SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

التوليد التلقائي للتقارير في ال ODOO

AUTO DYNAMIC CREATION REPORT IN ODOO

OCTOBER 2017

A THESIS SUBMITED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF B.Sc. (HONOR) DEGREE IN COMPUTER **SCIENCE**

بسم الله الرحمن الرحيم

SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

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AUTO DYNAMIC CREATION REPORT IN ODOO

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SIGNITURE OF SUPERVISOR:
AL-SHARIF HAGO AL-MOGADAM …… DATE /OCTOBER/2017

الاية

{ لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا ۚ لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ ۗ رَبَّنَا لَا تُؤَاخِذْنَا إِنْ نَسِينَا أَوْ أَخْطَأْنَا ۚ رَبَّنَا وَلَا تَحْمِلْ عَلَيْنَا إِصْرًا كَمَا حَمَلْتَهُ عَلَى الَّذِينَ مِنْ قَبْلِنَا ۚ رَبَّنَا وَلَا تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهِ ۖ وَاعْفُ عَنَّا وَاغْفِرْ لَنَا وَارْحَمْنَا ۚ أَنْتَ مَوْلَانَا فَانْصُرْنَا عَلَى الْقَوْمِ الْكَافِرِينَ }

البقرة الاية (286)

الحمد لله

الحمد لله الواحد المعبود ، عم بحكمته الوجود ،وشملت رحمته كل موجود ، أحمده سبحانه وأشكره

وهو بكل لسان محمود،

وأشهد أن لا إله إل اللّهَ وحده لا شريك له

الغفور الودود وعد من أطاعه بالعزة والخلود ،

وتوعد من عصاه بالنار ذات الوقود وأشهد أن نبينا محمداً عبد اللَّ ورسوله

صاحب المقام المحمود واللواء المعقود ، والحوض المورود

صلى اللَّ عليه وعلى آله وأصحابه ،الركع السجود ، والتابعين ومن

تبعهم من المؤمنين الشهود

DEDICATION

To the fountain of patience and optimism and hope

My dear mother

To the big heart

My dear father

To all whom were reasons of success, by giving us the confidence.

My family members

To the people who paved our way of science and knowledge

All us

Teachers

To the taste of the most beautiful moments with them

My friends

We dedicate this thesis and wish from God obtain acceptance and success.

AKNOWLEDGEMENT

us strength and patience gave us, inspired First praise and thanks to ALLAH who

to complete this study successfully.

for his We extend our deep thanks to our supervisor, MR. Al Sharif Hago suggestion, guidance and good supervision.

Special thanks to Mrs.Wafaa Faisal, Mrs.Olla and Mr.Al Argham Ahmed for their help and support.

Special thanks are due to all our friends for their assistance and encouragement.

ABSTRACT

Reports are considered as an important and effective tool to collect, analyze and view data, and present results to decision makers in order to help them in decision making, but the difficulty in making these reports are preventing users from extracting the best benefit.

The aim of this study is to allow corporations to create reports with simple procedures by using an automated tool to generate these reports with possibility to access reports to increase efficiency and productivity of work by applying certain standard measurement on data, these standards help in choosing data that wants to be reported with the possibility to define the report type that serve corporations purpose.

After adding this tool and implementing it, the researchers obtained results, the most important one is that user can make reports recording to his/her needs, and reviewing output of the report in simple schema that makes decision makers pick the accurate decision.

The tool has been created by using enterprise resource planning (Odoo) because of its compatibility with current corporate systems and analyze data using same underlying system.

المستخلص

تعتبر التقارير وسيلة مهمة وفعالة في جمع وتحليل وعرض البيانات وتقديم نتائج التقرير لمتخذي القرار لمساعدتهم في اتخاذ القرار المناسب ولكن صعوبة التعامل معها تحول دون الاستفادة القصوى من امكانياتها.

الهدف من هذه الدراسة هو السماح للشركات والمؤسسات بإنشاء التقارير بعمليات سهلة باستخدام أداة آلية لإنشائها مع إمكانية الوصول للتقارير بطريقة سهلة لزيادة كفاءة وفعالية العمل عن طريق تطبيق معايير معينة على البيانات هذه المعايير تساعد في اختيار البيانات المراد انشاء التقرير لها مع امكانية اختيار نوع التقرير الذي يخدم الغرض المطلوب للمؤسسة.

بعد اضافة هذه الأداة وتجربتها على بيانات مخزنة مسبقا تم التوصل الى نتائج اهمها تمكين اي مستخدم من انشاء تقرير بناء على متطلباته والطلاع على مخرجات التقرير بصورة واضحة تسهل من عملية اتخاذ القرار المناسب.

تم بناء هذه الأداة باستخدام نظام تخطيط موارد المؤسسات لملائمته لأنظمة المؤسسات المستخدمة وتحليل البيانات باستخدام نفس النظام .

LIST OF TERMS

TERMS	DESCRIPTIONS
XML	Extensible Markup Language
SAP	System Application Platform
ISO	International Organization for Standardization
ERP	Enterprise Resource Planning
CRM	Customer Relationship Management
MASB	Marketing Accountability Standard Board
PDF	Portable Document Format
MS	Microsoft
HTML	Hyper Text Markup Language
IFRS	International Financial Reporting Standard
HR	Human Resources
LTC	Lower Total Cost
EUL	End User Layer
RTF	Rich Text Format
FSG	Financial Statement Generator
BI	Business Inelegance
IBM	International Business Machine
EPL	Eclipse Public License
JDO	Java Data Object
POJO	Plain Old Java Object
UML	Unified Modeling Language
SQL	Structured Query Language

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CHAPTER 1

INTRODUCTION

1.1. INTRODUCTION

Technical advancements have affected many life aspects especially in Computing aspects which help business in many ways such as accounting software, electronic transaction between companies and making automated reports.

Reports aid managers who are decision makers must be aware about the current state of organization even making users which can be managers or employees aware in a short period. Despite its obvious usefulness, reports take a lot of effort to be made and are time consuming because many employees are involved in the process of collecting, assembling and summarizing the final report, some technical endeavors were made in order to address this issue, they focus on time reduction but some effort have to be made by a specialist, problem occur when the specialist is not available that will affect the organization's performance.

Competition between software vendors assisted business in many aspects particularly in report generation field, many software vendors offer report generation solutions such as SAP and Google Dashboard and odoo.

Odoo, beside the aforementioned tools, is the only open source solution; it provides a reporting capability by coding the procedure to analyze and design report. Thus this research focused on enhancing it by making the reporting process simpler and more abstract, it will allow any employee to generate reports, and even managers themselves can generate these reports in a flexible manner.

1.2. PROBLEM STATEMENT

- Most systems having many problems in generating reports and extracting these reports.
- The traditionally way in collecting data and analyze these data are complicated and difficult procedure.

- Most of companies suffer from the extraction of reports in a regular basis, whether it’s an analytical report or periodic report let alone it’s on the traditional way.

1.3. Importance

- After completion of this project, ERP systems will obtain a new tool.
- Also can aid organizations that implement the ERP systems as it can guarantee the speed of execution, which ensures the efficiency of Reporting methods.

1.4. RESEARCH QUESTIONS

- How to generate reports in a fast, easy and accurate way?
- How the auto dynamic reports will serve big companies?
- How the reports presented in an appropriate manner?
- What the benefits of this research for the companies?

1.5. OBJECTIVES

This research aims to:

- To design a tool which generates reports in an auto dynamic way for data collection, and representing these data in a proper way for the customer.
- Design modules using odoo platform to help in generating auto reports.z Reduce time and effort of organizations.
- Help organizations to make decisions that depends on accurate reports.
- Help decision makers to select the right decision.

1.6. SCOPE

Scope of this research is designing a new tool which generates reports

depending on certain criteria which will be determined by an authorized entity, and organizations in generating reports in a dynamic auto method which will serve the organizations in making decisions.

1.7. RESEARCH STRUCTURE

Chapter one contains introduction about the project, defining the problem, importance, objectives, questions, scope and research structure.

Chapter two contains two parts. Parts one represents a general background about the system; and part two contain related studies.

Chapter three also contains three parts, first part explains the tools and techniques used in this project, and the second part is the UML design for the project functionality, and the third part is project implementation. Chapter four contains the results, discussion, conclusions and recommendations.

CHAPTER 2

BACKGROUND AND RELATED STUDIES

2.1. INTRODUCTION

This chapter is divided into two sections, the first section gives general description of ERP Systems and Odoo, the second section describes the related studies to the research.

2.2 SYSTEM BACKGROUND

This part discusses the system environment and available resources to create this research.

2.2.1 ERP SYSTEM

Enterprise resource planning (ERP) is processes that help organizations to organize its work by integrating all organization units in one system. This integrates areas such as planning, purchasing, inventory, sales, marketing, financing and human resources.

ERP is most frequently used in the context of software. This methodology has become common use; large software applications have been developed to help companies implement ERP. [1]

The figure (2.1) illustrates the operations of how to integrate ERP system

2.2.1.1 FEATURES AND PROPERTIES

Flexibility: In these days' methods of business are changing fast due to changes in law and amendments in the standards. So, management of business processes which are done through ERP should be flexible. If ERP system will be flexible, the company can change processing system as per their requirement.

Figure (2 - 1) integration of ERP system [3]

Modular and open: One of the great properties of any good ERP system that it has open module architecture. It means, if there is an error in any module, anyone can correct it by opening without affecting all other modules. For example, OpenERP consist of several modules which can be open separately:

- Sales Management
- Purchase Management
- Customer Relationship Management
- Project Management
- Warehouse Management
- Manufacturing

Comprehensive: ERP system should be advance and it should use comprehensive method. It means, almost all the functions of business should be done through ERP System. If the company will get only small number of activities through ERP and other

will be done through manual, then, this ERP system is not ok. Its capacity should cover all the functions of business.

Online-connection with other ERP system: Today, in the market, there is lots of ERP solution but which is the best, it will tell its features? Check whether it has capacity to connect other ERP system online or not. Because, today business has started to interact with millions of other business. So, it is necessary to connect them online through our ERP.

Best Business Practices: Each business activities have lots of standards. For example, accounting follows IFRS, quality management follows ISO 9000 and marketing follows the standard of MASB. So, your ERP system will updated regarding all standards.

Multi-Facilities: A good ERP System should have multi-facilities. It means, it can work in multi-currencies, multi-mode manufacturing and multi-platform.

Strategic Planning: is main and top function of business. It should be done through ERP. ERP should integrate all its sub-part systems for making better strategic planning.

Optimize the data: A good ERP system optimize the data for effective utilization of limited business resources. It also optimizes the data for reducing cost and risk.

Project Management: A good ERP System collaborate the team in real time for working together on a project. Everything about the project process can be tracked through this.

Automatic Functions: Company can measure the quality of ERP from its advance automatic functions. With these automatic functions, organizations saves lots of time. This automatic function may be in electronic fund transfer, electronic data interchange and E-commerce. [3]

2.2.2 ODOO (OPEN ERP)

Odoo is a powerful open source platform for business applications and free license. Combining all the features of traditional ERP as well as providing additional modules for the business aspects. Covering all business areas from CRM and Sales to Accounting and Stocks. Odoo has a dynamic and growing, flexible adapted to any community around it, constantly adding features, connectors, and additional business apps.

It was formally known as OpenERP but was renamed as Odoo in May 2014 after launching of version8. Odoo v8 includes apps containing E-Commerce, Business Intelligence, Website creation, Point of sales etc. [4]
Figure (2.2) illustrate operations that can apply by odoo

2.2.2.1 FEATURES AND PROPERTIES

Comprehensive: Odoo provides over than 1000 modules that can meet user's business needs.it is developed and supported by community, and the stack of functionality continuously increasing. Users can find their important modules that draw their requirements.

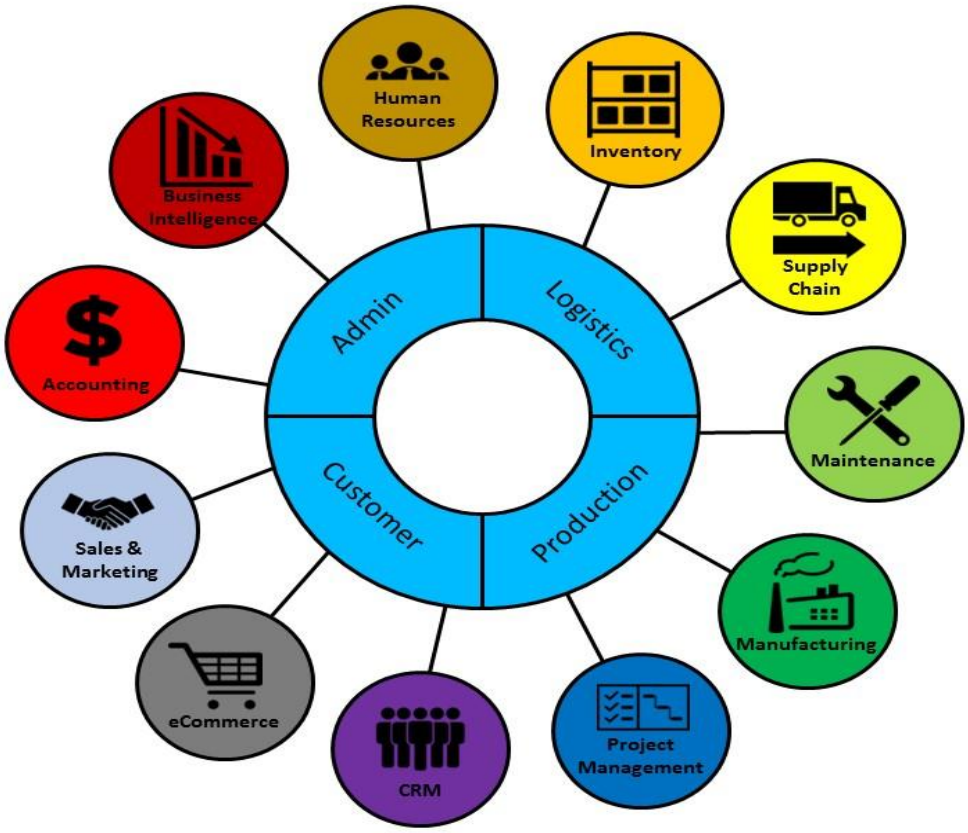


Figure (2 - 2) operations of oddo

[5]

Modular: You can use a few modules in Odoo / OpenERP and add more as you want, while keeping the benefits of an integrated solution.

Updated Technology: Odoo / OpenERP are using up-to-date technologies. These technologies continue to be developed and adapted to the latest patterns.

Consolidation Strategy: Allows standardization of business rules efficiently and effectively.

Customizable: Odoo/OpenERPis highly flexible. Designed to suite your company's business requirements through a changing world.

Lower Total Cost of Ownership (LTC): Odoo/OpenERP is easy to install, adapted, integrated and easy to use ERP solution. Users can implement and customize modules with no license fees.

No Lock-in: Odoo/OpenERP is open source software you can install, use, and test it for free. [6]

2.3 RELATED STUDIES

This section discuss previous studies related to automated reports.

2.3.1 SAP REPORTS

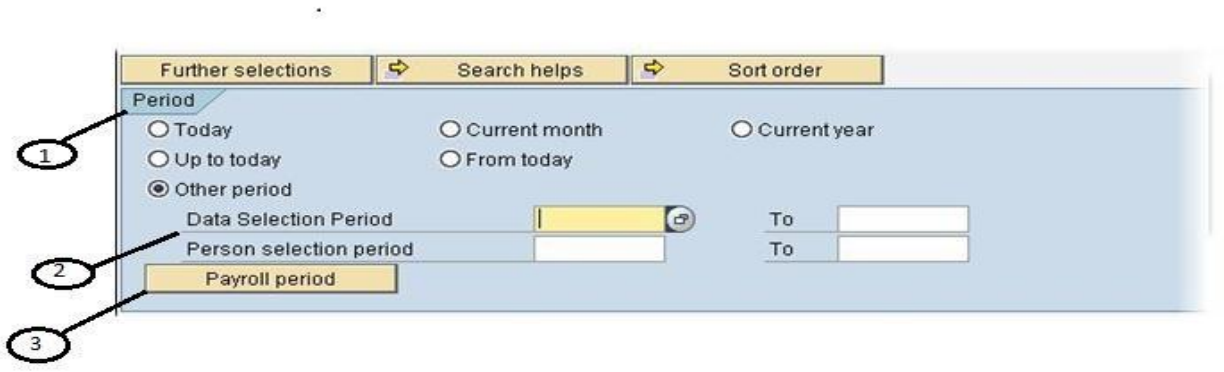
Is procedure to manage and view data also to generate report by choose certain criteria by End users, has several steps to generate the report:

Selecting a period for which report will run like Today (Only current Day's Data), Up to Today (all data of the past until today), Current Month, Current Year etc.
also it can select other periods and specify a custom from and to date for the period of report.

Or by clicking the Payroll Period Button and specify a payroll period as the time period for which your output will generated.

Figure (3.2) illustrate method to selects the period and specify custom

Figure (2 - 3) select period



Select a population: You can limit the number of people you want to run the report for by entering different selection criteria's.

