct about Python?                                   | Python Programming | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | quest4  | Python Programming | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | quest3  | Embaded C          | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | quest4  | Embaded C          | Software Engineer | Multiple choice: only one answer |
| <input checked="" type="checkbox"/> | quest2  | Embaded C          | Software Engineer | Multiple choice: only one answer |

[Surveys](#)  
[Answers](#)  
[Configuration](#)  
[Pages](#)  
[Questions](#)  
[Labels](#)  
[User Input Lines](#)

After clicking on “Action” → “Export”, we will have this page opened:

[illegible]

We set the “Export Type” on “Export all Data” so as to get all the informations needed. For “Export Formats” it is recommended to be set on “Excel” to have a well-organized data and after we can save it as CSV file (this part will be explained soon). The attributes that we need here are: “Survey/ID”, “Survey page/ID”, “ID” (for Question ID) and “Type of answers/ID” (for the question choices). It is highly recommended to organize these attributes in the same order as the last picture shows. Finally we click on “Export To File” to have the file desired.

After exporting the file, we save this new file as CSV and named as “survey\_ids”, then put it in the “server” file of odoo (C:\Program Files (x86)\Odoo 9.0-20170809\server):

Nom de fichier :

Type :

The second part, is to create another excel file that contains the data we would import or update. To do that, we export another excel file that contains this attributes:



**Export Data**

This wizard will export all data that matches the current search criteria to a CSV file. You can export all data or only the fields that can be reimported after modification.

Please pay attention that all records matching your search filter will be exported. Not only the selected ids.

Export Type: **Export all Data** | Export Formats: **Excel**

**Available fields**

- Survey page/Survey
- Type of Question
- Types of answers
- Types of answers/Created by
- Types of answers/Created on
- Types of answers/Display Name
- Types of answers/ID
- Types of answers/Label Sequence order
- Types of answers/Last Modified on
- Types of answers/Last Updated by
- Types of answers/Last Updated on
- Types of answers/Question
- Types of answers/Question
- Types of answers/Score for this choice
- Types of answers/Suggested value
- Validate entry

**Fields to export** [Save fields list](#)

Saved exports: **None** | **Delete**

- Survey/Title
- Survey page/Page Title
- Question Name
- Type of Question
- Display mode
- Mandatory Answer
- Input must be an email
- Types of answers/Suggested value
- Types of answers/Score for this choice

**Excel Spreadsheet:**

| External ID | Survey/Title                    | Survey page/Page Title | Question Name                    | Type of Question | Display mode | Mandatory | Input must be an email | Types of answers | Types of answers/Score for this choice |
|-------------|---------------------------------|------------------------|----------------------------------|------------------|--------------|-----------|------------------------|------------------|--|
| 1           | Software Engineer C programming | Choose the applica     | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 1                      | 0                |  |
| 2           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 2                      | 1                |  |
| 3           | Software Engineer C programming | what4                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 3                      | 0                |  |
| 4           | Software Engineer C programming | what2                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 4                      | 0                |  |
| 5           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 5                      | 0                |  |
| 6           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 6                      | 1                |  |
| 7           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 7                      | 0                |  |
| 8           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 8                      | 0                |  |
| 9           | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 9                      | 0                |  |
| 10          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 10                     | 0                |  |
| 11          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 11                     | 0                |  |
| 12          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 12                     | 0                |  |
| 13          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 13                     | 0                |  |
| 14          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 14                     | 0                |  |
| 15          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 15                     | 0                |  |
| 16          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 16                     | 0                |  |
| 17          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 17                     | 0                |  |
| 18          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 18                     | 0                |  |
| 19          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 19                     | 0                |  |
| 20          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 20                     | 0                |  |
| 21          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 21                     | 0                |  |
| 22          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 22                     | 0                |  |
| 23          | Software Engineer C programming | what3                  | Multiple choice: only one answer | Radio Buttons    | FAUX         | FAUX      | 23                     | 0                |  |

Before saving the file, we have to do the following changes:

Type of question:

- “Multiple choice: only one answer” → “simple\_choice”
- “Multiple Line Text Box” → “free\_text”
- “Single Line Text Box” → “textbox”
- “Numerical Value” → “numerical\_box”
- “Date and Time” → “datetime”
- “Multiple choice: multiple answers allowed” → “multiple\_choice”
- “Matrix” → “matrix”

Display mode:

- “Selection Box” → “dropdown”
- “Radio Buttons” → “columns”



Boolean values:

“FAUX” → “False”

“VRAI” → “True”

And then do the same thing as the ids file, save it as CSV file and named “pages” (compatibility with the python program) after that, put it in the “server” file of odoo (C:\Program Files (x86)\Odoo 9.0-20170809\server).