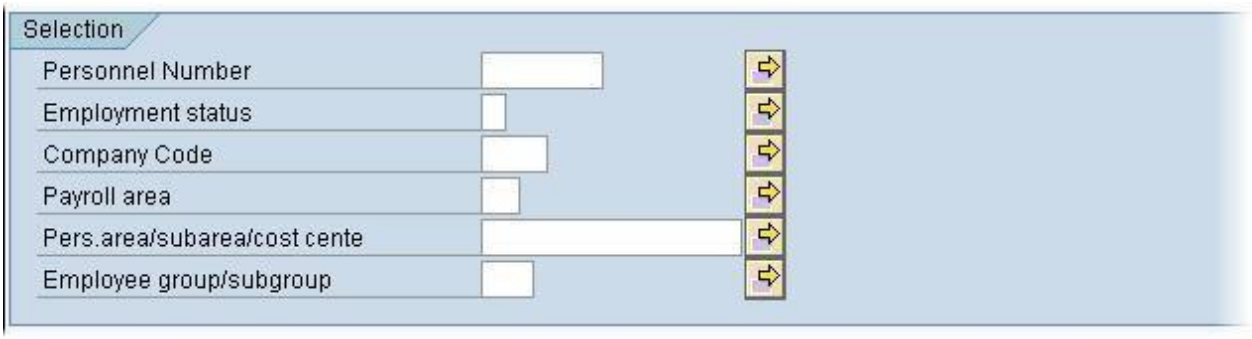
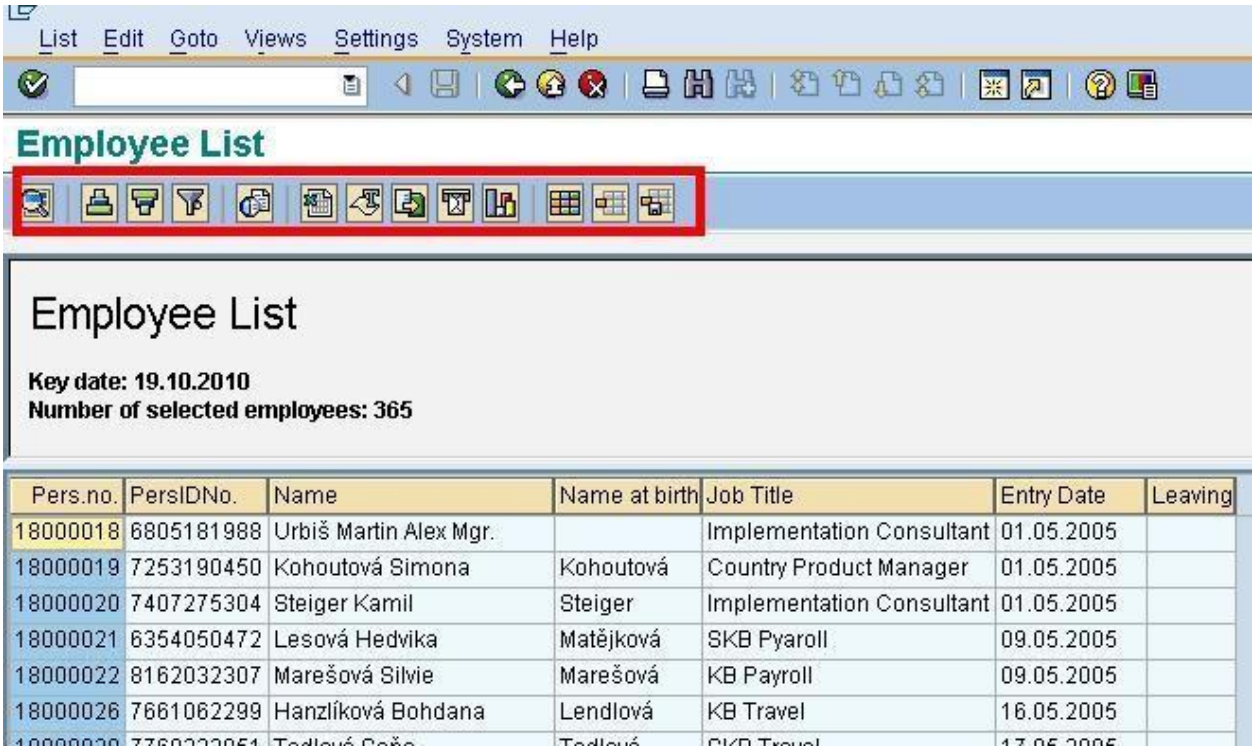


Figure (2 - 4) Select a population

Format SAP report output, Show the results of report in table as explain in figure (5.2)



Pers.no.	PersIDNo.	Name	Name at birth	Job Title	Entry Date	Leaving
18000018	6805181988	Urbiš Martin Alex Mgr.		Implementation Consultant	01.05.2005	
18000019	7253190450	Kohoutová Simona	Kohoutová	Country Product Manager	01.05.2005	
18000020	7407275304	Steiger Kamil	Steiger	Implementation Consultant	01.05.2005	
18000021	6354050472	Lesová Hedvika	Matějková	SKB Pyaroll	09.05.2005	
18000022	8162032307	Marešová Silvie	Marešová	KB Payroll	09.05.2005	
18000026	7661062299	Hanzlíková Bohdana	Lendlová	KB Travel	16.05.2005	

Figure (2 - 5) results of report

Once you have executed your report, you can easily modify (sorting, summations, graphics etc.) the layout for the output generated using the toolbar as explain in figure (2.6)

Save the output in local hard disk occurs by several steps:

- Click List.
- Export.
- Local File.
- Select the Format (text, spreadsheet) desired.
- Click Enter.
- Enter Directory, File Name and Click Generate. The report must be saved. Generate. [7]

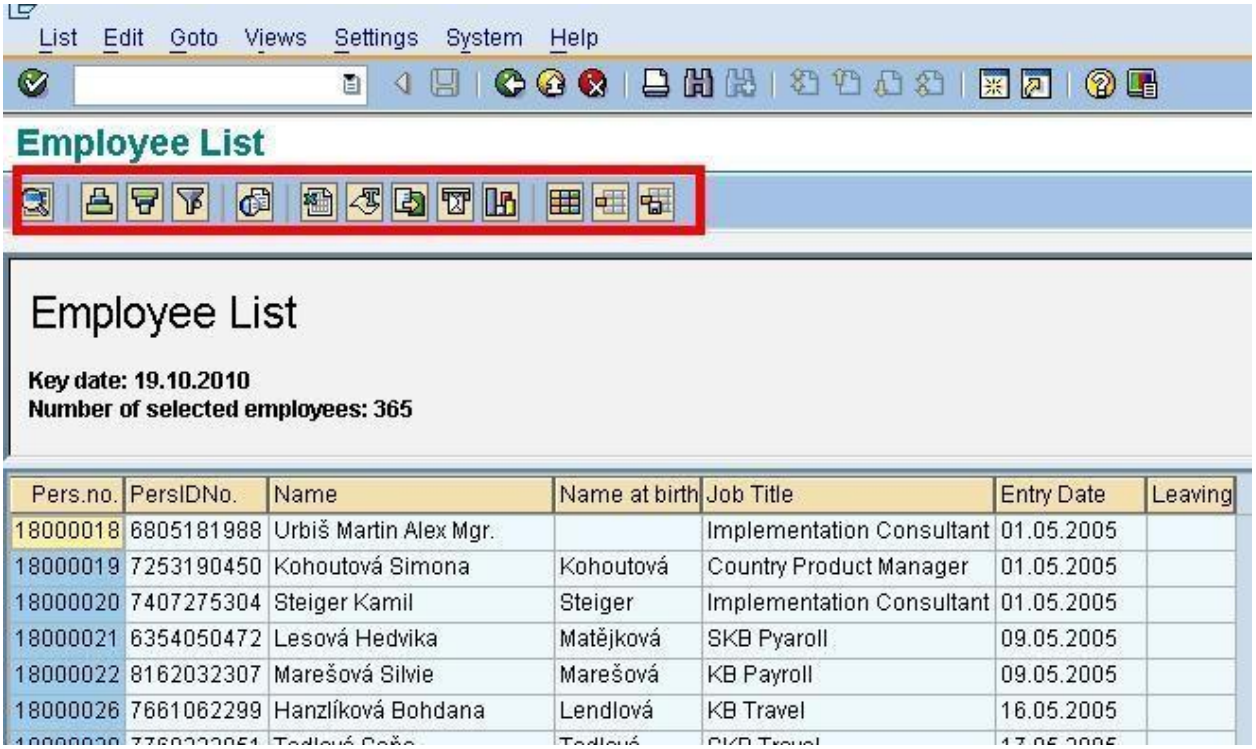


Figure (2 - 6) layout to report by toolbar

2.3.2 ORACLE REPORTS

There are various tools in Oracle reports, they are the most common reporting tools used in their applications.

Oracle reports: fixed format reports delivered with the 11g release were built on this tool. This is the most used tool for reporting on Oracle Applications, most of reports

customizations are built with this tool. Once customized the output of the report can be in Excel (Not group by Report), word, Acrobat documents or text format.

Oracle discoverer: is an intuitive tool for creating reports and performing on-line analysis. Discoverer uses the EUL (End User Layer), a Meta data definition, which hides the complexity of the database from the end user and provides easy to use wizards for creating reports to suit individual needs. The flexibility of this tool allows the user to create cross tab reports that perform like pivot tables in Excel.

Oracle XML publisher: is a new Oracle tool for reporting. It enables users to utilize a familiar desktop tool, like MS Word or MS Excel, to create and maintain their own report. At runtime, XML Publisher merges the custom templates with the concurrent request extracts data to generate output in RTF, PDF, HTML and EXCEL.

RXi Report: (Variable reports) – variable format reports delivered with the E-Business 11i. With this tool a user has the ability to print the same report with multiple layouts. The user can also choose which columns he requires on a particular report. This tool is most used on Oracle Financials Applications.

FSG reports: (Financial Statement Generator) is a powerful report building tool for Oracle General Ledger. Some of benefits of using this tool are that a user can generate financial reports, and schedule reports to run automatically. The only drawback of this tool is that it is only available for the general ledger responsibility and can be used to see only financial account balances.

Business Intelligence System (BI): is a set of tools to provide high level information for the managers (decision makers) to run their business such as the profitability of a particular business unit. The information this tool provides helps managers to take the right decision with the daily data that is uploaded on their systems. [8]

2.3.3 BIRT TECHNOLOGY (eclipse report engine)

BIRT is an open source software project that provides the BIRT technology platform to create data visualizations and reports that can be embedded into rich client and web applications, especially those based on Java and Java EE. BIRT is a top-level software project within the Eclipse Foundation, an independent not-forprofit consortium of software industry vendors and an open source community. The project is sponsored by Actuate along with contributions from IBM, and Innovent Solutions. BIRT is supported by an active community of users here at Eclipse.org and at the BIRT Developer Center. It is licensed under the Eclipse Public License (EPL).

2.3.3.1 The Technology Platform

BIRT has two main components:

A visual report designer is for creating BIRT Designs, and a runtime component for generating those designs that can be deployed to any Java environment. The BIRT project also includes a charting engine that is both fully integrated into the BIRT designer and can be used standalone to integrate charts into an application.

BIRT designs are persisted as XML and can access a number of different data sources including JDO data stores, JFire Scripting Objects, POJOs, SQL databases, Web Services and XML

Can manage Birt report in eclipse by chose report design choice, and then chose the standard of report to work with, then put the data source that you want to work with in the report. [9]

2.3.4 GOOGLE TECHNOLOGY

Google has several methods to generate reports

Dashboard: generate report in this method depend on query of user, the only thing the user has to do is click to Button called Add to Dashboard then the report will be generated automatically.

The dashboard has other method to generate report that has several models of dashboard pre customize by developers of Google and individual to group, so not focus to the query of user, this method is common used by Google analytic users.

The Other method uses Google docs it integrates with Microsoft Excel to generate report; this method is simpler because most clients know how to use Excel.

Spreadsheet: this method familiar to normal Form the only thing the user has to do fill the gaps and click Generate.

Visual.ly Weekly Insights Info Graphics Analytics Reports: this method represents it in graphical way.it links Google account with visual.ly account; this method generates reports automatically in a weekly fashion after generation it’s no longer modifiable.

SumAll: this method aggregates different reports into to one report.

Handsome Stats All in One Analytics Reporting: is gives special ways to generate report and simple method to display it, mechanism of this method is select main elements from data then generation for this main elements. [10]

Table [A-1] illustrate the compare between techniques of related studies

Reporting Techniques	**Properties**
SAP Report	- The end user selects the period (from – to, day, month and year). - Selects certain fields to create the report. - Has a tool bar contain operations? (sorting, summation, graphics, etc) Can apply on the output of report.

ORACLE Report	Use different tools to generate report, most common tools: 1. Oracle Reports: Displays the report by many ways like Excel, Word, Text Format, and Acrobat Documents. 2. Oracle Discoverer: Is an intuitive tool to create report by data analysis on-line, appear for end users not complex data (report) and hide the complex data. 3. Oracle XML Publisher: It enables users to utilize a familiar desktop tool, when you run Oracle XML Publisher you select one of many ways to store report such as PDF, Excel, HTML, RTF. 4. RXi Reports: Variable reports that come with version Ebusiness 11i, it has ability to display the same report by many layouts. 5. FSG Reports: It is used for financial reports or extract reports periodically, but it is generally used for ledger responsibility and can be used for financial account balance 6. Business Intelligence System(BI): Set of tools that help managers to make right decision based on the daily data uploaded to their systems.

Birt technology	Can manage Birt technology on eclipse by choosing report design choice, choose the standard of report to work with and then put the data source that wants to work with in the report.
Google	Google has several techniques: 1. Dashboard Specifies the query of user then click Add to Dashboard 2. Dashboard packet Models of Dashboards customized by developers of Google 3. By Microsoft excel Tools by Google docs merge with Excel 4. Spreadsheet Such as form, fill the gaps prepared by Google developers 5. Visual.ly Weekly Insights Info graphics Analytics Reports Represent the reports by graphical way 6. sumAll aggregate the reports to generate one report 7. Handsome Stats All in One Analytics Reporting Select main elements in data and generate report through it

Table (A.1) reporting tools and its properties

The proposed solution will address: select module and select the fields of modules, then click Button called Export to extract the report, the report display by two approaches either PDF or EXCEL

Summary

This chapter discusses the system techniques and related studies, the next chapter discuss the research methodology.

CHAPTER 3

TOOLS AND TECHNIQUES

3.1 INTRODUCTION

This chapter describes specification of operating system, programming language, techniques used to build the tool and the system analysis using UML technology.

3.2 SYSTEM REQUIREMENT SPECIFICATION

The operating system that will be used in the development of this tool is Odoo platform for analysis.

3.3 TECHNIQUES AND TOOLS

Its tools using to help developers to create systems

3.3.1 XML

It stands for extensible markup language, it's a symbolic language designed for transfer of data in most of web applications. Xml is not a substitute for HTML because the HTML is display's language, the developer of xml must declare the tag by him so will has infinite tags and must close any tag after finish from any element to preserve the order of files. [11]

3.3.2 PYTHON

Is a high level language characterized by simple syntax which makes easy to learn, python language is open source and descriptive language, used the approach of programming object-oriented, its use widely in in many fields such as web programs and create independent programs by using graphical interface, also can used textual programming language to control of performance to some of common known programs. Generally python can be used to code simple programs for beginners; it can also be used for coding large systems. [12]

3.3.3 ODOO

Odoo is a comprehensive web-based open-source platform for integrated business applications written in python by a global network comprised of over 1500 active community members. Odoo's business apps are elegantly programmed and customized to manage several companies and multipurpose businesses internationally.

With over two million users, Odoo in the past known as openERP, has over 3000 internationally accredited business apps, such as Odoo CRM, HR procurement, Accounting, Project Management among other applications developed specifically for use by every department of a business related company/organization. [13]

3.4 PREVIOUS METHOD

To generate report in Odoo using old way, it happens by four steps

3.4.1 STEPS TO GENERATE REPORT

Create xml file will be put in yourModuleName/views and may be named/not named, that consist of temple ids and names, that is used in last step to find request report.

Figure (3.1) illustrate method to create xml file

Add the report to xml file responsible for reports, every module has a file reference to any report in the module is always has the same name structure.

Figure (3.2) illustrate add the report to xml file

Notify Odoo from the new report, every module is a file named_openerp_.py is used to import all files in a module. As all files are loaded in here we should also add our new xml file in this list. [14]

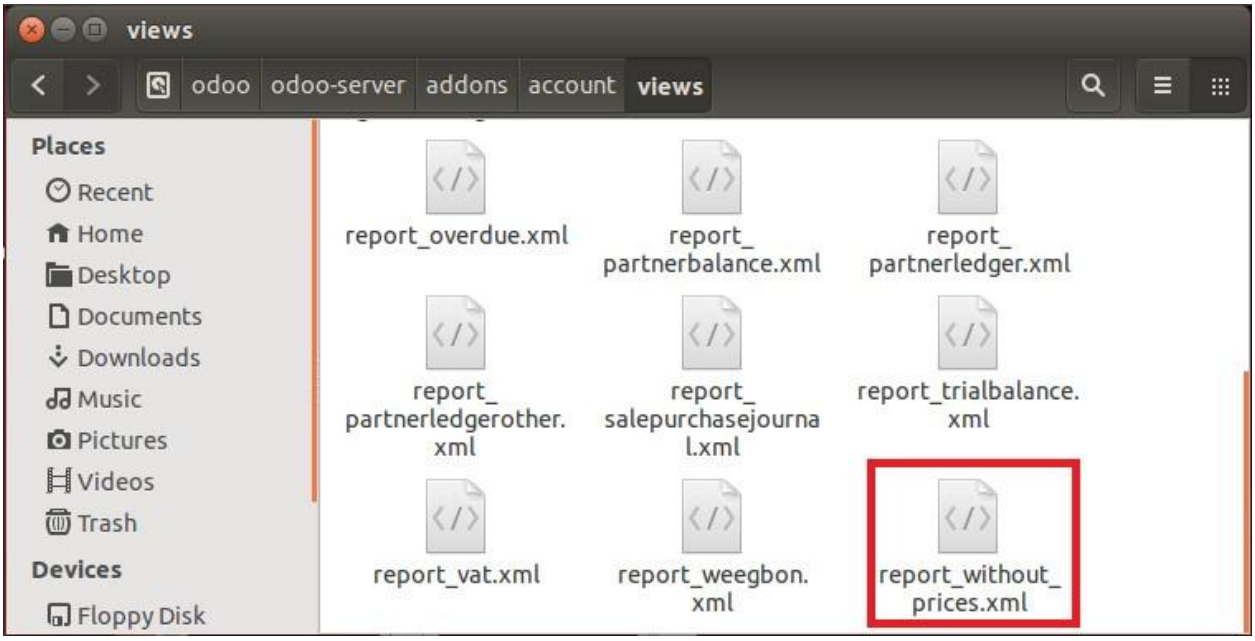


Figure (3 - 1) create xml file

Figure (3 - 2) Add the report to xml file

When open this file will find a tag every report that exists in this module.

Last step is Wrapping things up, now that you have new report (new xml file), added the template id to the moduleName_report.xml file and added your xml file to _openerp_.py. after that last thing must happen is reload the module.

Figure (3.3) illustrate the Wrapping things up

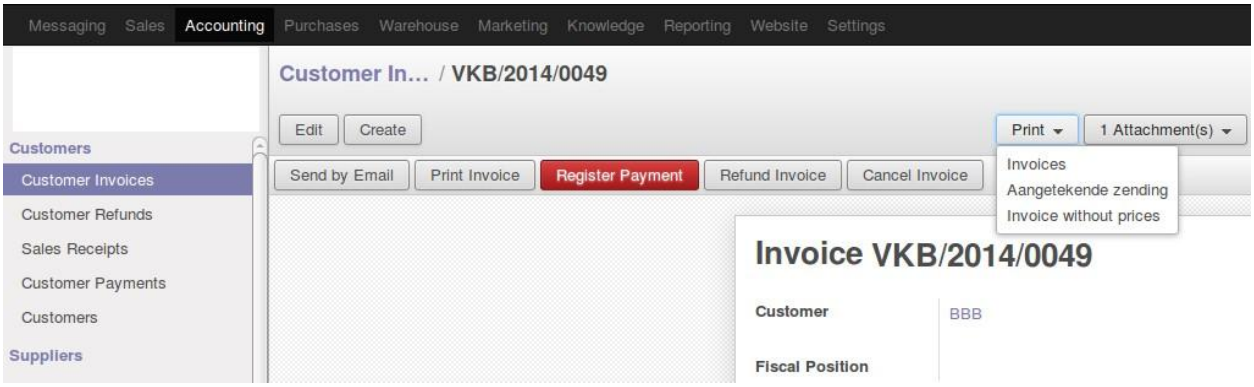


Figure (3 - 3) Extract report

3.4.2 ANALYSIS PREVIOUS METHOD

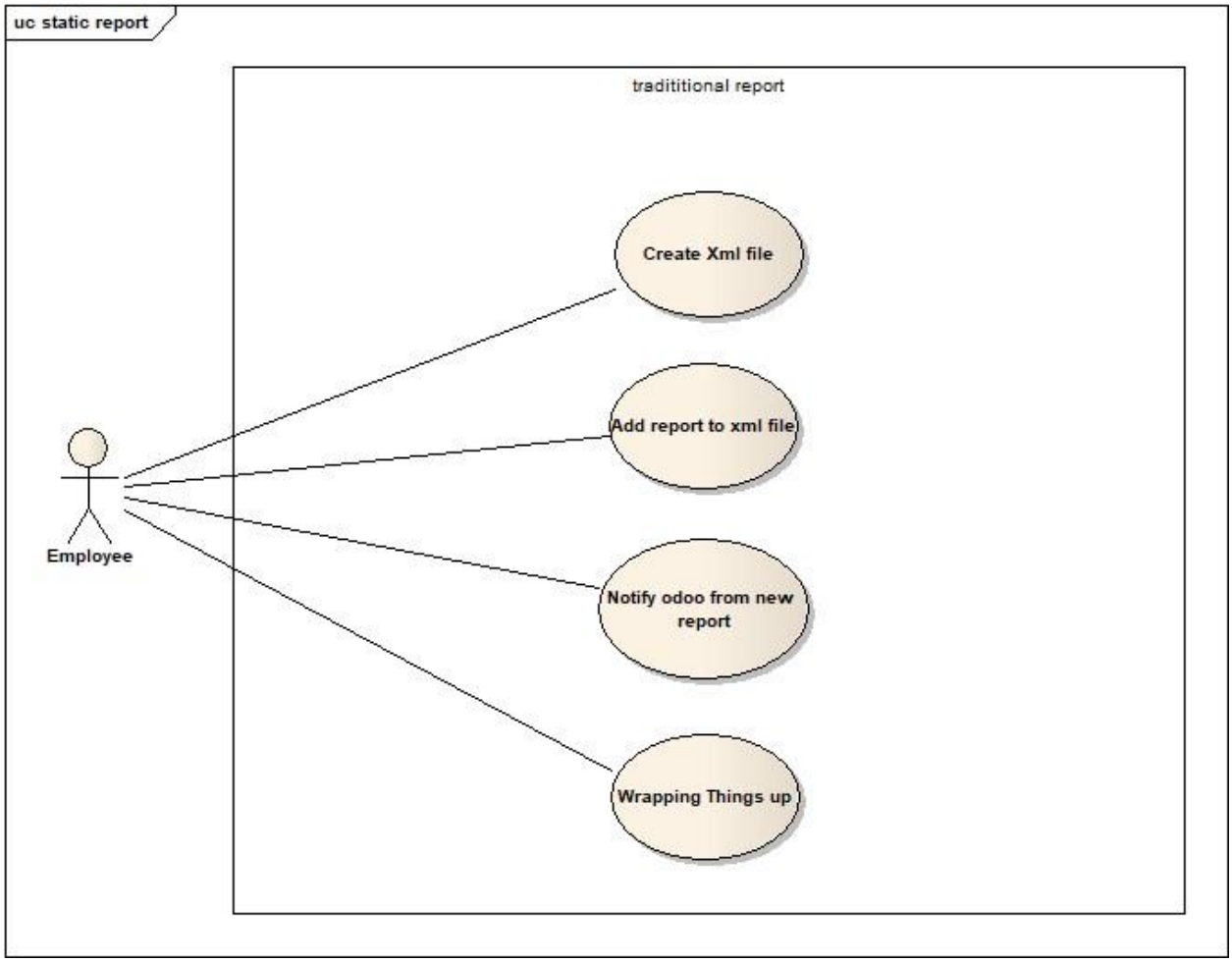


Figure (3 - 4) Analysis old method of odoo reporting

3.5 PROPOSED SYSTEM ANALYSIS

This section represents proposed system analysis by using Use Case diagram, Activity diagram and Sequence diagram.

3.5.1 USE CASE DIAGRAM

Use case diagram describes functions and actors.

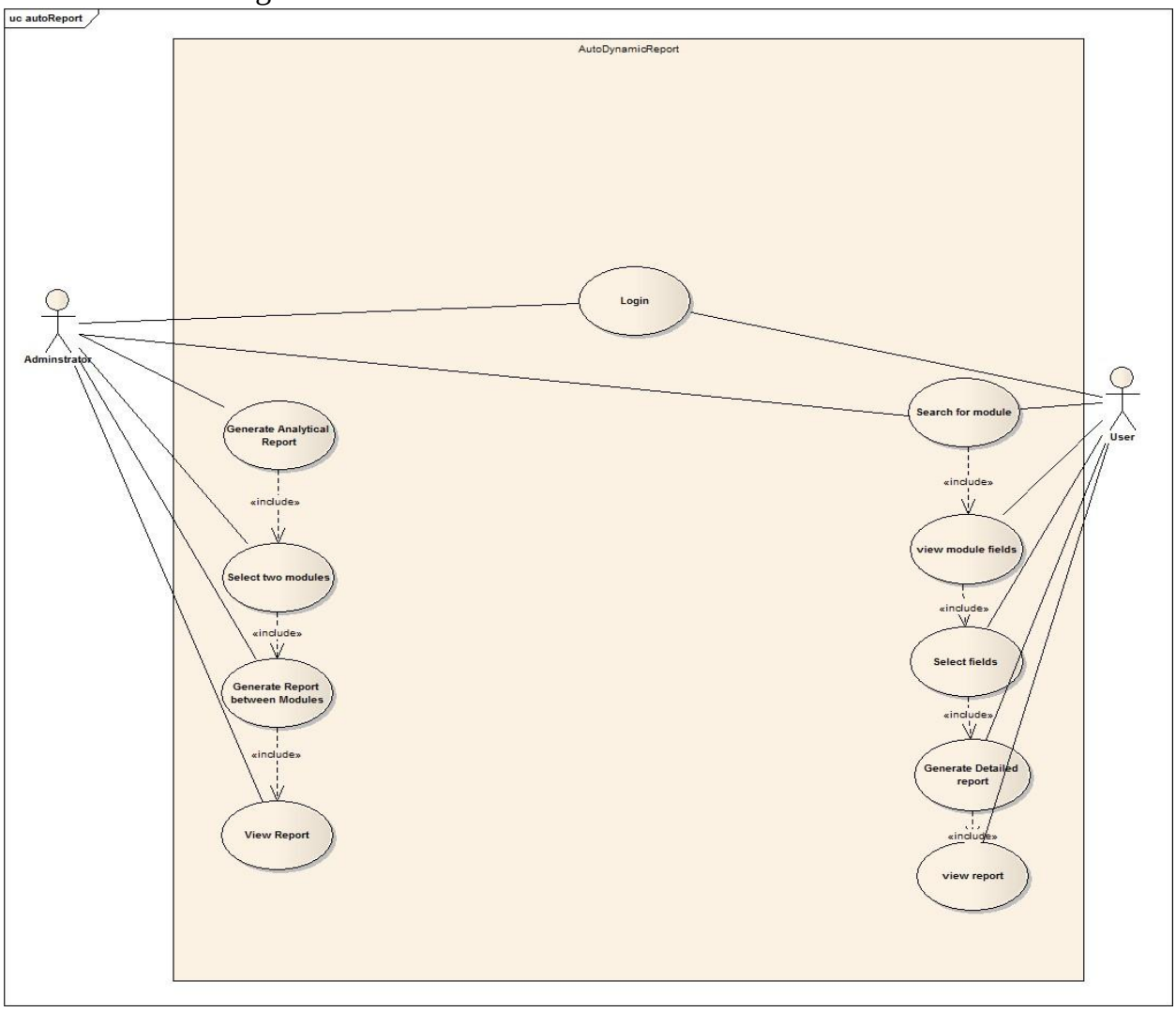


Figure (3 - 5) Analysis proposed System by Use Case

Figure (3.5) is illustrate proposed system analysis by Use Case Diagram, is consist of Use Case called Login to check user name and password for person who want to generate report, if the person is end user or employee will start by search for model, then view the fields of model, then select the fields it's want and generate detailed report.

But if the personal is an Administrator that's means has two Use Cases, the first Use Case to generate detailed report have steps such as end user or employee, other Use Case to generate analytical report that will start by select two models, then generate analytical report between the modules and view the report, Is describes the detailed implementation of a single use case.