Nom de fichier : pages

Type : CSV (séparateur: point-virgule)

### 1.5- Run the python file:

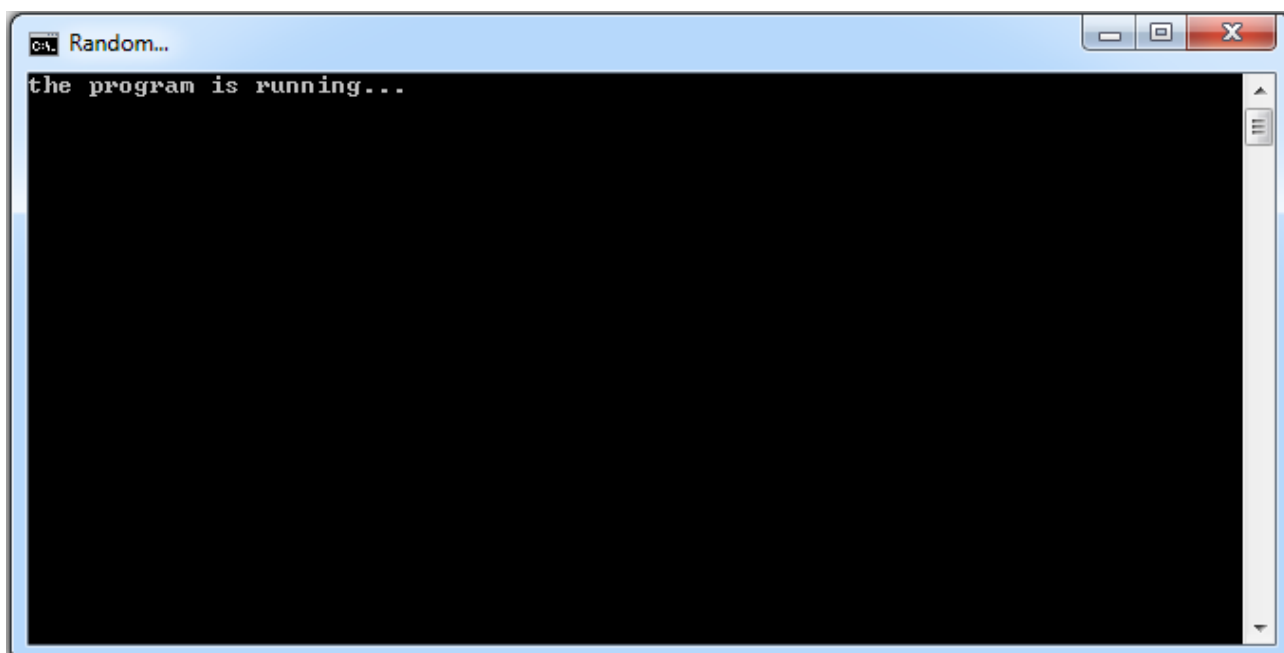
To update the data, we have to run the python program named “survey\_random.py” existing in C:\Program Files (x86)\Odoo 9.0-20170809\server. To do that we can open the command window and tap this commands bellow:

```
>>cd C:\Program Files (x86)\Odoo 9.0-20170809\server
```