3.5.3.1 SEQUANCE DIAFGRAM OF LOGIN

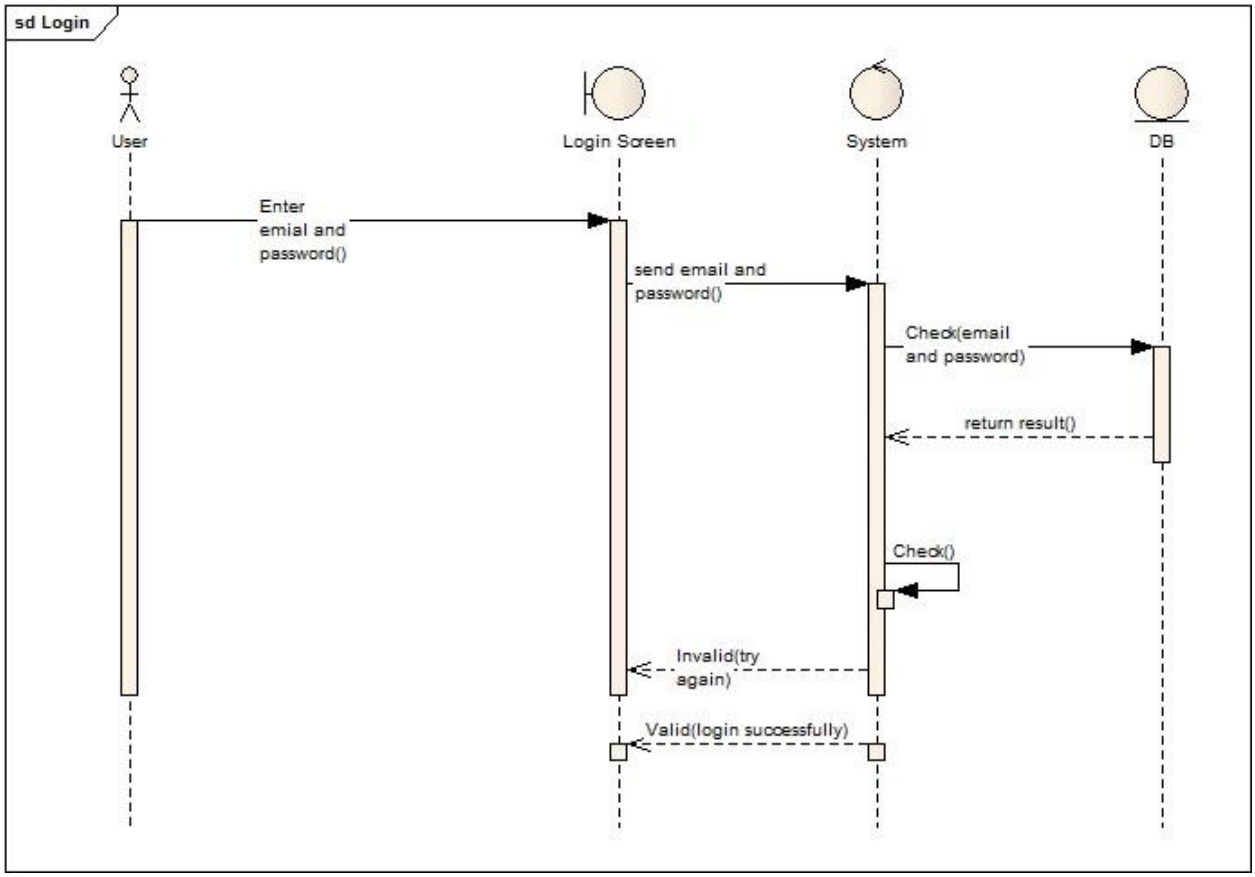


Figure (3 - 6) login sequence diagram

3.5.3.2 SEQUANCE DIAFGRAM OF GENERATE ANALYTICAL REPORT

Explain how generate of analytical report will be done

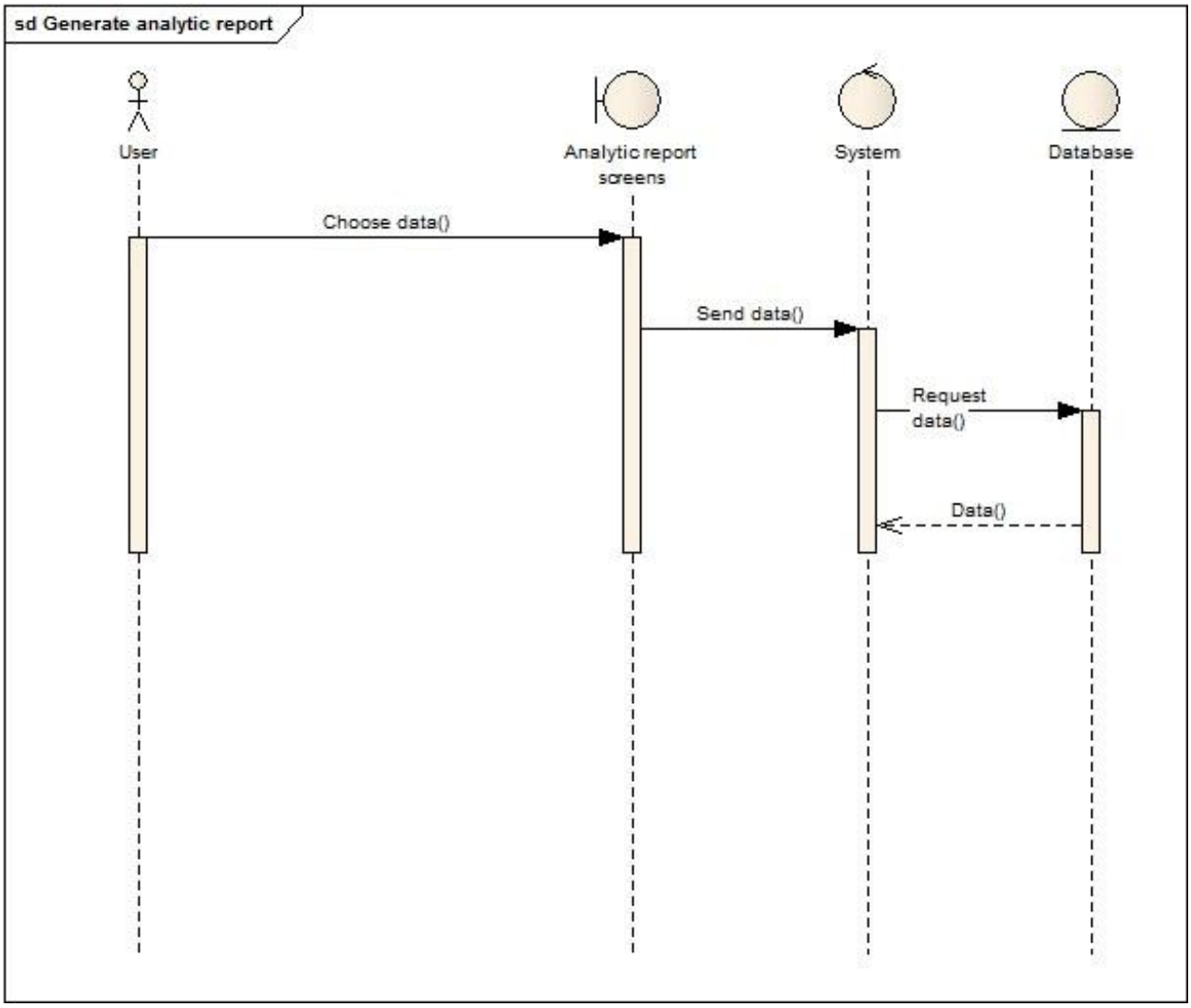


Figure (3 - 7) generate analytical report sequence diagram

3.5.3.3 SEQUANCE DIAFGRAM OF VIEW ANALYTICAL REPORT

Explain how reports will be view after generate it

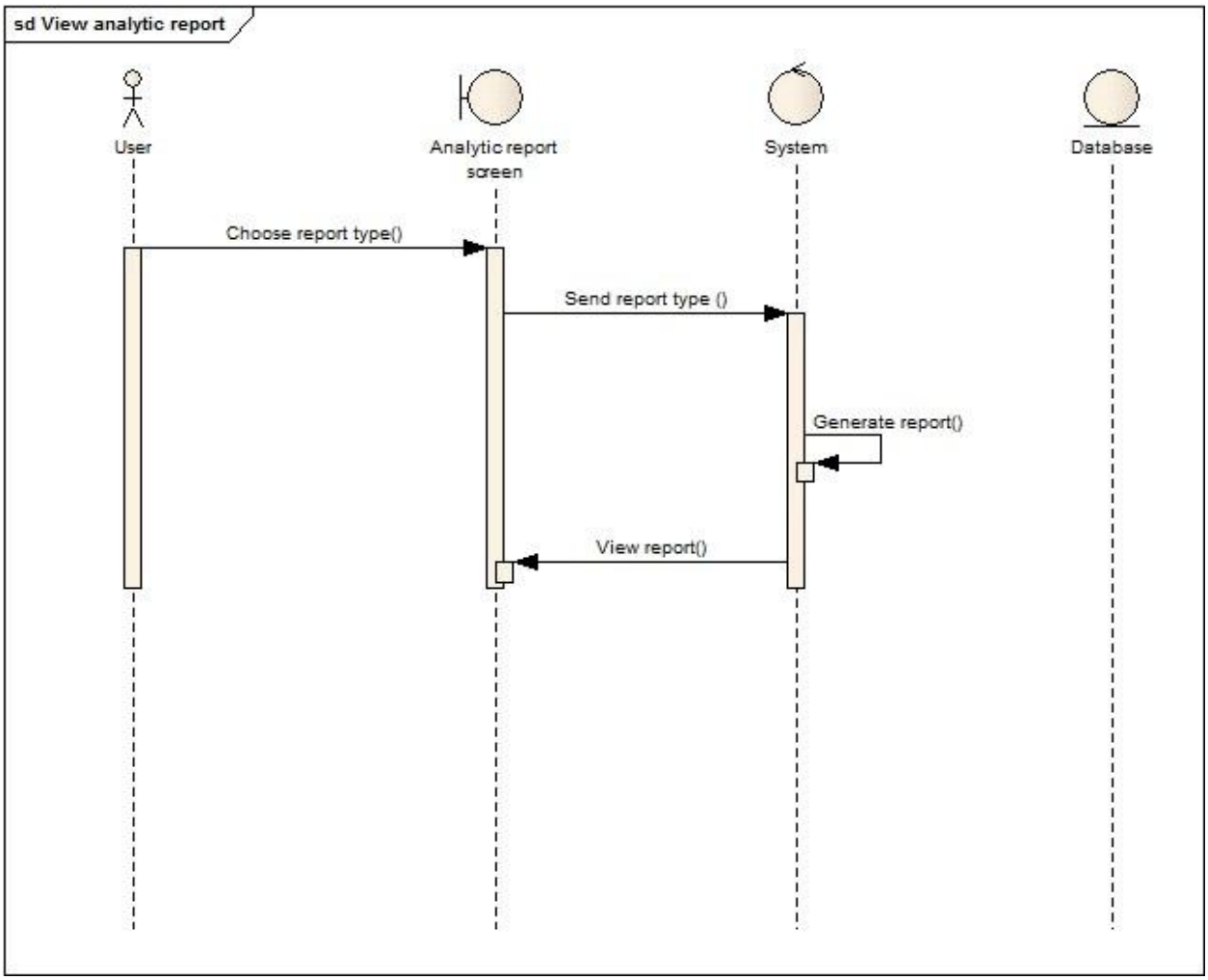


Figure (3 - 8) view analytical report sequence diagram

3.5.3.4 SEQUANCE DIAFGRAM OF GENERATE DETAILED REPORT

Explain how generate of detailed report will be done

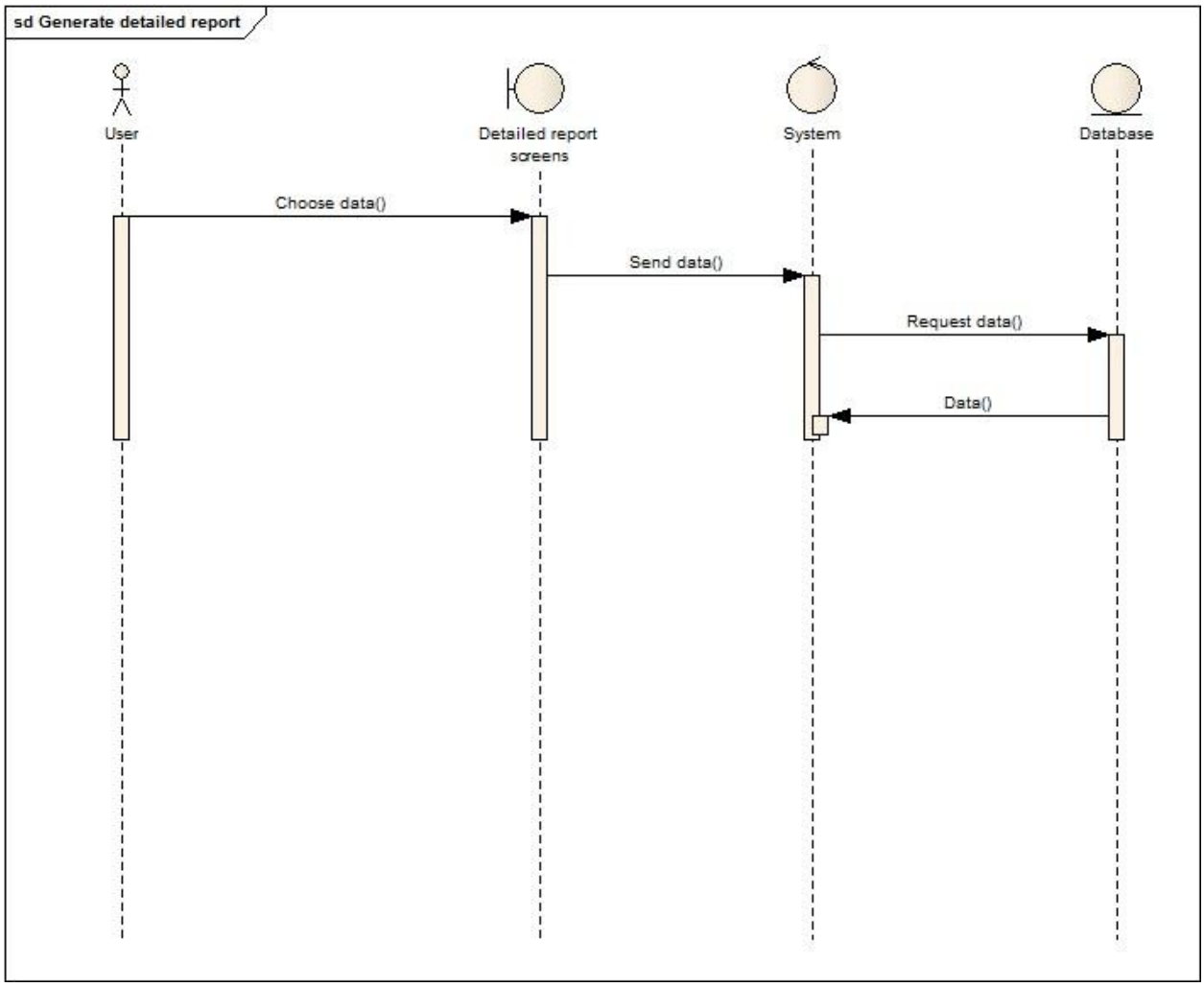


Figure (3 - 9) generate detailed report sequence diagram

3.5.3.5 SEQUANCE DIAFGRAM OF VIEW DETAILED REPORT

Explain how reports will be view after generate it

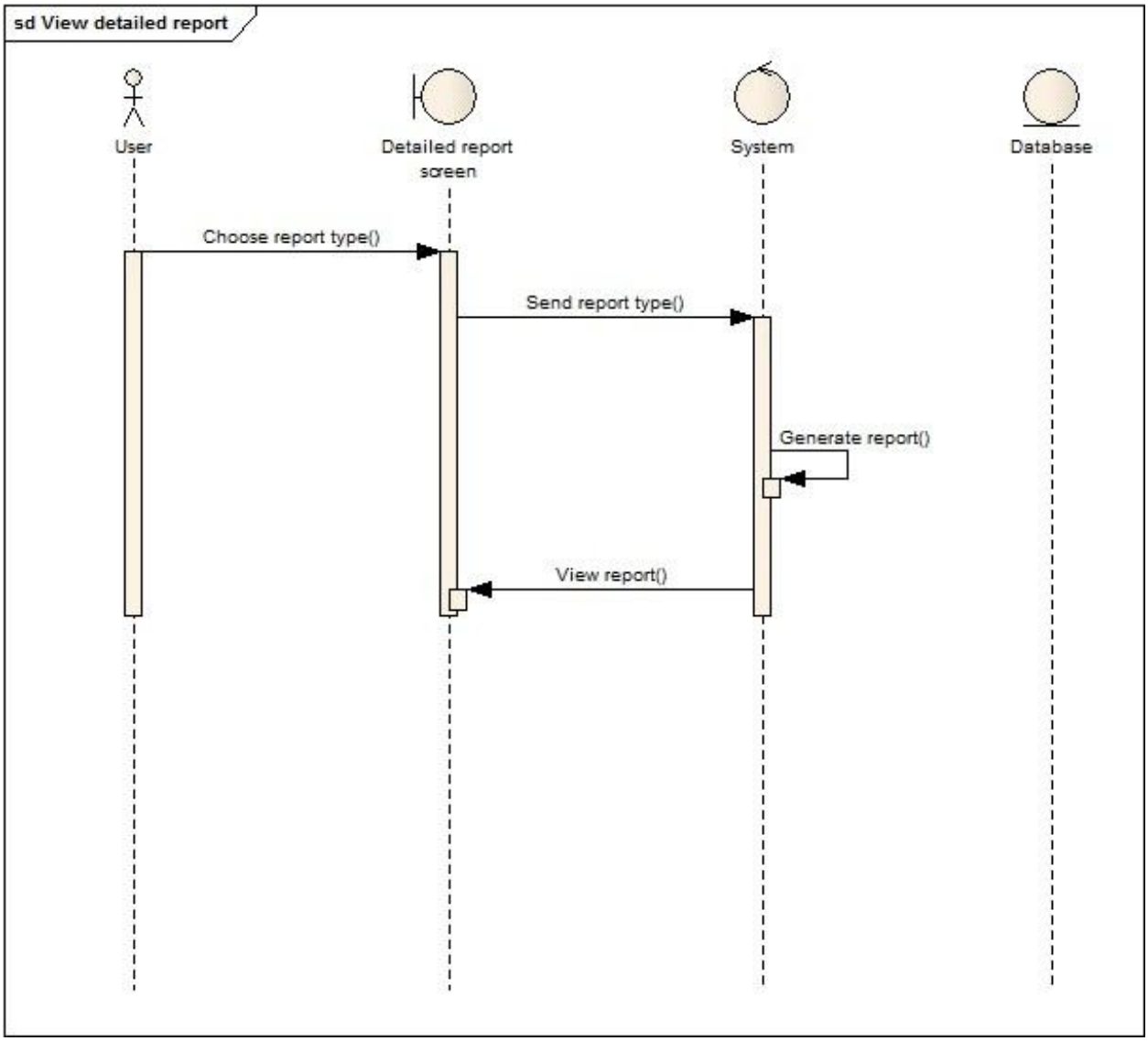


Figure (3 - 10) view detailed report sequence diagram

3.5.2 ACTIVITY DIAFGRAM

Figure (3.6) illustrate proposed system analysis by Activity Diagram, starting by check to user name and password if they false try again until to enter valid value

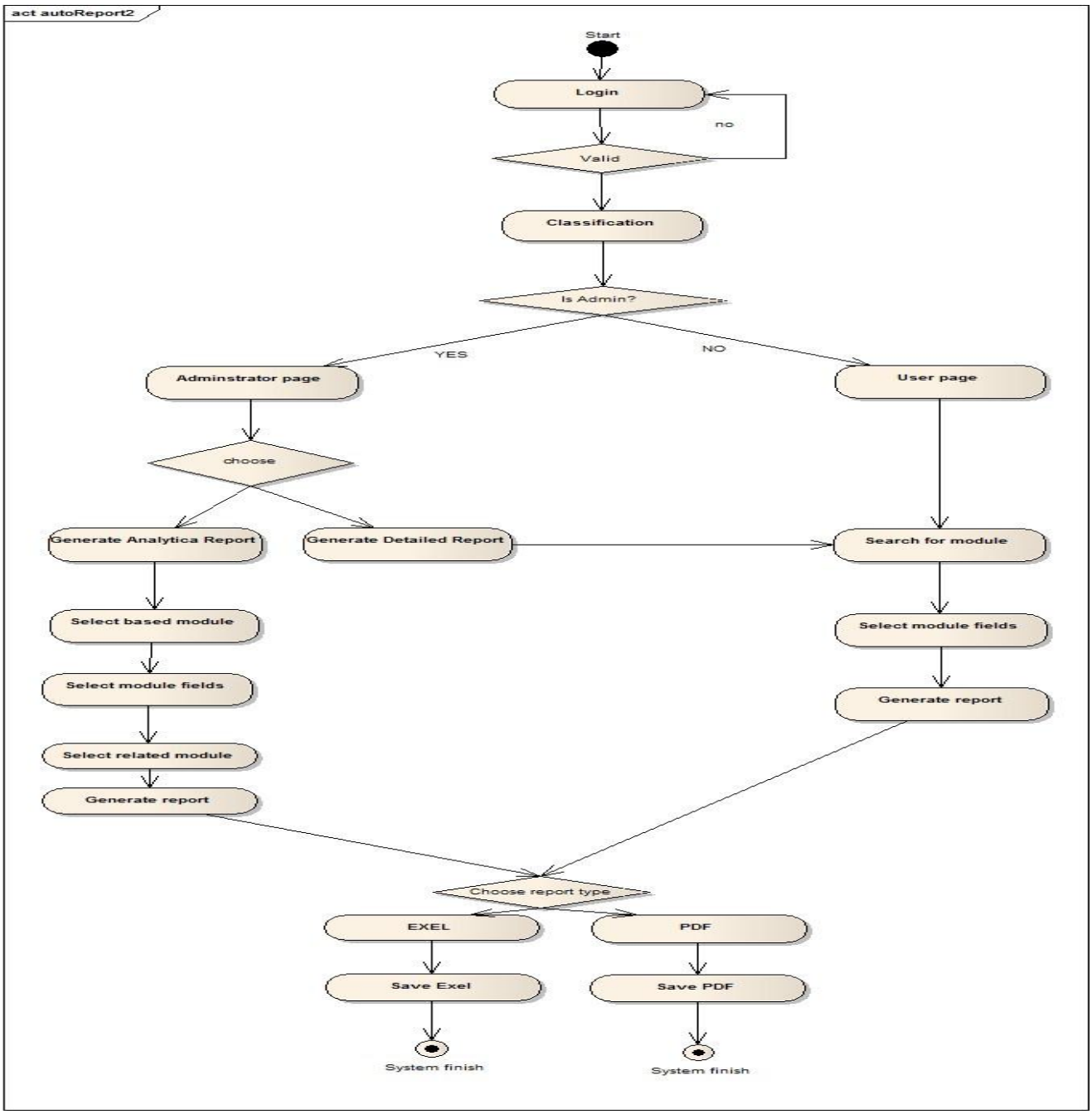


Figure (3 - 11) Analysis proposed system Activity Diagram

Chapter 4

IMPLEMENTATION

4.1 INTRODUCTION

Illustrate for methodology of generating reports by display its screens

4.2 SYSTEM WORK

This system is using by two actors:

- Administrator
- User

The administrator has ability to generate two types of reports either detailed report or analytical report, but the user can only generate detailed report.

4.2.1 ADMINSTRATOR

The manager of organization or the person is supervising to employees

4.2.1.1 Login to system

Figure (4 - 1) illustrate the administrator and user can sign in to the system from this screen

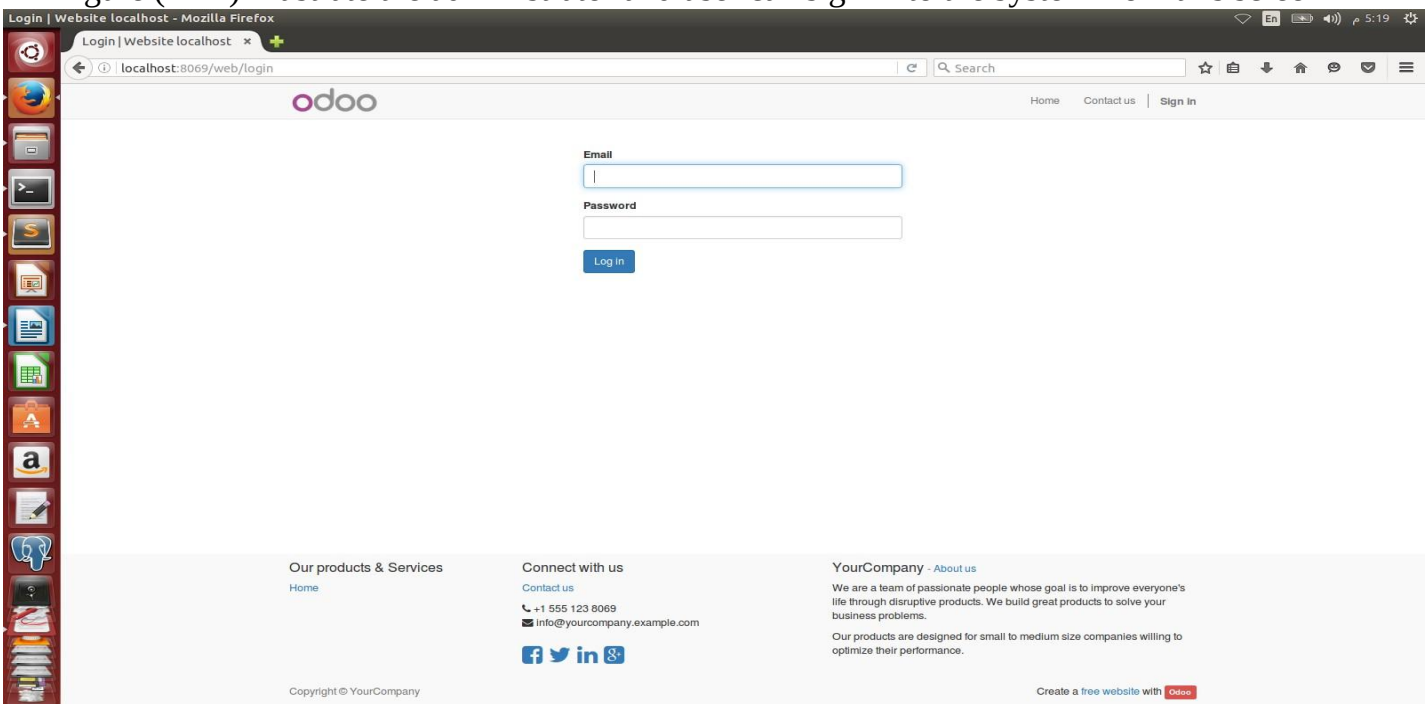


Figure (4 - 1) Administrator login screen

4.2.1.2 Administrator Accessible

Admin can access to analytical and detailed report by the button it’s found in toolbar