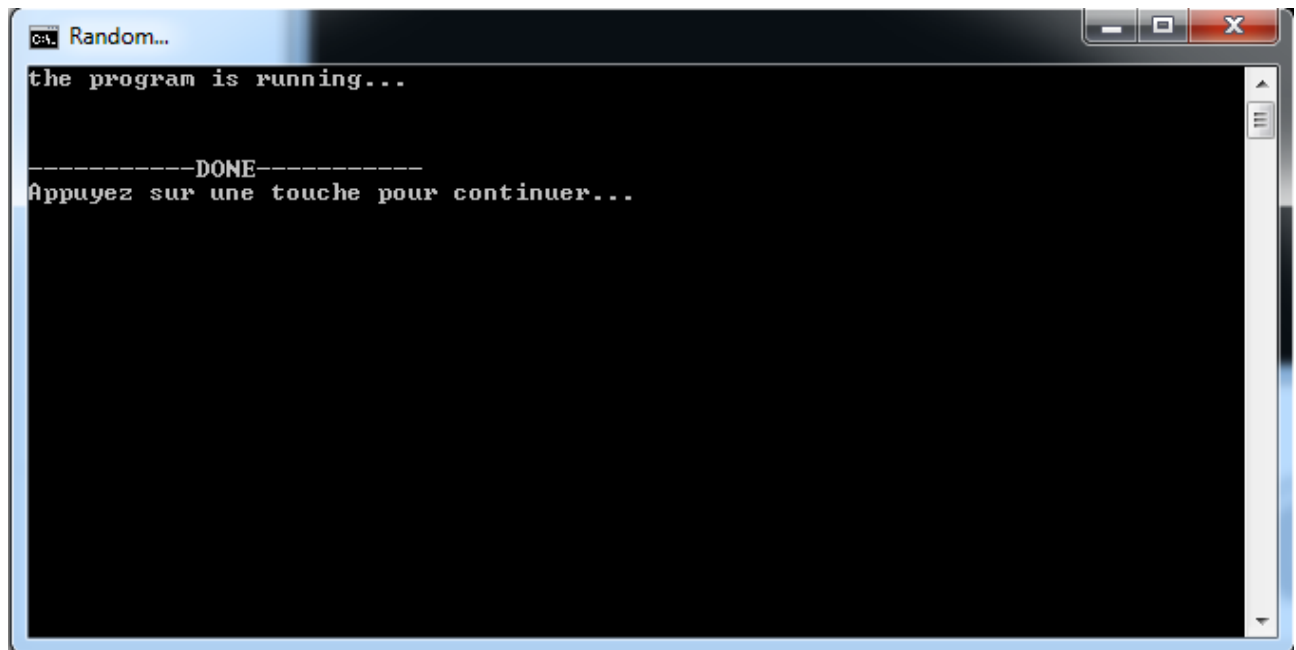
```
>>survey_random.py
```

OR: Execute the batch file created for this commands.

```
1 @echo off
2 title Random...
3 echo the program is running...
4 cd C:\Program Files (x86)\Odoo 9.0-20170809\server
5 python survey_random.py
6 pause
```



After a while of compilation,



We can see that the data had changed randomly, and automatically changed in website also.

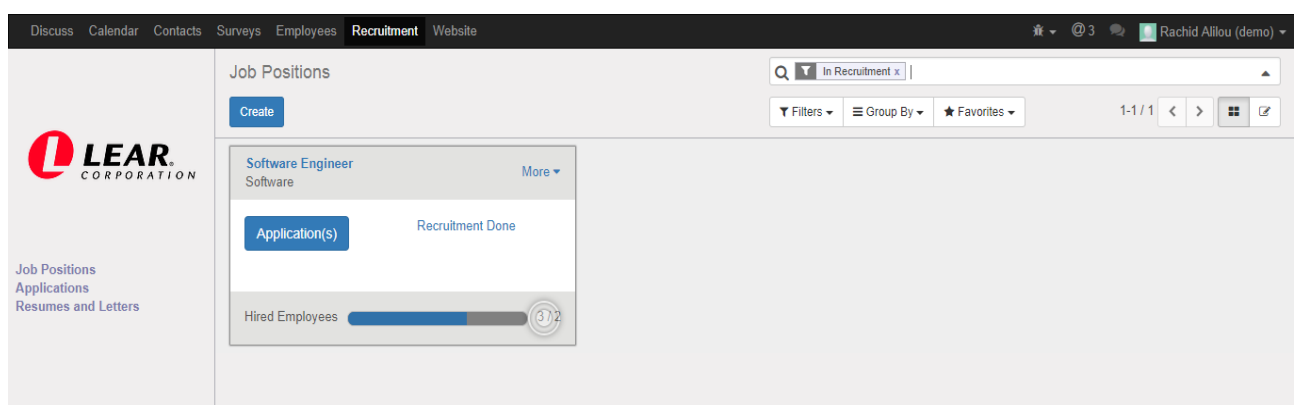
## 2. Supervisor:

### 2.1- Create Job Position:

First of all, he should activate the developer mode.

The supervisor can:

- Log in to his account:
  - User name : Email Address
  - Password: specified by the admin
- Create his job position
  - Click on «Create»,



- Enter the informations:
  - Department
  - Responsable
  - Expected employees

- Interview form
- ...

Link Tracker Surveys Employees **Recruitment** Website Website Admin Settings Rachid Allou (demo)

Job Positions / New

Save Discard

Stop Recruitment Recruitment in Progress Recruitment Closed

Job Name  
**Job Position Name**

Applications 0 Employees 0 Documents 0

Trackers

Department  
Recruitment Responsible  
Expected New Employees 1

Interview Form  
Job Location

Job Stages

Job Description

## 2.2- Create Employees and applicants:

- Create applicants to hire:
  - Click on «Application(s)»,

Job Positions

Create

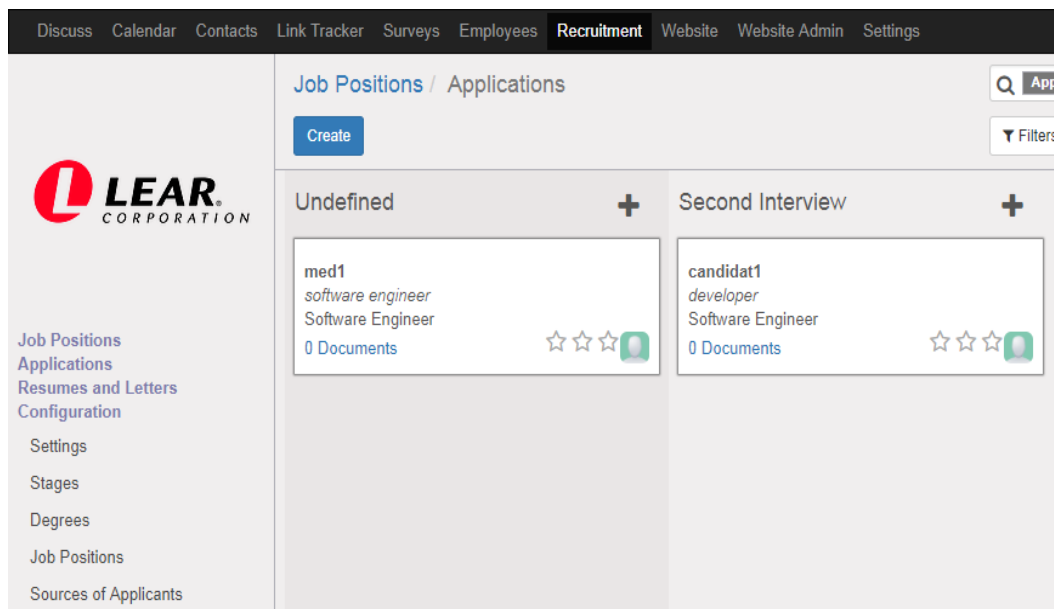
Software Engineer  
Software

More

Application(s)

Display Interview Form  
Recruitment Done

Hired Employees 6 / 2



- Click on «Create»:
- Enter the informations
- Click on «Create Employee»: specify a user account.

- Create a user account:
- After clicking on «create employee»
- We can edit by «Edit»


The screenshot shows the LEAR Corporation Recruitment application form for 'candidat3'. The form is divided into several sections: Public Information, Personal Information, HR Settings, Contact Information, and Position. The Contact Information section includes fields for Working Address, Work Mobile, Work Location, Work Email, and Work Phone. The Position section includes fields for Department, Job Title, Manager, and Coach. The form is currently in 'Not Archived' status.

- Relate this employee to a user:
  - If it's already exists
  - Create it if it's not:
    - Tap the name of the user in «Related User»
    - Then click on «create name»: here name = candidat3

The screenshot shows the LEAR Corporation Recruitment application form for 'candidat3' with the 'Status' section expanded. The 'Status' section includes a 'Related User' dropdown menu. The form is currently in 'Not Archived' status.

- Create a user in case not existed:
  - Add all the information needed:
    - Name
    - Email Address : user name
    - Save

Open: Related User ✕



Name

Email Address

Phone

Mobile


Fax

- To change the password:
  - Go to «Settings»
  - Select the user created
  - «change password»
  - Limit the access rights

| Link Tracker Surveys Employees Recruitment Website Website Admin <b>Settings</b> |               |                  |
|--|---------------|------------------|
| Users  |               |                  |
| <input type="button" value="Create"/> <input type="button" value="Import"/>      |               |                  |
| <input type="checkbox"/>   | Name          | Login            |
| <input type="checkbox"/>   | Administrator | admin            |
| <input type="checkbox"/>   | candidat3     | candidat3        |
| <input type="checkbox"/>   | Rachid Alilou | RAilou@gmail.com |

Link Tracker Surveys Employees Recruitment Website Website Admin **Settings**

Users / candidat3



**candidat3**  
 candidat3

Related Partner  
 candidat3

**Application**  
 Sales  
 Lead Automation  
 Human Resources  
 Survey  
 Website  
 Administration

Employee

Change Password

1-1 of 1

| User Login | New Password |
|------------|--------------|
| candidate3 |              |

Change Password Cancel

### 2.3- Pursuit an applicant:

- To pursuit an applicant:
  - Go to «Recruitment»
  - Click on «Applications»:
    - we can hire an applicant to another stage just by a simple slide
  - Create stages:
    - Click on «+» to add a stage.

Applications

Create

Filters Group By Favorites

| Undefined   | initial qualification |  |  |  | Contract Proposed |
|---|-----------------------|--|--|--|-------------------|
| <p>candidate3</p> <p>soft</p> <p>Software Engineer</p> <p>0 Documents</p> <p>☆☆☆</p>        |                       |  |  |  |                   |
| <p>med1</p> <p>software engineer</p> <p>Software Engineer</p> <p>0 Documents</p> <p>☆☆☆</p> |                       |  |  |  |                   |

Job Positions Applications Resumes and Letters Configuration Settings Stages Degrees Job Positions Sources of Applicants

- List of stages:
  - Click on «stages»:

Discuss Calendar Contacts Link Tracker Surveys Employees **Recruitment** Website Website Admin Settings Rachid Allilou (demo)

LEARN CORPORATION

Job Positions  
Applications  
Resumes and Letters  
Configuration  
Settings  
**Stages**  
Degrees  
Job Positions  
Sources of Applicants