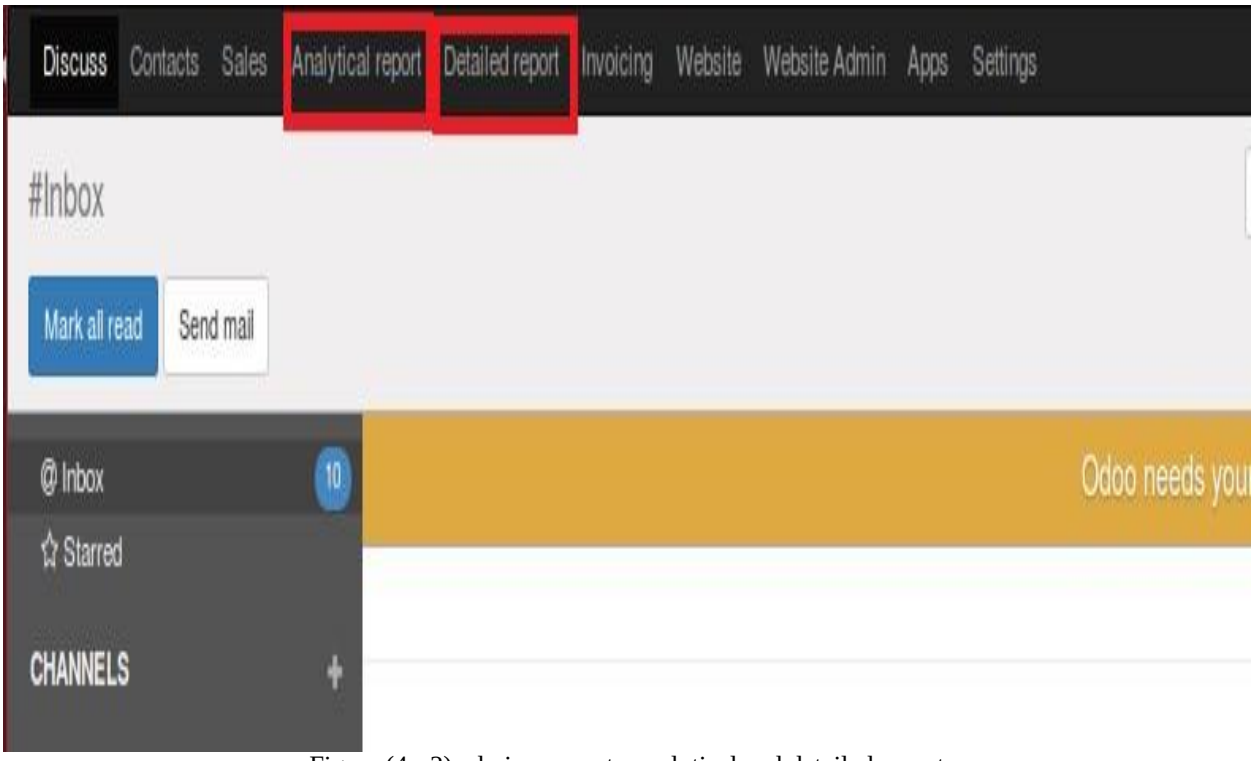


Figure (4 - 2) admin access to analytical and detailed report

4.2.1.3 Generate Analytical report

When select analytical report this screen that contain the models are created before also contain button called Create to open create screen

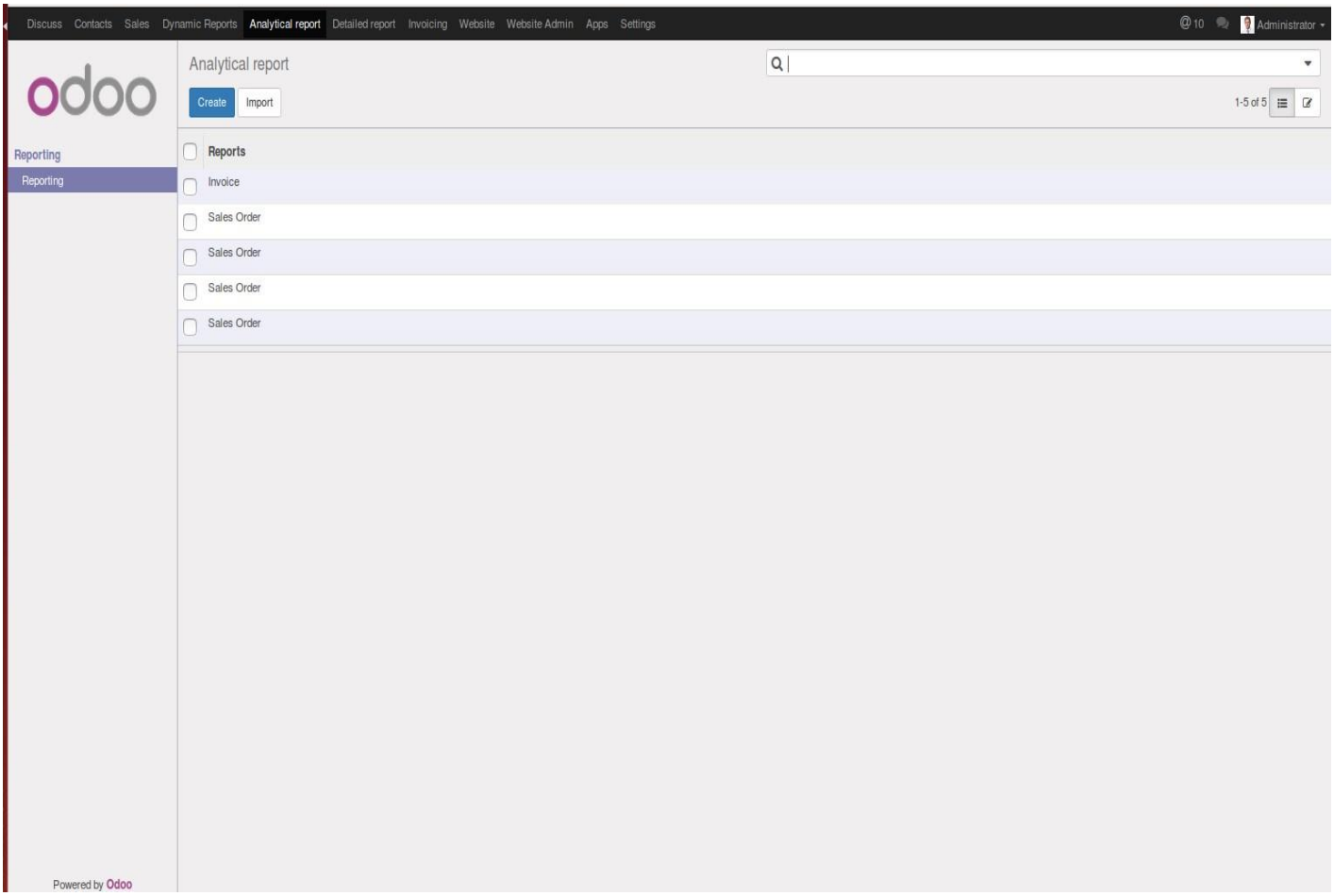


Figure (4 - 3) Analytical report screen

4.2.1.4 Analytical report create screen

This screen to select basic model, that independent model has relation with other model called related model.