Stages

Q |

Filters Group By Favorites 1-7 of 7

| Stage name                                     | Folded in Recruitment Pipe          |
|--|-------------------------------------|
| <input type="checkbox"/> Initial qualification | <input type="checkbox"/>            |
| <input type="checkbox"/> First Interview       | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Second Interview      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Third Interview       | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Contract Proposed     | <input type="checkbox"/>            |
| <input type="checkbox"/> Contract Signed       | <input type="checkbox"/>            |
| <input type="checkbox"/> Refused               | <input type="checkbox"/>            |

## 2.4- Solicit the reports of the interview:

- To see the answers of each candidate:
  - Go to «Surveys»,
  - Click on «Answers»:
    - Here is the list of reports for each user
    - We can see:
      - those who are Completed
      - Their Score
      - ...

Discuss Calendar Contacts Link Tracker **Surveys** Employees Recruitment Website Website Admin Settings Rachid Allilou (demo)

LEARN CORPORATION

Surveys  
Answers  
Configuration  
Pages  
Questions  
Labels  
User Input Lines

Answers

Q Survey x

Filters Group By Favorites 80

| Group                   | Survey                                     | Creation Date       | Deadline | Partner       | E-mail | Answer Type | Status              | Score for the quiz |
|-------------------------|--|---------------------|----------|---------------|--------|-------------|---------------------|--------------------|
| ▼ Software Engineer (9) |  |                     |          |               |        |             |                     |                    |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 12:05:26 |          | Administrator |        | Manually    | Completed           | 56.00              |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 13:33:50 |          |               |        | Manually    | Completed           | 134.00             |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 13:57:33 |          |               |        | Manually    | Completed           | 133.00             |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 14:01:35 |          |               |        | Manually    | Completed           | 131.00             |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 14:12:50 |          |               |        | Manually    | Completed           | 49.00              |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 14:19:25 |          |               |        | Manually    | Completed           | 50.00              |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 16:00:23 |          | candidat1     |        | Manually    | Completed           | 4.00               |
|                         | <input type="checkbox"/> Software Engineer | 08/22/2017 16:22:41 |          |               |        | Manually    | Partially completed | 0.00               |
|                         | <input type="checkbox"/> Software Engineer | 08/23/2017 19:48:10 |          |               |        | Manually    | Completed           | 8.00               |

- Choose a report to have more details:
  - Questions
  - Score
  - ...



Discuss Calendar Contacts Link Tracker **Surveys** Employees Recruitment Website Website Admin Settings Rachid Alliou (demo)

Answers / 2017-08-23 18:48:10

Edit Attachment(s) Action 9 / 9

Print These Answers View Results Not started yet Partially completed **Completed**

**Survey** Software Engineer  
**Creation Date** 08/23/2017 19:48:10  
**Answer Type** Manually  
**Identification token** 7804b669-053a-4663-8fa5-e57d9e7e723e  
**Deadline**  
**Partner**  
**E-mail**  
**Test entry** ☒  
**Score for the quiz** 8.00

1-27 of 27

| Page          | Question   | Answer Type | Skipped                  | Create Date         | Score given for this choice |
|---------------|--|-------------|--------------------------|---------------------|-----------------------------|
| Informations  | First Name:  | Text        | <input type="checkbox"/> | 08/22/2017 11:34:22 | 0.00                        |
| Informations  | Second Name:   | Text        | <input type="checkbox"/> | 08/22/2017 11:34:22 | 0.00                        |
| Informations  | Email:   | Text        | <input type="checkbox"/> | 08/22/2017 11:34:22 | 0.00                        |
| C programming | What is the correct value to return to the operating system upon the successful completion of a program? | Suggestion  | <input type="checkbox"/> | 08/22/2017 11:34:22 | 1.00                        |

Powered by Odoo

- To have more specific informations:
  - Click on «Print These Answers»,
    - The questions of each page or bloc
    - Their answers
    - Their correct answer (with the green color)

Website Rachid Alliou

# Software Engineer

## Informations

First Name: \*

admin

Second Name: \*

admin

Email: \*

## C programming

What is the correct value to return to the operating system upon the successful completion of a program?

- ☐ -1
- ☐ 1
- ☒ 0
- ☐ Programs do not return a value.

What is (void\*)0?

- ☒ Representation of NULL pointer
- ☐ Representation of void pointer
- ☐ Error
- ☐ None of above

Which of the following is a correct comment?

- ☐ /\* Comments \*/
- ☐ \*\* Comment \*\*
- ☒ /\* Comment \*/
- ☐ { Comment }

## Python Programming

Which of the following function removes all leading whitespace in string?

- ☐ lower()
- ☒ lstrip()
- ☐ max(str)
- ☐ min(str)

Which of the following function convert a String to a tuple in python?