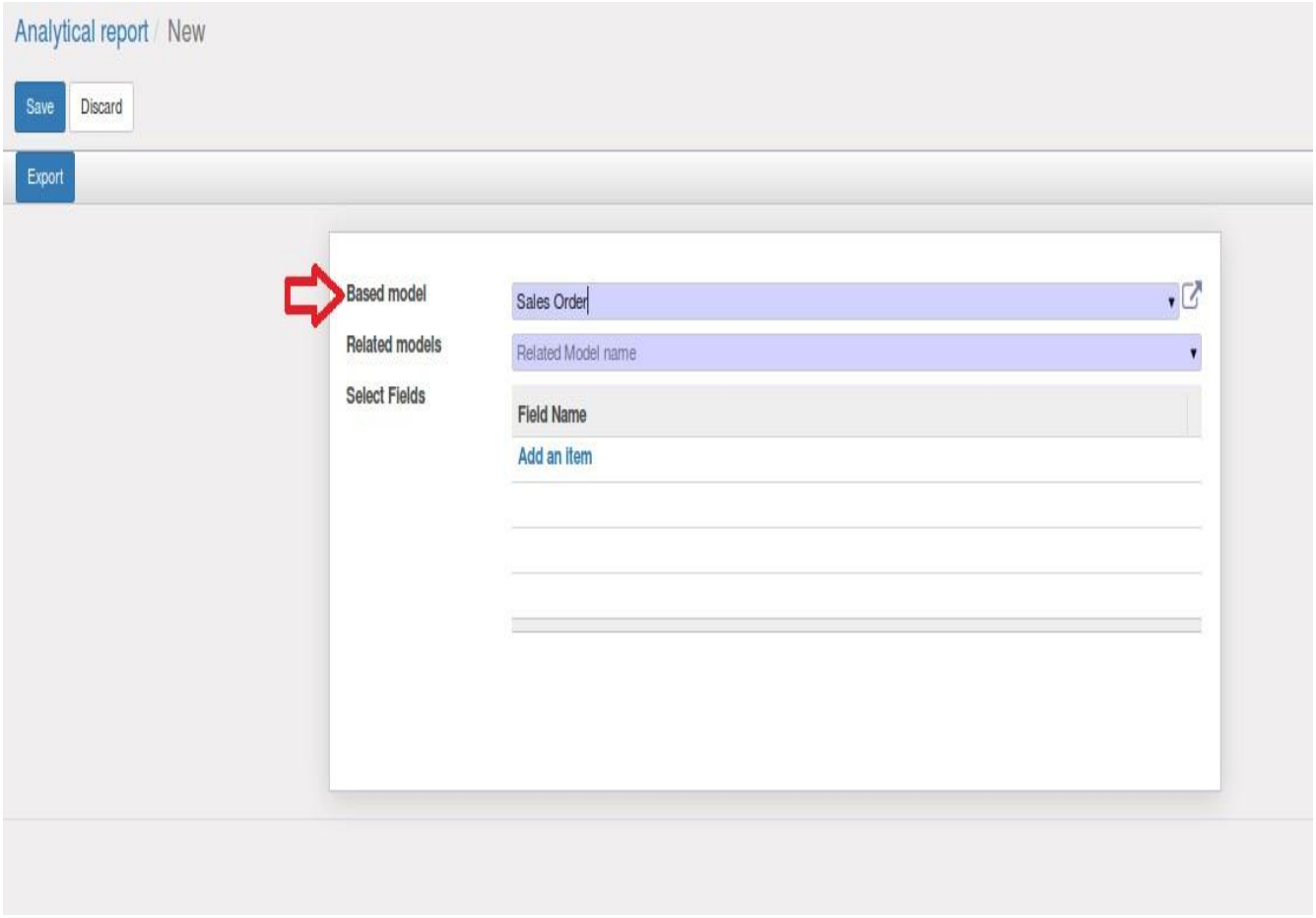


Figure (4 - 4) Select Based Model Select Based model

This screen to select Related model that has field related by Basic model

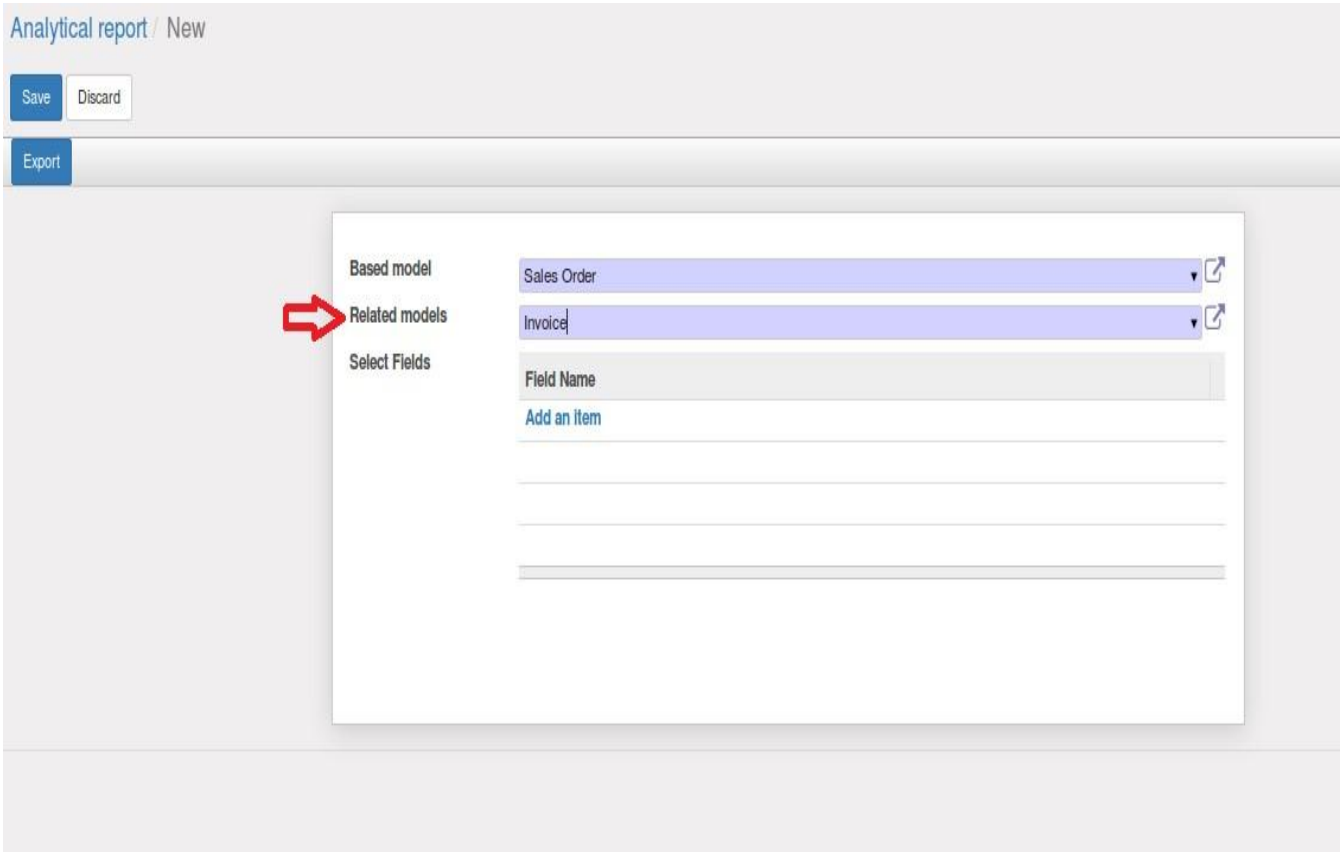


Figure (4 - 5) Select Related model

When click in add item will appear screen to select fields of Basic model

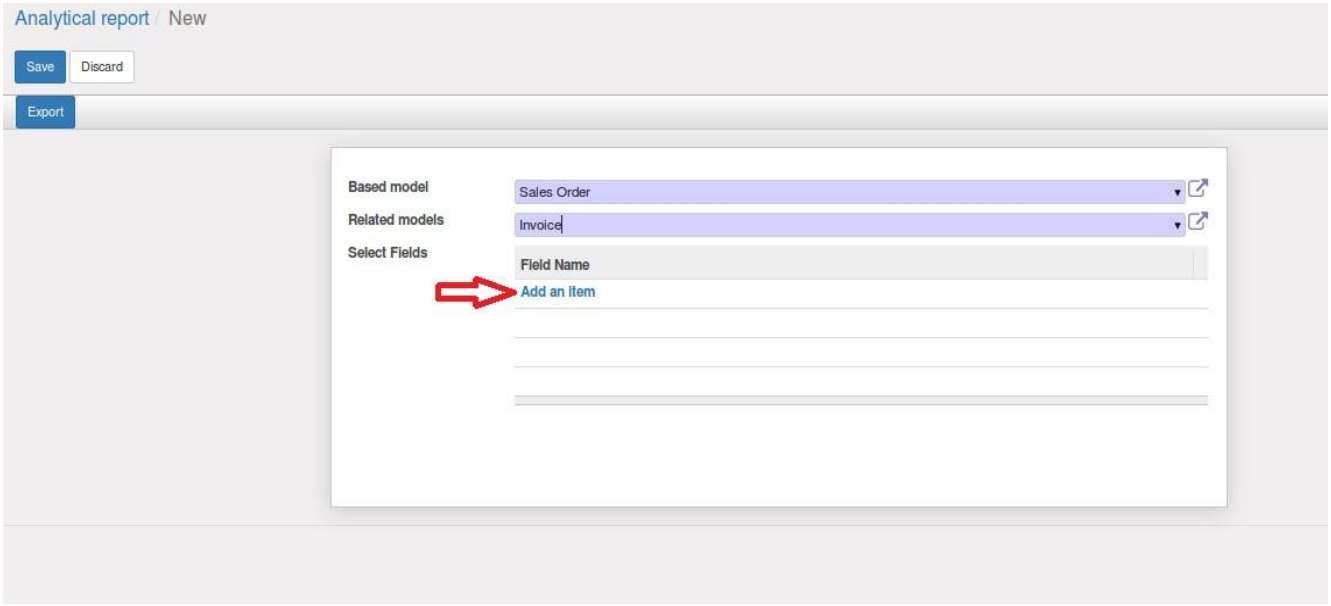


Figure (4 - 6) Add an item

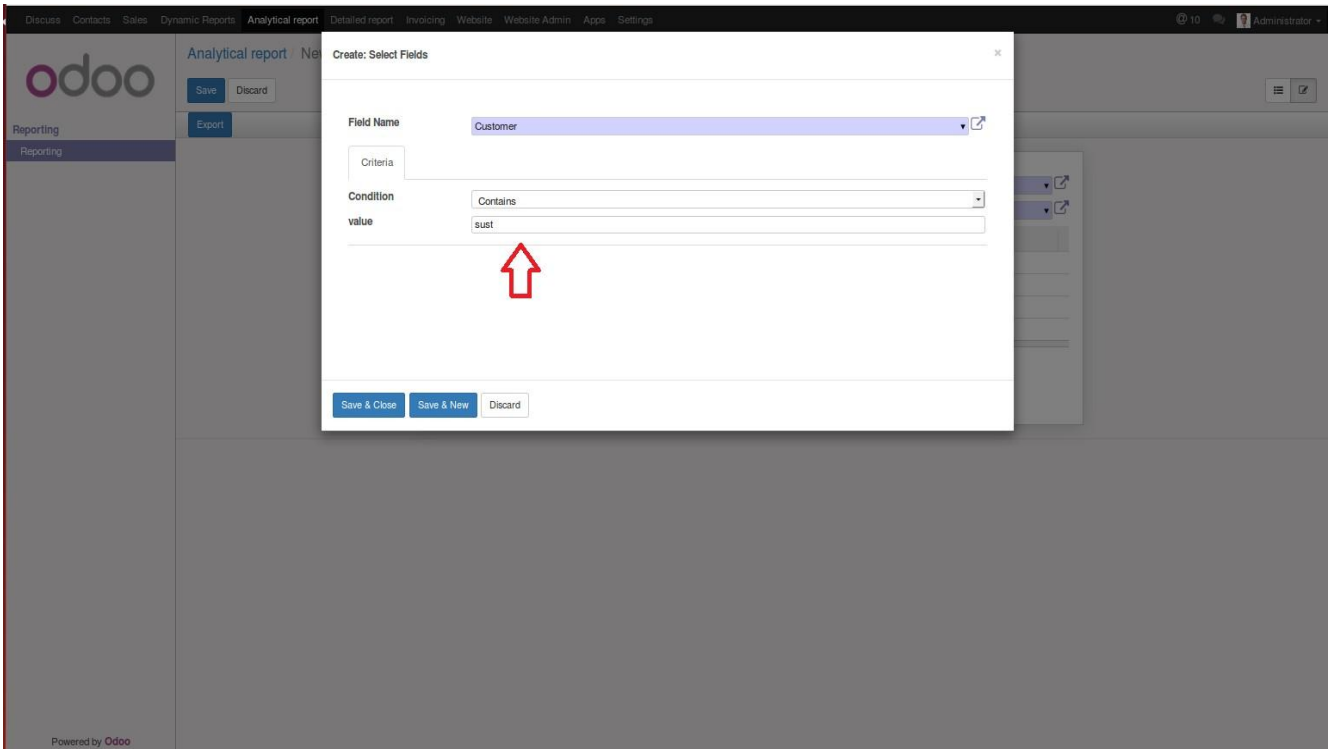


Figure (4 -7) Select fields

Click button called Export to extract Analytical report

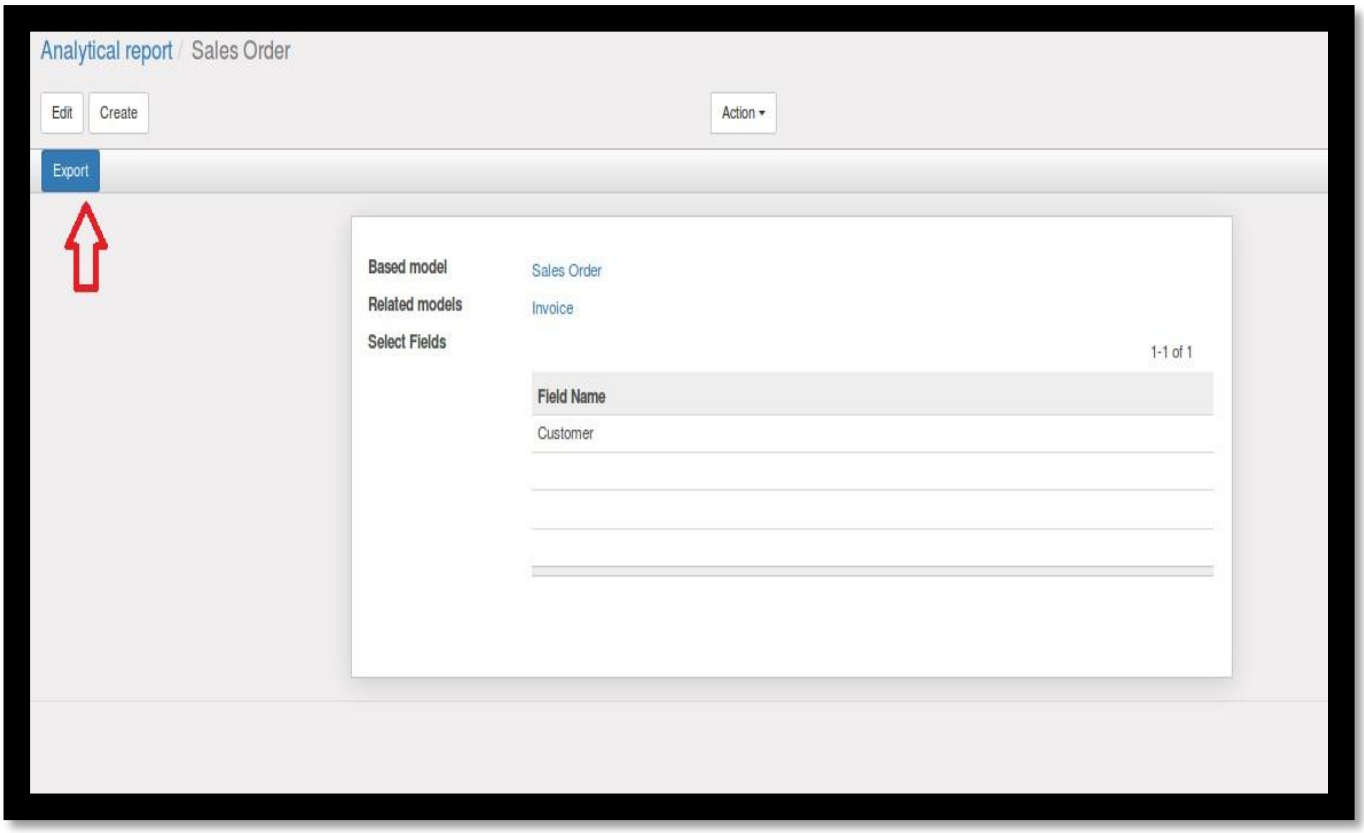


Figure (4 - 8) Extract Analytical report

4.2.1.5 Store Report in PDF or Excel

Store report by two methods either PDF or Excel

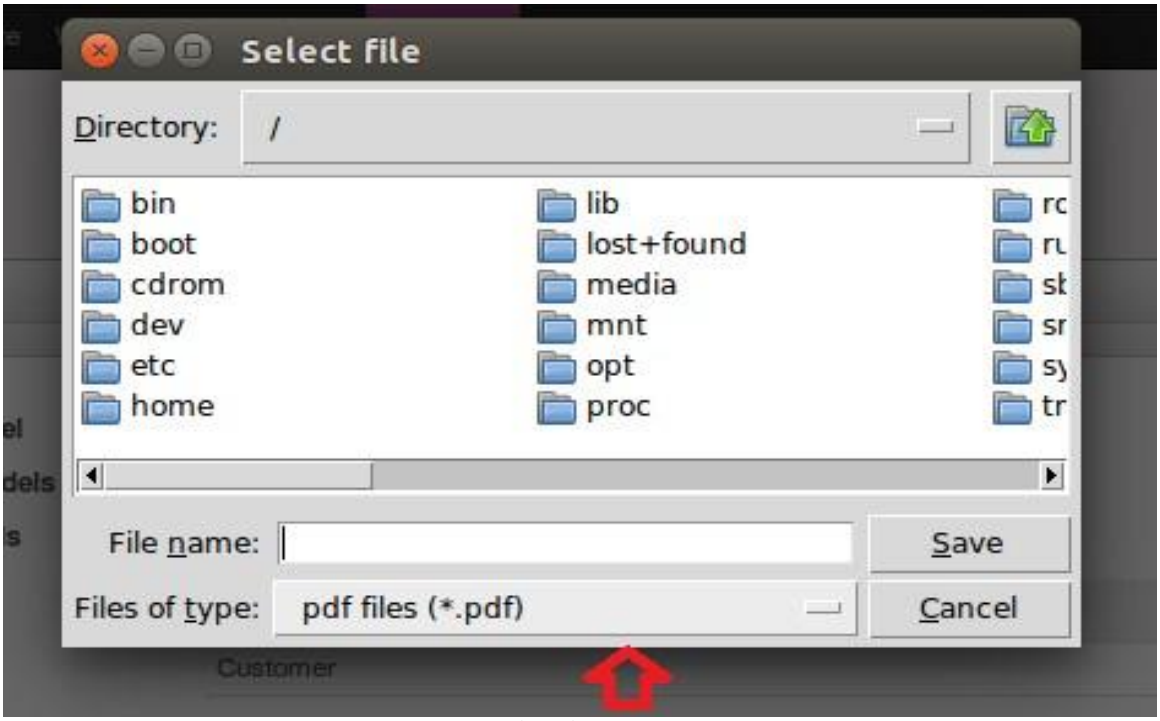


Figure (4 - 9) store as PDF

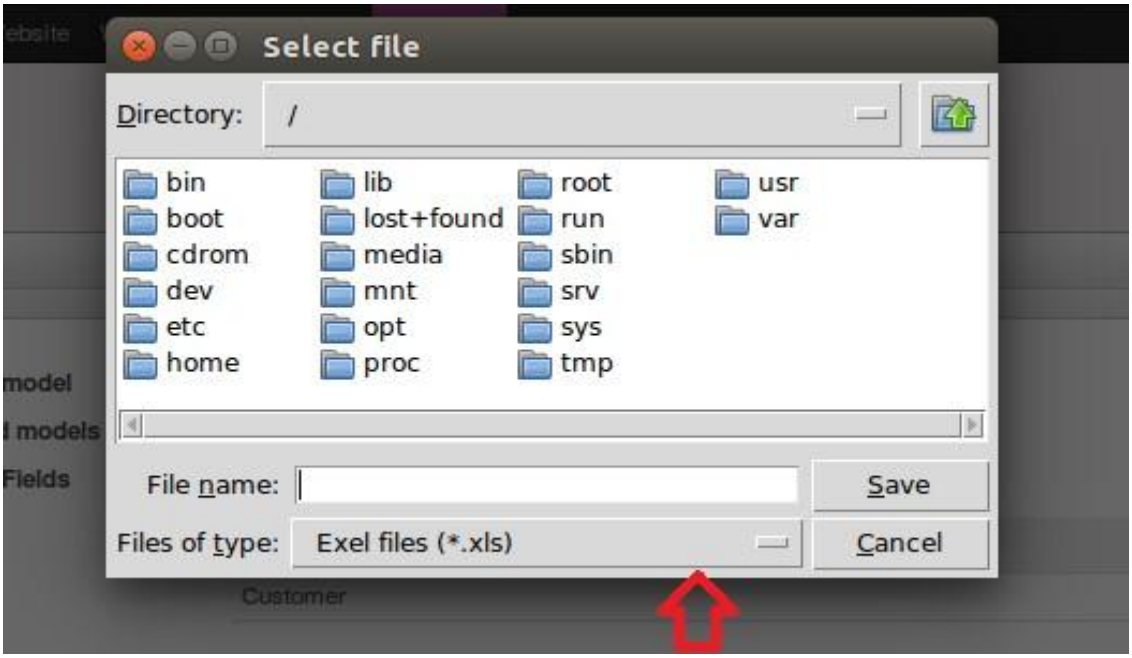


Figure (4 - 10) store as Excel

4.2.1.6 Generate Detailed report

When select detailed report this screen that contain the models are created before also contain button called Create to open create screen

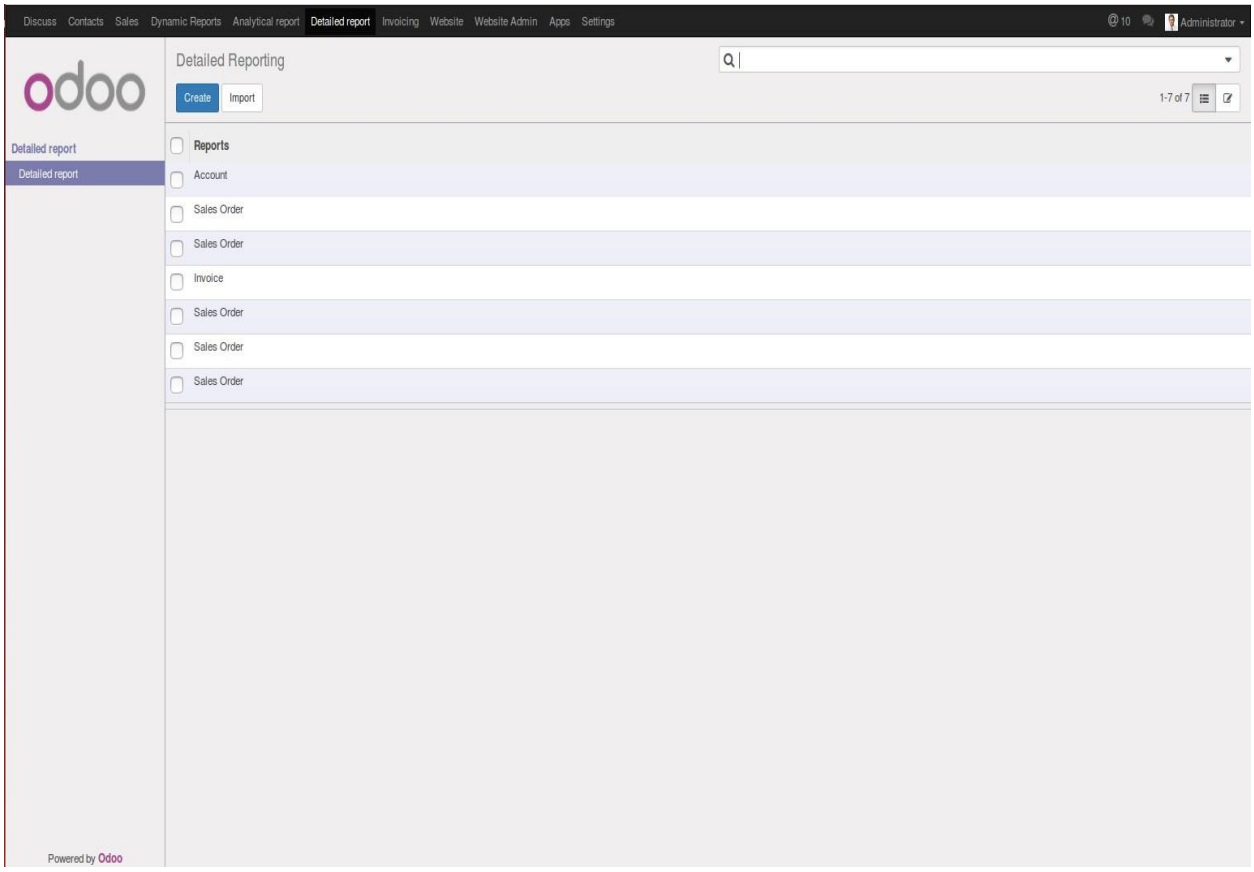


Figure (4 - 11) Detailed report screen

4.2.1.7 Detailed report create screen

Select model is required to work on

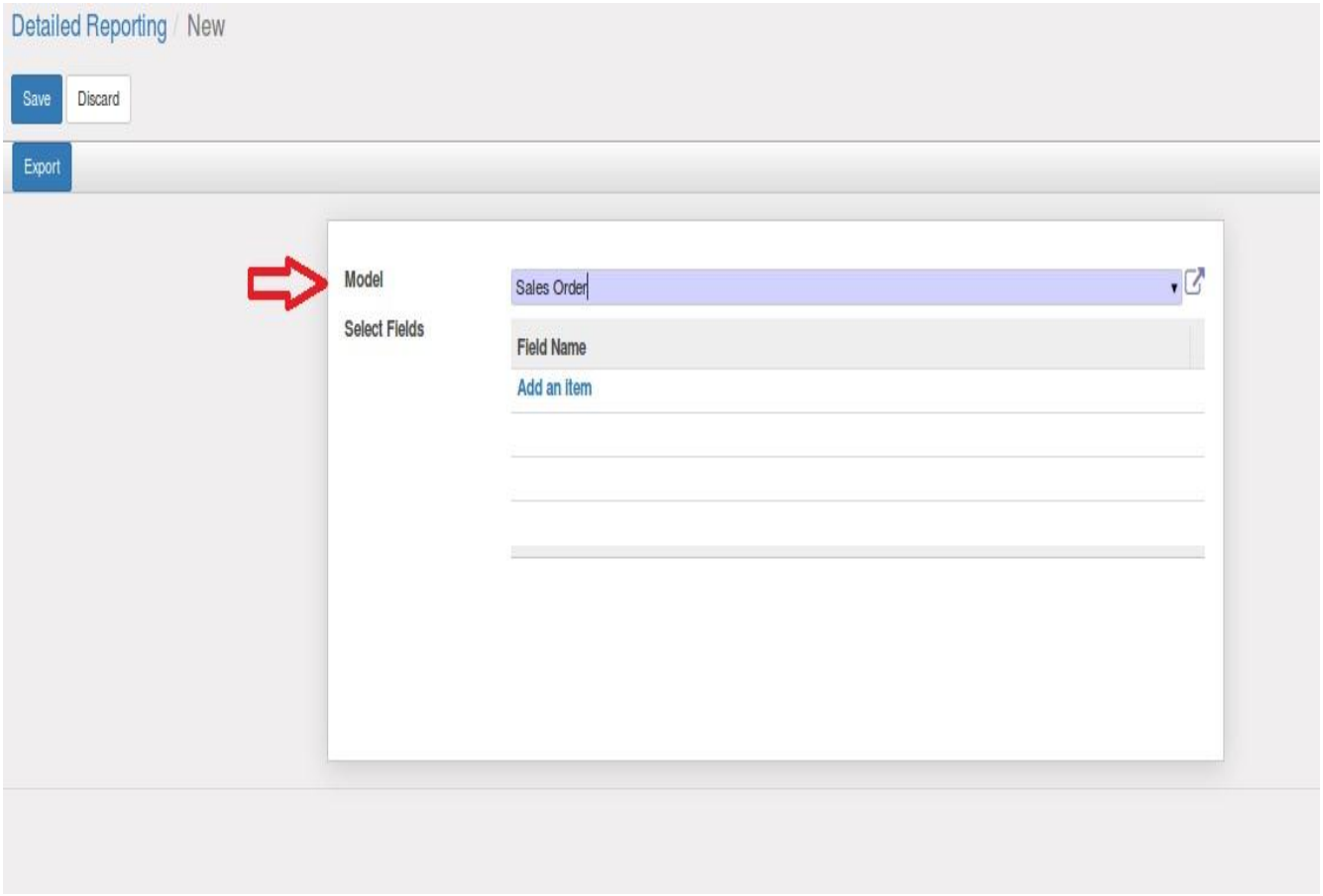


Figure (4 - 12) select Model

Choose Add an item for select field and its criteria (optional)