- ☐ repr(x)
- ☐ eval(str)
- ☒ tuple(s)
- ☐ list(s)

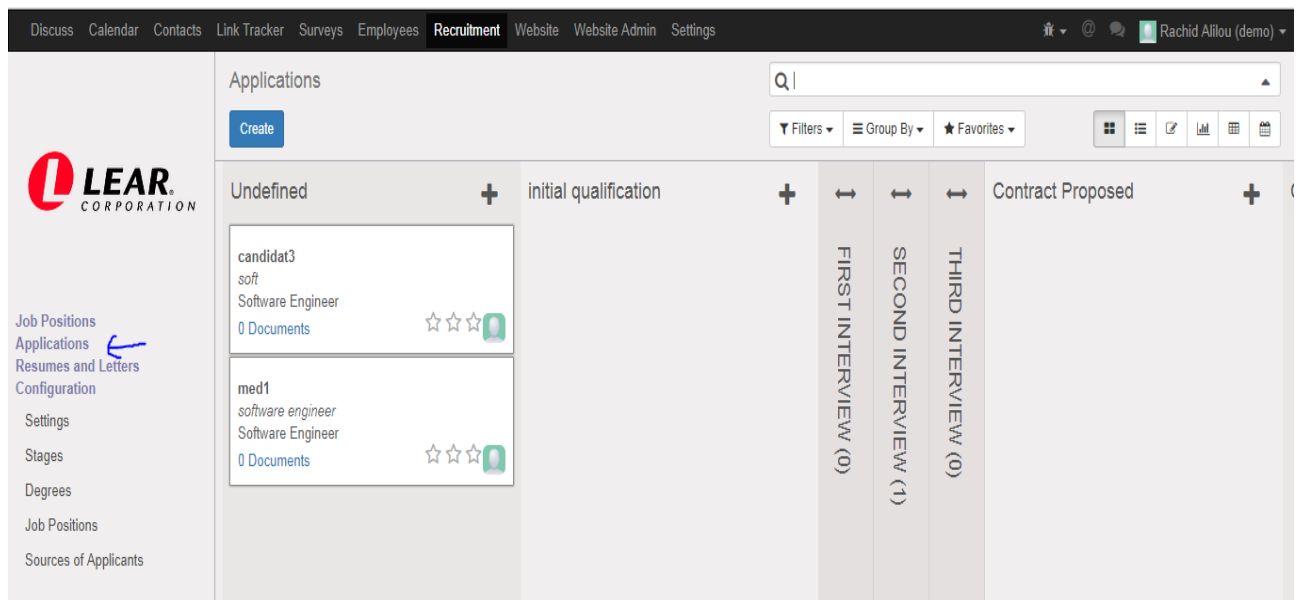
What is the output of print str[0] if str = 'Hello World!'?

- ☐ Hello World!
- ☒ H
- ☐ ello World!
- ☐ None of the above.

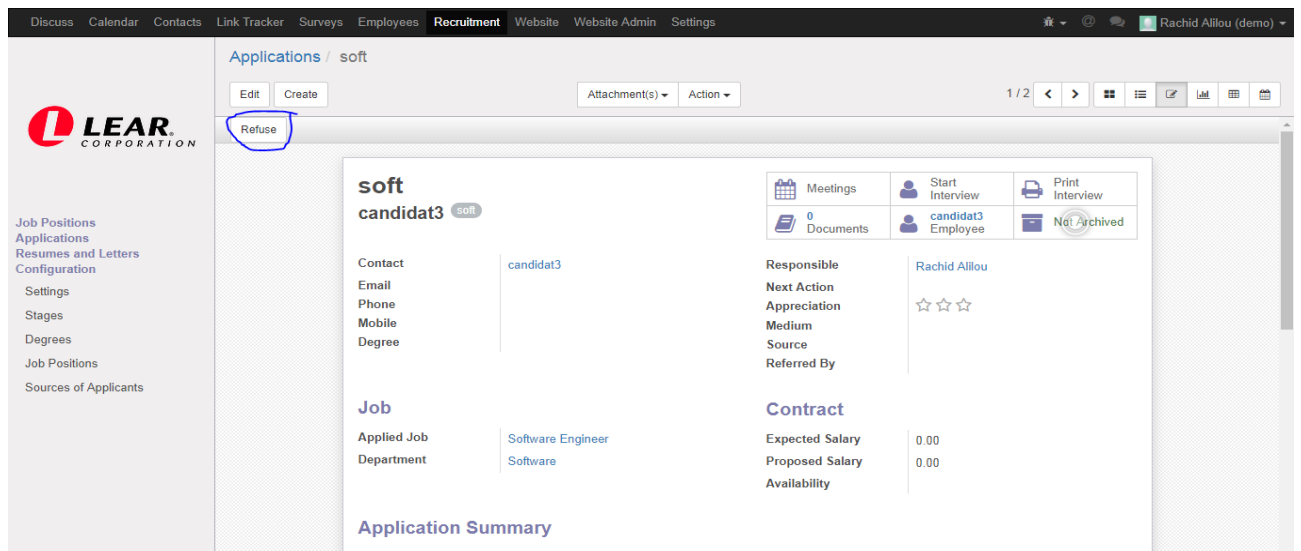
Which of the following function returns a random float r, such that 0 is less than or equal