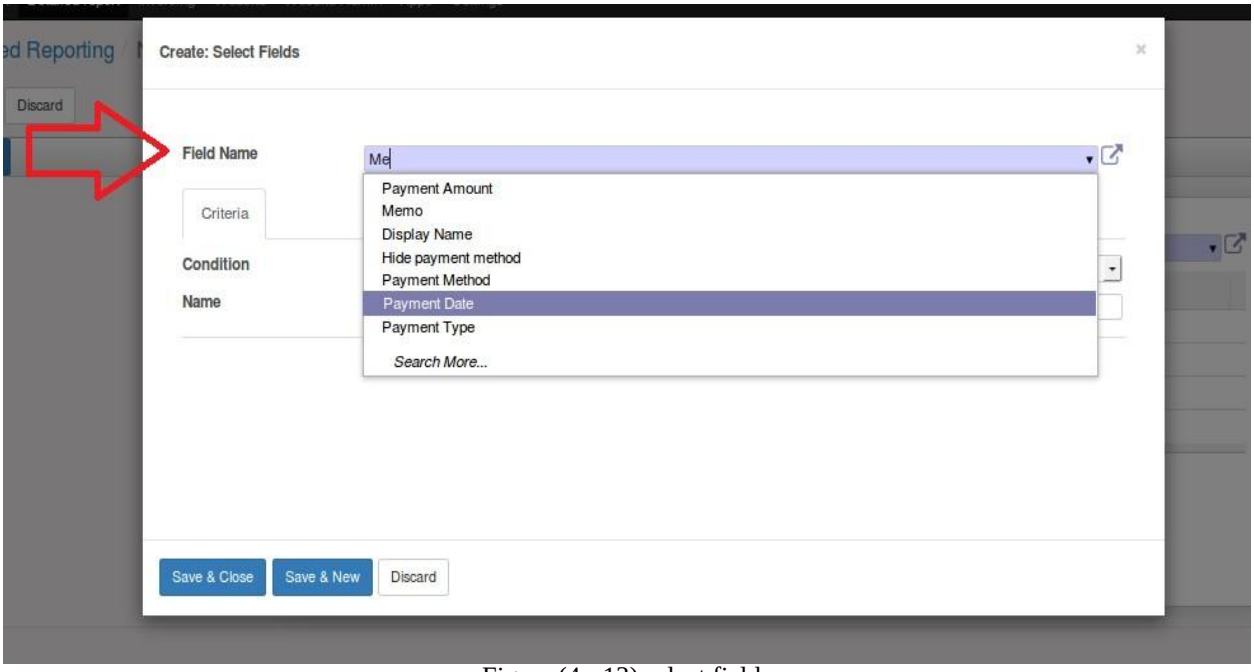


Figure (4 - 13) select fields

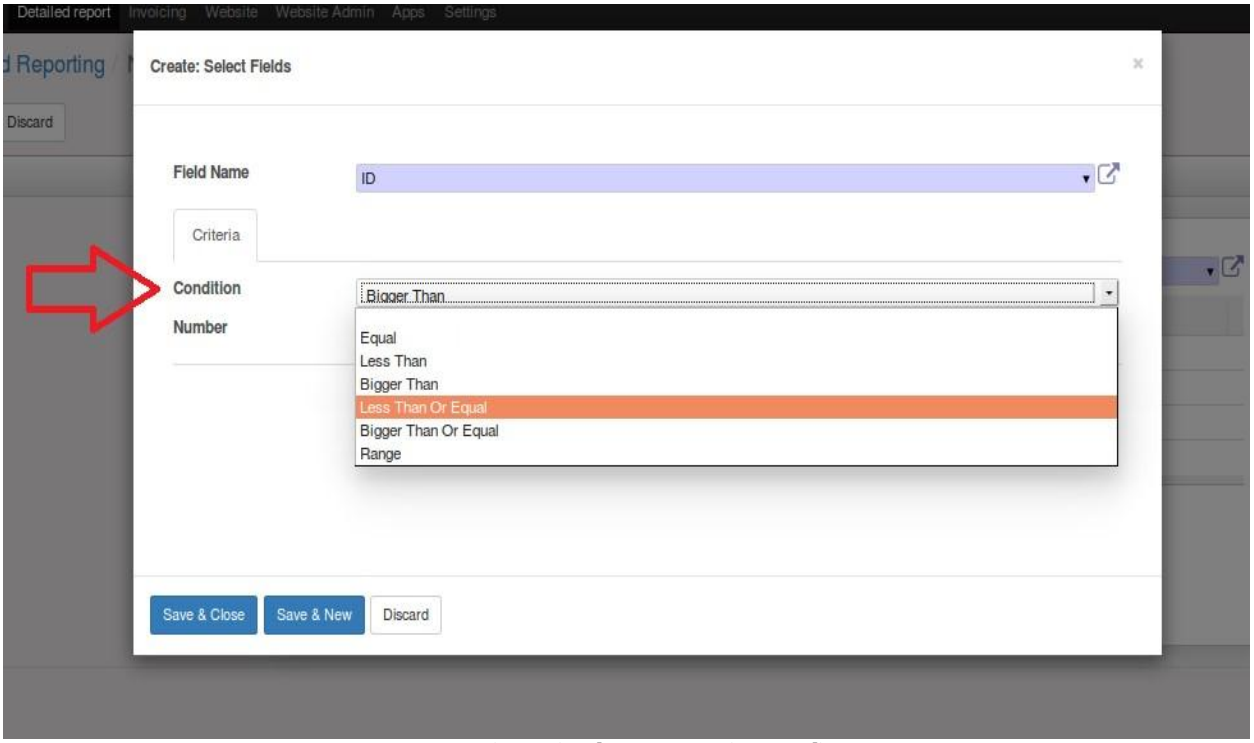


Figure (4 - 14) select criteria (optional)