### 2.5- Refuse an applicant:

- To Refuse an applicant:
  - Go to «Recuitement»
  - Then «Applications»
  - Choose an applicant,



- Click on «Refuse»:
  - It is automatically deleted in the job position applicant list
  - And in the employees of the department



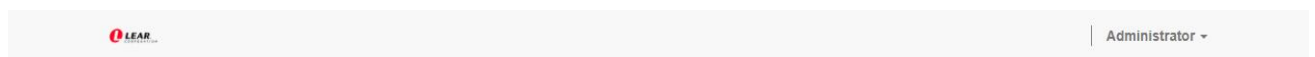
### 3. Candidate:

#### 3.1- Log in:

- The candidate can log in to the website using a user account created by his supervisor:

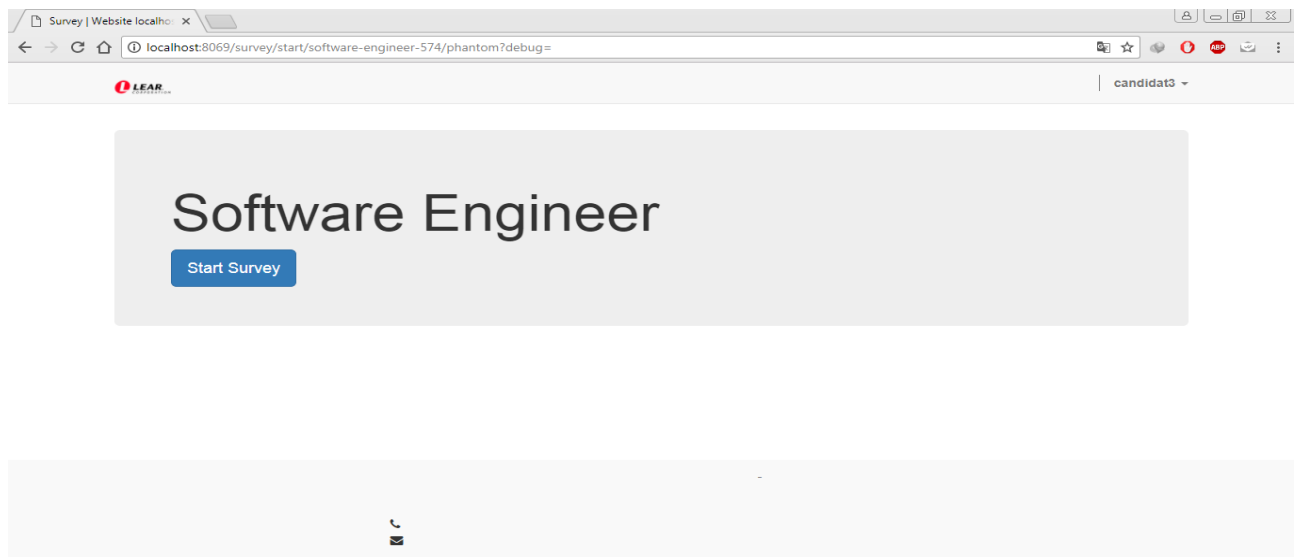
### 3.2- Choose an interview form:

- After log in, this page will appear:
  - The home page of the website
  - Then he clicks on the button “Start Interview”
  - This page can include many buttons for each interview form. So the candidate can choose the interview specific to a job position,
  - This example contains only one interview form “Software Engineering”,



### 3.3- Start the interview:

- Click on “Start Survey”:



### 3.4- First page:

- The red star means that this field requires an answer
- The email format is not correct, so the candidat3 can't go to the next page

### 3.5- Second page:

- The candidate can go back to the previous page

Survey | Website localho: X

localhost:8069/survey/fill/software-engineer-574/607e3f44-de6a-4b35-b610-7a60413202a4

LEARN

candidate3

## C programming

Page 2 on 6

What is the correct value to return to the operating system upon the successful completion of a program?

- ☐ -1
- ☐ 1
- ☐ 0
- ☐ Programs do not return a value.

What is (void\*)0?

- ☐ Representation of NULL pointer
- ☐ Representation of void pointer
- ☐ Error
- ☐ None of above

Which of the following is a correct comment?

- ☐ /\* Comments \*/
- ☐ \*\* Comment \*\*
- ☐ /\* Comment \*/

Survey | Website localho: X

localhost:8069/survey/fill/software-engineer-574/607e3f44-de6a-4b35-b610-7a60413202a4

Which of the following is a correct comment?

- ☐ /\* Comments \*/
- ☐ \*\* Comment \*\*
- ☐ /\* Comment \*/
- ☐ { Comment }

Which of the following is not a correct variable type?

- ☐ float
- ☐ real
- ☐ int
- ☐ double

Choose the function that is most appropriate for reading in a multi-word string?

- ☐ strnset()
- ☐ scanf()
- ☐ strchr()
- ☐ gets()

Previous page Next page

### 3.6- Last page:

- In the last page, the candidate can finish the interview by submitting the survey
- Then a report of answers is automatically generated.

Survey | Website localho: x

localhost:8069/survey/fill/software-engineer-574/607e3f44-de6a-4b35-b610-7a60413202a4

All or one above

Which organization has authority over interstate and international commerce in the communications field?

- ☐ ITU-T
- ☐ IEEE
- ☐ FCC
- ☐ ISOC

Frequency of failure and network recovery time after a failure are measures of the \_\_\_\_\_ of a network.

- ☐ Performance
- ☐ Reliability
- ☐ Security
- ☐ Feasibility

Previous page Submit survey

### 3.7- Thank message:

- This page contains:
  - A thank message
  - Score of quiz
  - A button to go to home page

Survey Finished | Website: x

localhost:8069/survey/fill/software-engineer-574/12dd0bac-7d62-4122-9f87-7ea8e156eb09

LEARN... | candidat3

Thank you!

Home page

You scored 0.0 points.  
If you wish, you can

### 3.8- Login Required:

- If the candidate has forgotten to log in, this page will appear:

Login required for this su: x

localhost:8069/survey/fill/software-engineer-574/e9742a12-f361-4ae2-b87f-c15874be1cc8

LEARN... | Sign in

Login required

This survey is open only to registered people. Please [log in](#).

# Perspectives

This project can be ameliorated using other technologies:

## ❖ QWEB:

Customize the reports and the web page. Reports are written in *HTML/QWeb*, like all regular views in *Odoo*. You can use the usual *QWeb* control flow tools. The PDF rendering itself is performed by *wkhtmltopdf*.

If you want to create a report on a certain model, you will need to define this Report and the Report template it will use. If you wish, you can also specify a specific Paper Format for this report. Finally, if you need access to more than your model, you can define a Custom Reports class that gives you access to more models and records in the template.

For more details: <https://www.odoo.com/documentation/8.0/reference/qweb.html>

## ❖ Template app:

Change the template of the web page by installing the app from App Store of *ODOO*.

## ❖ Show the statistics:

We have also the desire to have reports with graphs showing the statics of each bloc or page, so as to orientate the candidate. We can do this by customizing the reports with *QWEB*.

## ❖ Execute the python file for each log in:

After every login, the survey does not change, and we have to execute manually the python file. The solution is create an event on the login button by developing a function in python. This function should be implemented in the odoo server file. It can be also integrated directly to web python file for *odoo*.

## ❖ Timer for the survey:

To be certain that the candidate will logout after the deadline, we can create a timer to logout the account user, or shot down the server web. This can be done by installing an ODOO application the already exist but need to pay for it. Another solution is to develop a JavaScript *json* file that do the same thing.



# CONCLUSION

The objective of this project was to transform the process of the recruitment of LEAR Corporation into an automatic process via a platform of information system manager ERP called ODOO. We arrive to develop an automatic solution for a hard work that always done manually by most busy employees in the company.

Through this internship I had the chance to work on this concrete project, which allowed me to discover, in detail the process of the recruitment, and to acquire a know-how in the field of the management of information systems, its various frameworks and its software development.

I also realized at the end of this project that if I succeeded in realizing it, it is thanks to the polyvalent competencies acquired during the years of training at the INPT RABAT and the coaching I was able to benefit within LEAR RABAT.

As an outlook, the SW team intends to adopt a new recruitment process based on ODOO, applying this solution to other parts of the enterprise like production management and workflows can help to inner resource management for LEAR.

# **BIBLIOGRAPHY**

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<http://www.lear.com/>.

## **❖ ERP Bibliography:**

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## **❖ ODOO bibliography:**

<https://en.wikipedia.org/wiki/Odoo>

<http://www.odoo.com/>

## **❖ PFE Report :**

« Validation automatique des prototypes du calculateur RENAULT-NISSAN via l'équipement GHAT », year academic 2016/2017

## **❖ Help :**

[https://www.odoo.com/fr\\_FR/forum/aide-1/question/how-to-install-a-custom-theme-in-odoo-84615](https://www.odoo.com/fr_FR/forum/aide-1/question/how-to-install-a-custom-theme-in-odoo-84615)

<https://github.com/odoo/odoo>

<https://stackoverflow.com/>

<http://odoo-development.readthedocs.io/en/latest/dev/py/>