Click button called Export to extract detailed report

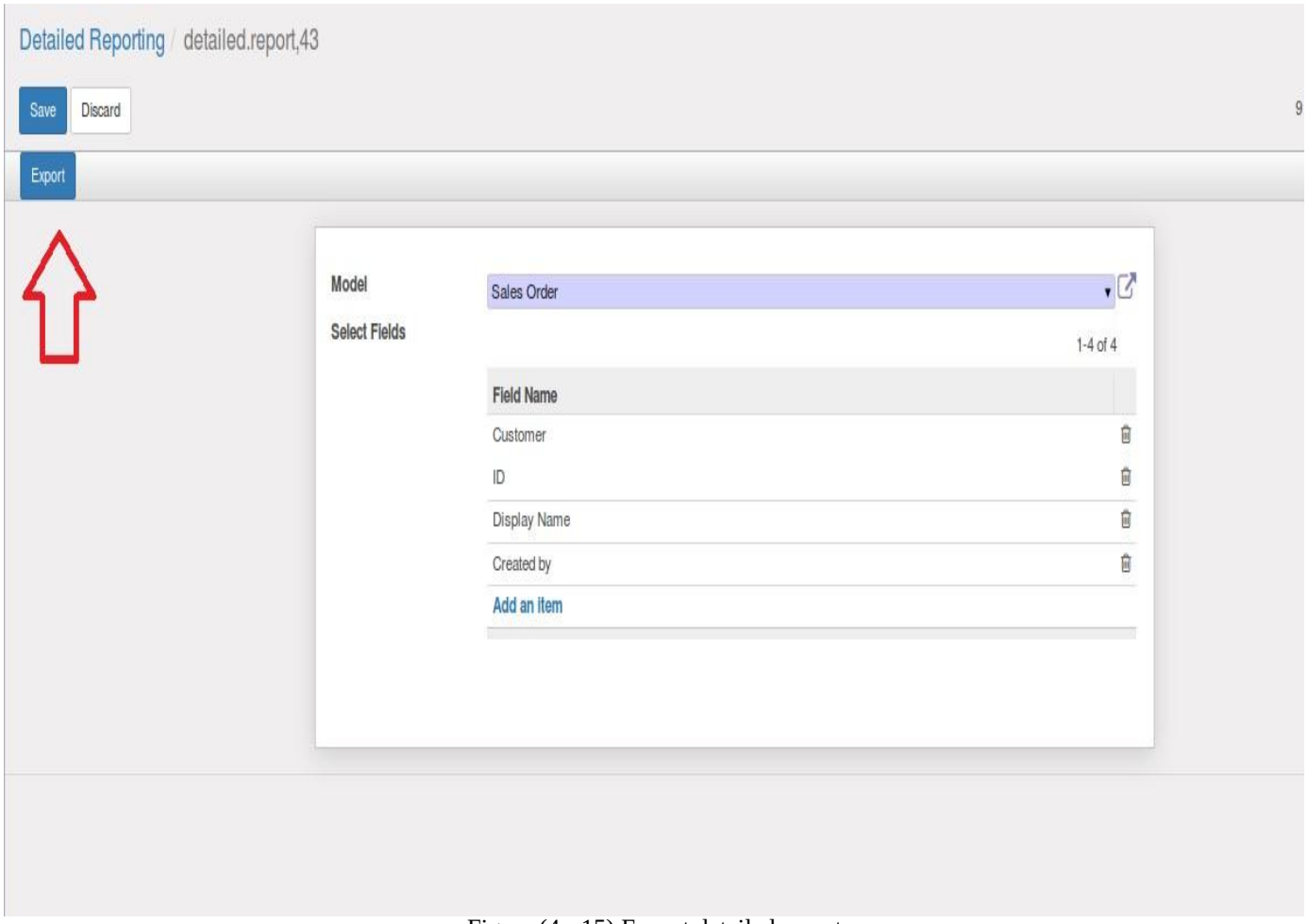


Figure (4 - 15) Export detailed report

4.2.1.8 Store detailed report by PDF or Excel

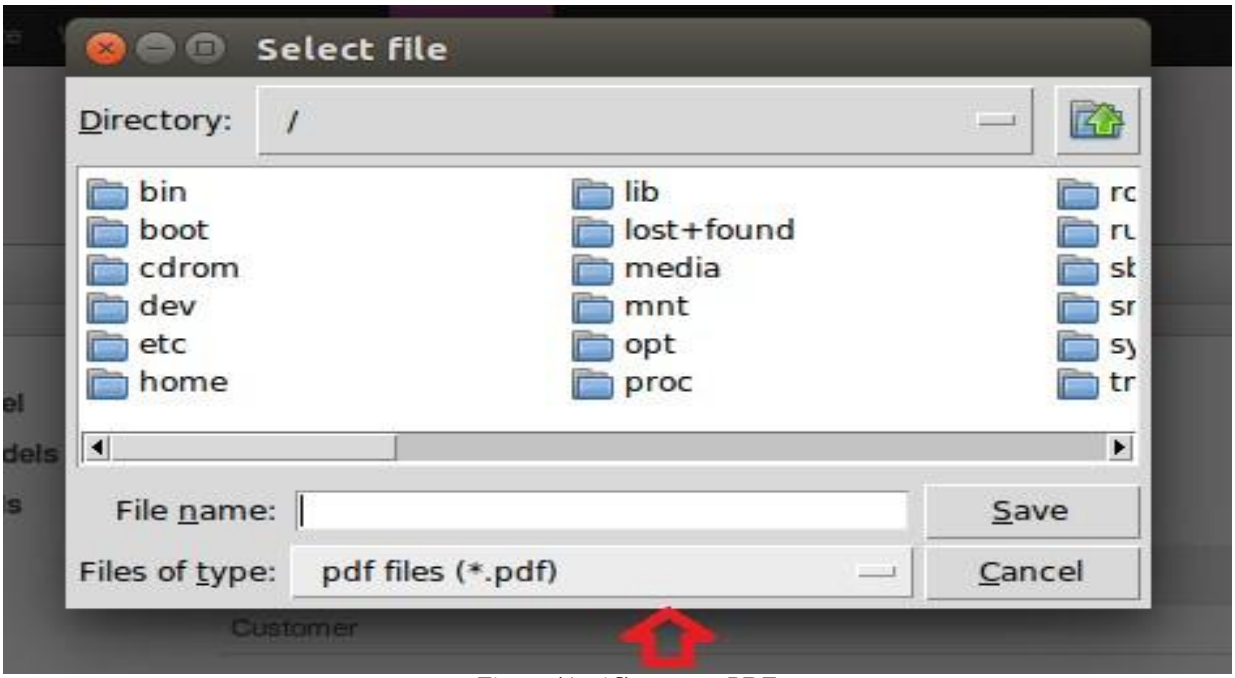


Figure (4 - 16) store as PDF

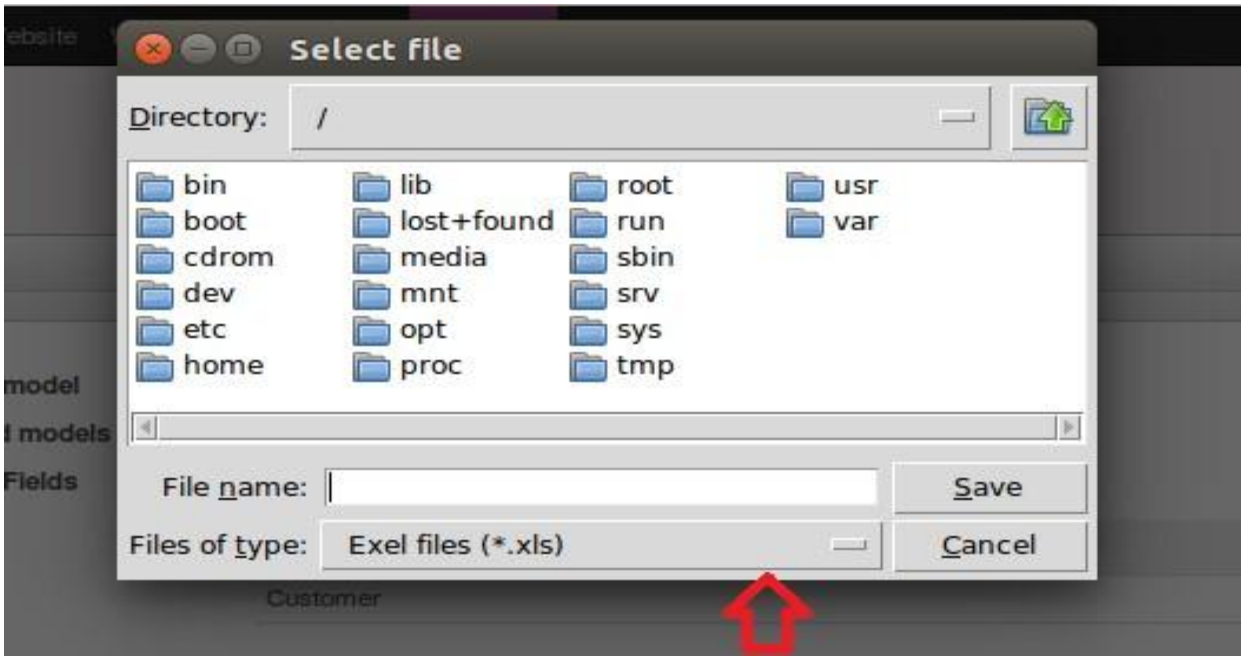


Figure (4 - 17) store as Excel

4.2.2 USER

He is employee or end user use odoo to generate report

4.2.2.1 LOGIN SYSTEM

The sign in screen to user it’s like sign in to admin

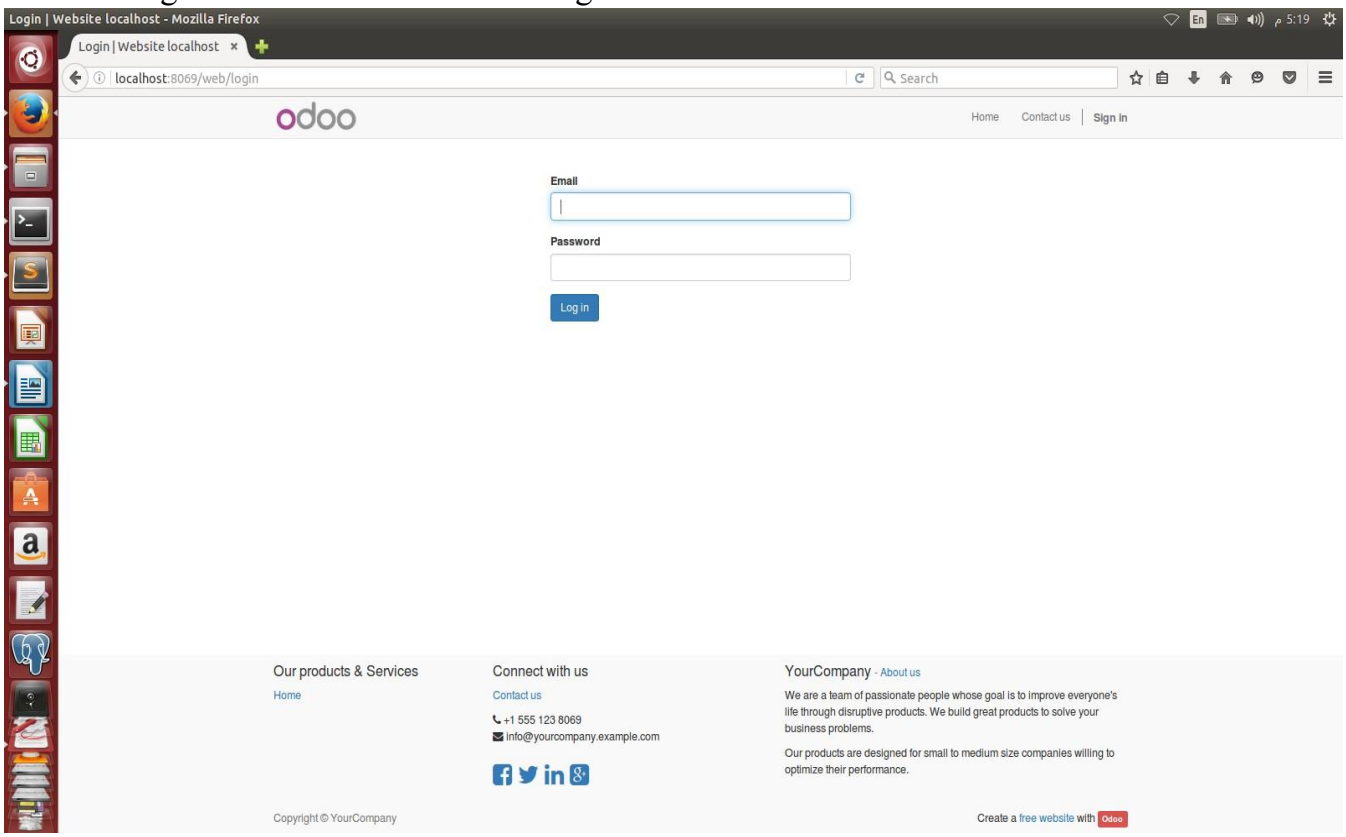


Figure (4 - 18) User Login Screen

4.2.2.2 USER ACCESS

User can access only to detailed report

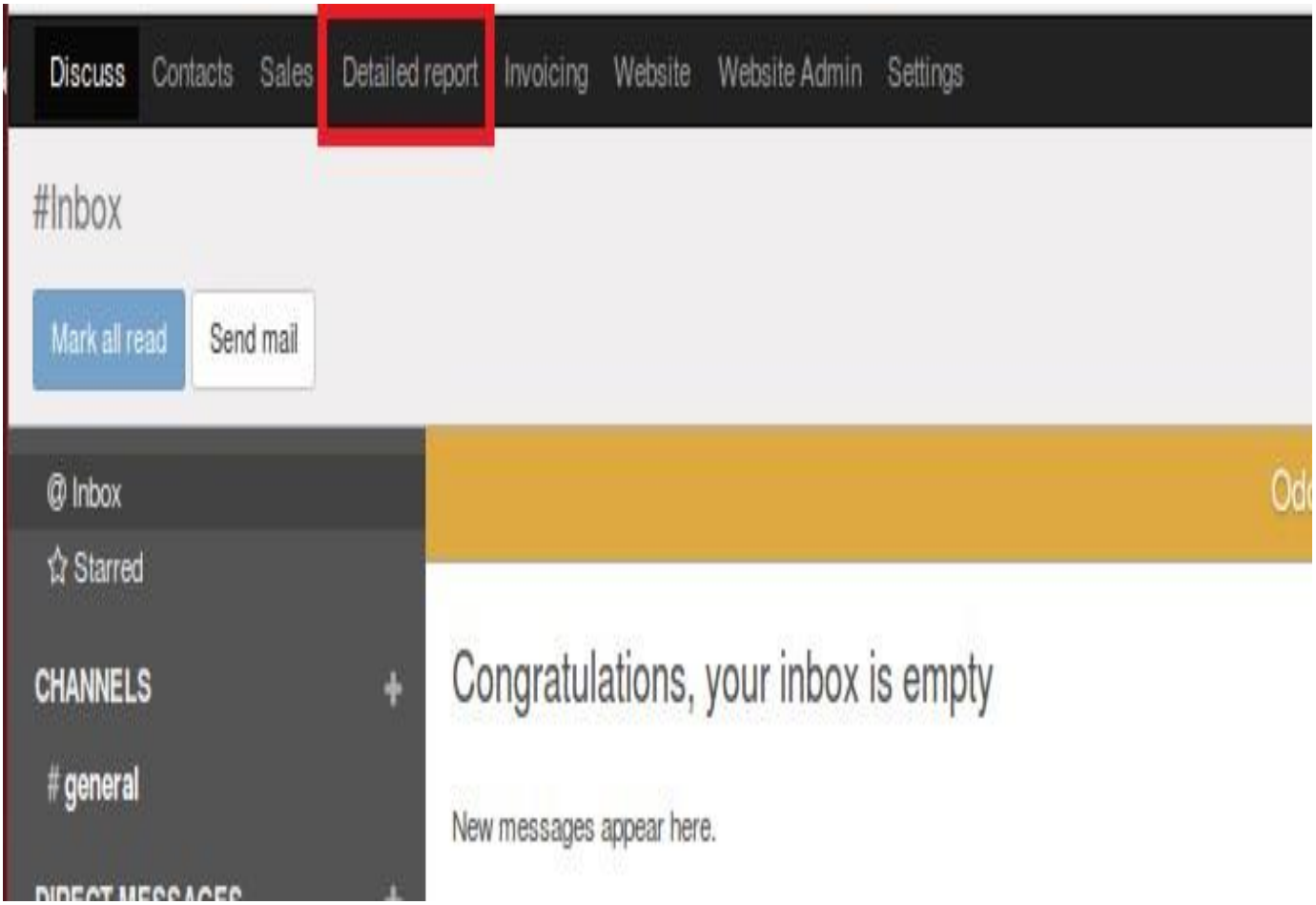


Figure (4 - 19) User Access

4.2.2.3 Generate Detailed report

All steps to generate Detailed report for user similar to that's steps in Detailed report for administrator.

CHAPTER 5

RESULTS AND DISCUSSION

5.1 INTRODUCTION

This chapter to discuss the benefits and the output of research, also the recommendations are recommended to prospective researchers.

5.2 RESULTS

In this result the user had select ID, create by, Display Name and Customer fields from Sales Order model, condition has been applied that customer field must contain “sust” and extract data as a PDF report.

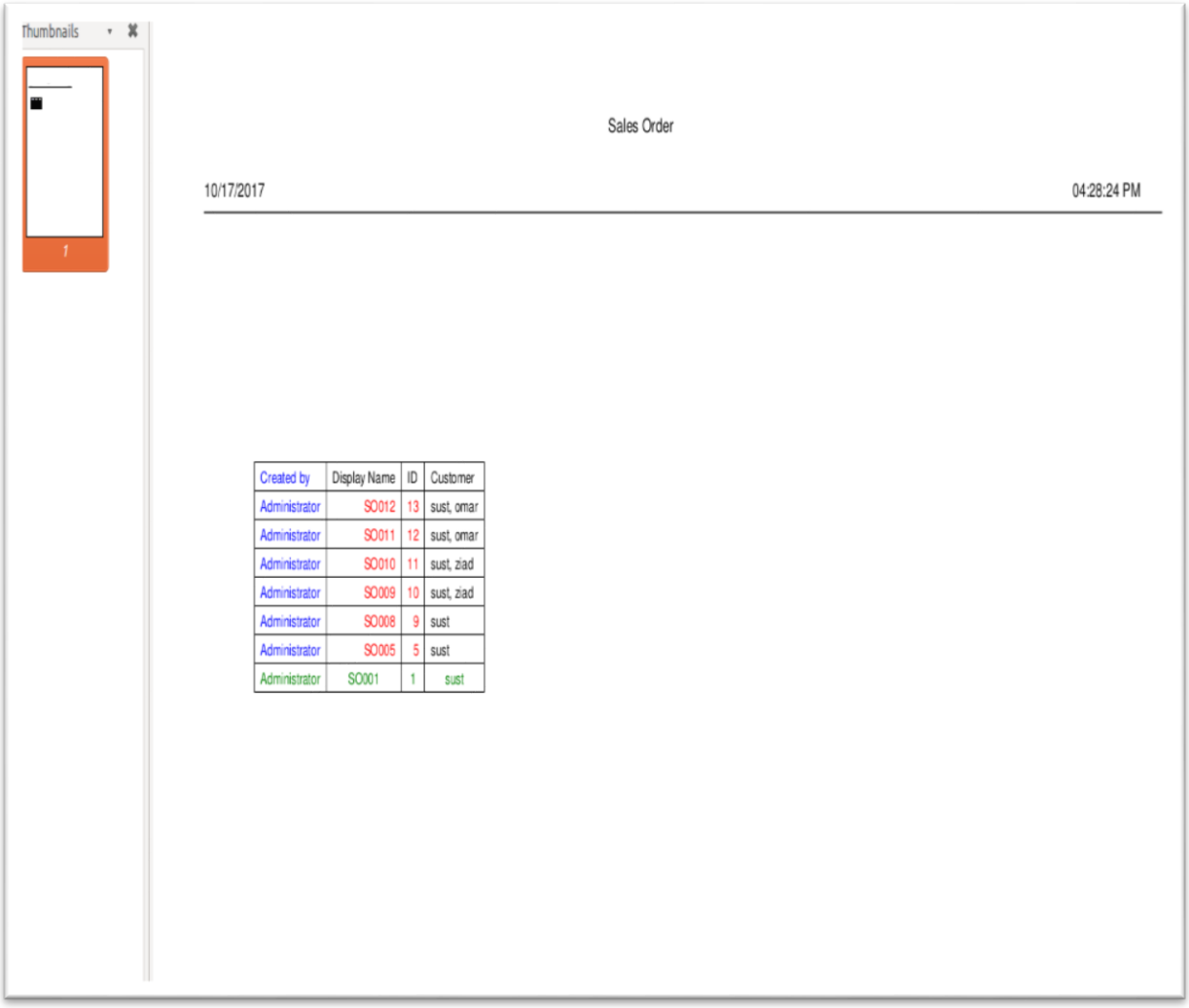
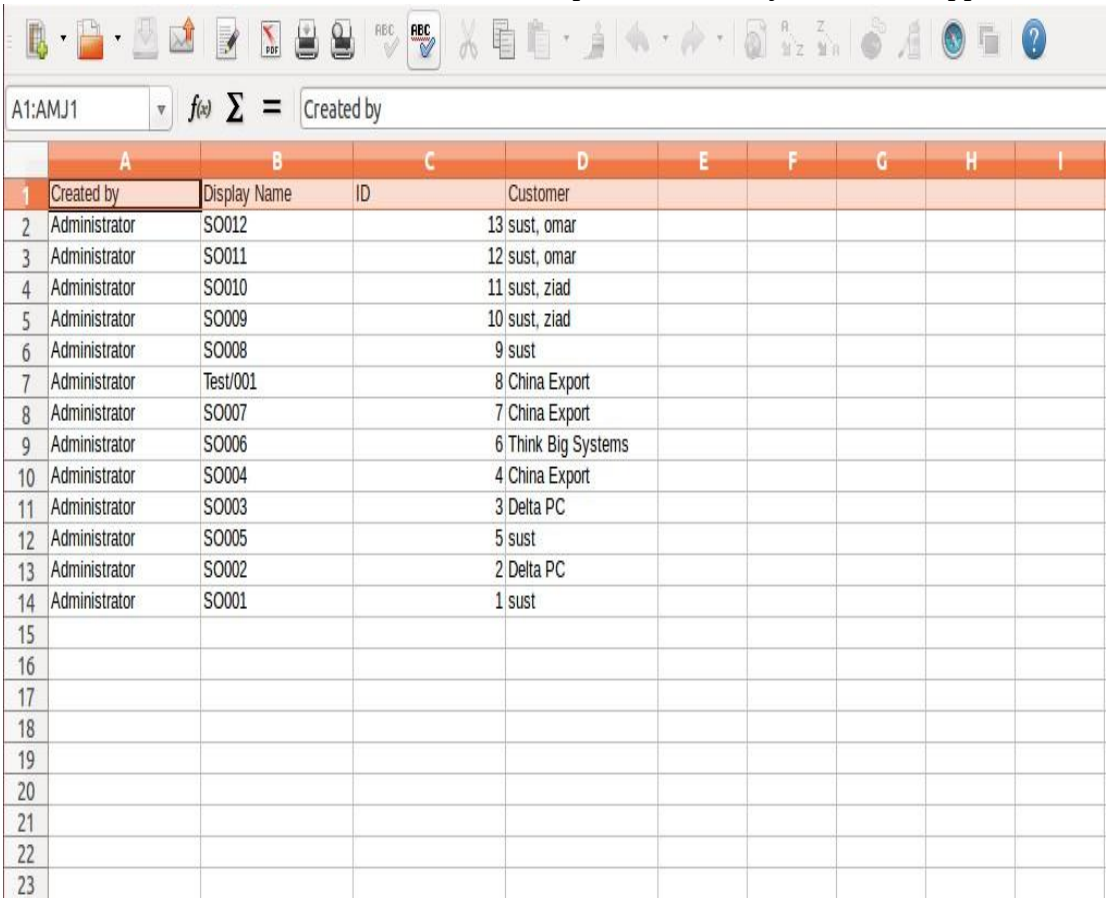


Figure (5 - 1) output of detailed report in PDF file

In this result the user had select ID, create by, Display Name and Customer fields from Sales Order model and extract data as an EXEL report without any conditions applied.



A1:AMJ1 | Created by

	A	B	C	D	E	F	G	H	I
1	Created by	Display Name	ID	Customer					
2	Administrator	SO012	13	sust, omar					
3	Administrator	SO011	12	sust, omar					
4	Administrator	SO010	11	sust, ziad					
5	Administrator	SO009	10	sust, ziad					
6	Administrator	SO008	9	sust					
7	Administrator	Test/001	8	China Export					
8	Administrator	SO007	7	China Export					
9	Administrator	SO006	6	Think Big Systems					
10	Administrator	SO004	4	China Export					
11	Administrator	SO003	3	Delta PC					
12	Administrator	SO005	5	sust					
13	Administrator	SO002	2	Delta PC					
14	Administrator	SO001	1	sust					
15									
16									
17									
18									
19									
20									
21									
22									
23									

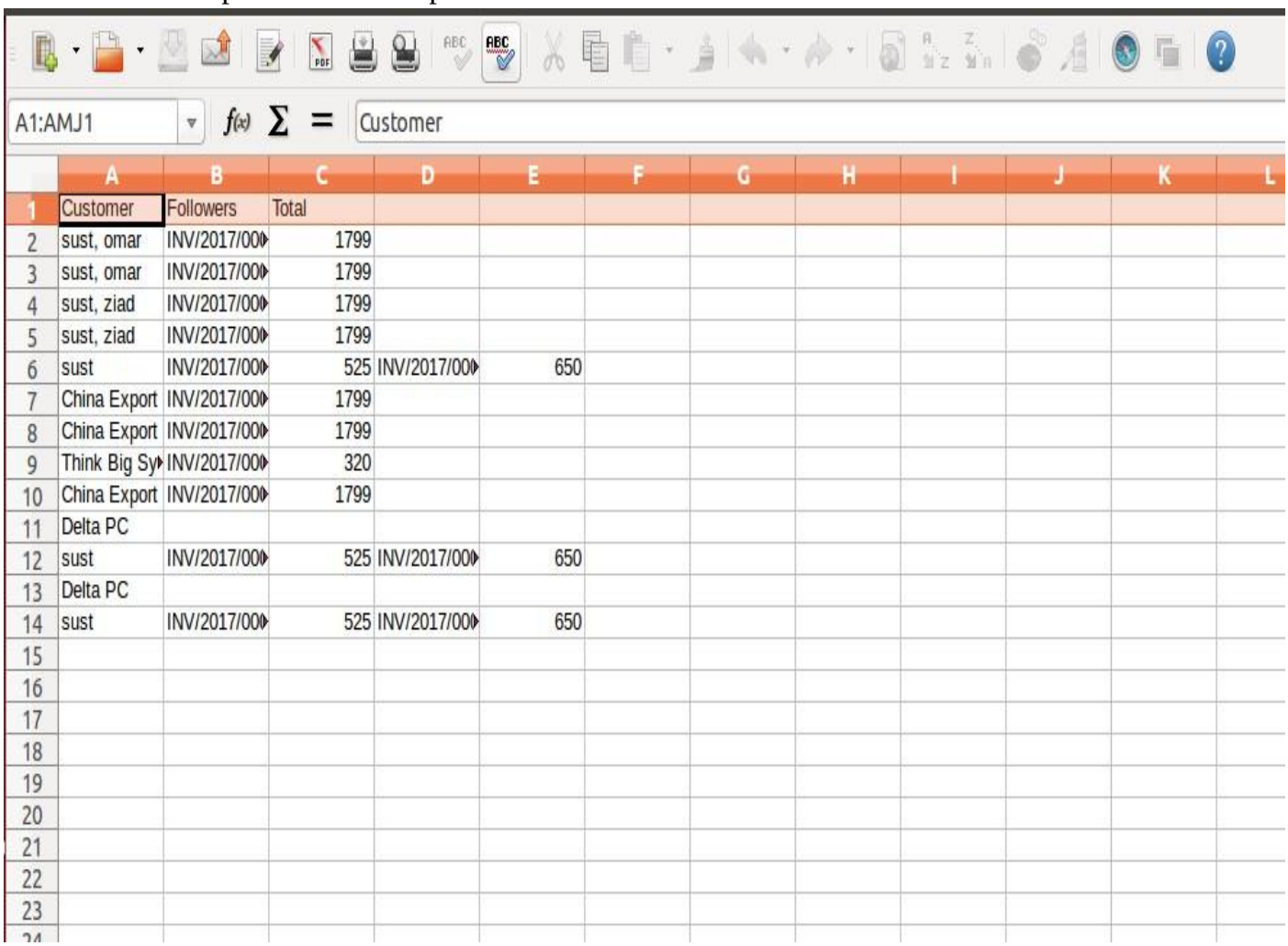
Figure (5 – 2) output of detailed report in Excel

In this result admin chose two models, Sales Order and Invoice, then chose Customer field from the basic model (Sale order) and find the related data between these models and then extract report as PDF report.

Customer	Followers	Total		
sust, omar	INV/2017/0009	1799.0		
sust, omar	INV/2017/0009	1799.0		
sust, ziad	INV/2017/0004	1799.0		
sust, ziad	INV/2017/0004	1799.0		
sust	INV/2017/0003	525.0	INV/2017/0002	650.0
China Export	INV/2017/0006	1799.0		
China Export	INV/2017/0006	1799.0		
Think Big Systems	INV/2017/0007	320.0		
China Export	INV/2017/0006	1799.0		
Delta PC				
sust	INV/2017/0003	525.0	INV/2017/0002	650.0
Delta PC				
sust	INV/2017/0003	525.0	INV/2017/0002	650.0

Figure (5 - 3) output of analytical report in PDF file

In this result admin chose two models, Sales Order and Invoice, then chose Customer field from the basic model (Sale order) and find the related data between these models and then extract report as EXEL report.



A1:AMJ1 | Customer

	A	B	C	D	E
1	Customer	Followers	Total		
2	sust, omar	INV/2017/00	1799		
3	sust, omar	INV/2017/00	1799		
4	sust, ziad	INV/2017/00	1799		
5	sust, ziad	INV/2017/00	1799		
6	sust	INV/2017/00	525	INV/2017/00	650
7	China Export	INV/2017/00	1799		
8	China Export	INV/2017/00	1799		
9	Think Big Sy	INV/2017/00	320		
10	China Export	INV/2017/00	1799		
11	Delta PC				
12	sust	INV/2017/00	525	INV/2017/00	650
13	Delta PC				
14	sust	INV/2017/00	525	INV/2017/00	650
15					
16					
17					
18					
19					
20					
21					
22					
23					

Figure (5 - 4) output of analytical report in Excel file

The output obtained by this research are generate two types of reports (analytical report and detailed report) by automated method, also display's method by two alternative (PDF and Excel).

5.3 RECOMMENDATION

To make the tool more powerful and reliable we recommend doing more tasks:

- Adding dashboards as an extra method to view data.
- View data before export the PDF file or EXEL.

Conclusion

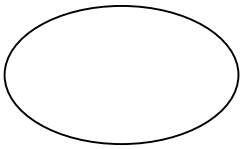
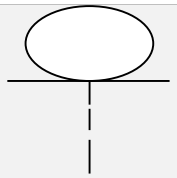
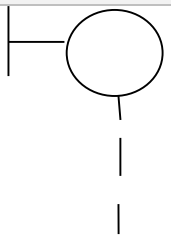
Reports are important tool for collecting and observing information about a particular data and achieving this information is becoming overwrought.

In this research and by the auto dynamic generate tool a user can view information by collecting data, analyzing it then creates reports that aid in accurate decision making.

APPENDIXES

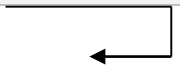
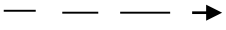
APPENDIXES

(A) UML NOTATIONS

Explain Figure	NameFigure	Figure
An **actor** is anything outside the system that interacts with the system to complete a task.	Actor	
Each **use case** on the diagram represents a single task that the system needs to carry out.	Use Cases	
A system components	Object	
It is usual to display use cases as being inside the system and actors as being outside the system.	Boundary	

Is the main component of an activity diagram. These shapes indicate the activities that make up a modeled process.	Activity	

(B) UML RELATIONSHIPS

Explain Figure	**NameFigure**	**Figure**
Use the includes link to show that one use case includes the task described by another use case.	Include	
A self-message can represent a recursive call of an operation or one method calling another method belong to the same object.	Self-massage	
The sender sends .the message	Message	
Results of procedure calls.	Return-massage	

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