



**SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY COLLEGE OF
COMPUTER SCIENCE & INFORMATION TECHNOLOGY COMPUTER
SYSTEMS AND NETWORK DEPARTMENT**

COMPARISON BETWEEN JOOMLA AND WORDPRESS CONTENT MANAGEMENT SYSTEMS

OCTOBER 2017

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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WORDPRESS CONTENT MANAGEMENT
SYSTEMS**

PROPOSED BY:

AHMED SHAAELDIEN MOHAMMED

MONZER MAHMOUD MOHAMMED

MOUFG ALSADIG ALMOHTDY

SIGNATURE OF SUPERVISOR : Reham lotfi

Signature

OCTOBER 2017

الاية

قال تعالى:

{وَقُلْ لِّرَبِّكَ زِدْ نِيْعًا لِّمَلَأَ}

صدق الله العظيم
[سورة طه] 114

الحمد لله

الحمد لله اللهم ربنا لك الحمد بما خلقتنا ورزقتنا وهديتنا وعلمتنا وأنقذتنا وفرجت عنا
لك الحمد بالإيمان ولك الحمد بالإسلام ولك الحمد بالقرآن ولك الحمد بالأهل والمال والمعافاة
كبت عدونا وبسطت رزقنا وأظهرت أمننا وجمعت فرقتنا وأحسنّت معافاتنا
ومن كل ما سألناك ربنا أعطيتنا
فلك الحمد على ذلك حمدا كثيرا
لك الحمد بكل نعمة أنعمت بها علينا في قديم أو حديث أو سر أو علنية أو خاصة أو عامة
أو حيًّا أو ميتًّا أو شاهد أو غائب
لك الحمد حتى ترضى ولك الحمد إذا رضيت ولك الحمد بعد الرضى
وصلّى اللهم وسلّم على سيدنا محمد وسلّم تسليما كثيرا

الشكر والعرفان

لابد لنا ونحن نخطو خطواتنا الأخيرة في الحياة الجامعية من وقفة نعود إلى أعوام قضيناها في رحاب الجامعة مع اساتذتنا الكرام الذين قدموا لنا الكثير باذلين بذلك جهودا كبيرة في بناء جيل الغد لتبعث

..الأمه من جديد

وقبل أن نمضي تقدم أسمى آيات الشكر والامتنان والتقدير والمحبة الى الذين حملوا أقدس رساله في

..الحياة

..إلى الذين مهدوا لنا طريق العلم والمعرفة

..إلى جميع أساتذتنا الأفاضل

كن عالما.. فإن لم تستطع فكن متعلما.. فإن لم تستطع فأحب العلماء.. فإن لم تستطع "فلاتيغضهم"

..ونخص بالشكر والتقدير مشرفتنا الغالية

أ/ رهام لطفي

والتي لايسعنا إلا أن نقول لها

"إن الحوت في البحر والطير في السماء ليصلون على معلم الناس الخير"

إلى كل من كانوا عوناً لنا في بحثنا هذا ونورا يضيء الظلمة التي كانت تقف أحيانا في طريقنا إلى من زرعو التفاؤل في دربنا وقدموا لنا المساعدات والتسهيلات والأفكار والمعلومات فلهم

منا

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ها تلك أيام العناء والشقاء تنتهي وها اليوم والحمد لله صفحات سهر الليالي تنطوي..
سنين.. بشهورها.. وأيامها.. وساعاتها.. تنقضي
لنضع لكم هذا البحث المتواضع خلاصة العلم النقي..
الى من كللهم الله بالهيبه والوقار..
..الى من نحمل أسمهم بكل افتخار
الى من لم يبخلو بشئ من أجل دفعنا لطريق النجاح
الى من كلت أناملهم ليقدّموا لنا لحظة سعادة
الى من علمونا صعود درجات الفلاح درجة.. درجة
(والدينا الأعزاء)

الى ملاكنا في الحياة..
الى من بها تكبر وعليها نعتمد..
الى شمعة متقدة تنير ظلمة حياتنا..
الى من بوجوده نكتسب قوة ومحبة لحدود لها..
الى من سهرت الليالي معنا لكي ترانا يوم نحمل شهادتنا..
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الى من شاركونا حضن الأم وبهم نستمد عزتنا واصرارنا
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الى الأخوان والأخوات الذين لم تدهن أمهاتنا الى من تحلو بالايحاء وتميزو بالوفاء والعطاء
الى ينابيع الصدق الصافي
الى من معهم سعدنا وبرفقتهم في دروب الحياة الحلوة والحزينة سرنا
الى من كانوا معنا على طريق النجاح والخير
الى من عرفنا كيف نجدهم وعلمونا أن لانضيعهم
(أصدقائونا)

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Abstract

Find a set of content management systems that are used for the programmer or developer to develop applications and sites. Through this research we enable the programmer to choose the best system for the designing and development of applications and sites through the results described in this research.

We compare two types of content management systems which are Joomla and WordPress to select the range for each of them to be limited to the admin panel. We study the user interaction with sites designed by Google Analytics, which analyzes the sites and displays the results of the analysis as numbers, and then a report is made, which makes it easier for the programmer to choose which systems are best to work with while saving time and effort.

المستخلص

وجدت مجموعة من أنظمة إدارة المحتويات تم استخدامها لمساعدة المبرمج أو المطور بتطوير التطبيقات والمواقع. فمن خلال هذا البحث نقوم بتمكين المطور من اختيار أفضل نظام لتصميم وتطوير التطبيقات والمواقع وذلك عن طريق النتائج التي تم توضيحها في هذا البحث.

تم مقارنة نوعين من أنظمة إدارة المحتويات وهما الجملة والورد بريس مع تحديد نطاق البحث لكل منهما على لوحة الإدارة.

تم دراسة تفاعل المستخدمين مع مواقع تم تصميمها عن طريق تحليلات قولف الذي قام بتحليل المواقع وعرض نتائج التحليل كأرقام ثم تم عمل تقرير يسهل للمبرمج عملية اختيار أي النظامين أفضل للعمل عليه مع توفير الزمن والجهد.

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CHAPTER ONE

Research Overview

1.1 Overview

At Present there are lots of open source content management systems (CMS) available in the market used to develop and create web sites, and few like- joomla and Word Press-are popular because of its good functionality and support. As open source CMS has its own advantages, both are free, open-source, and easy to set up and use with a few different nuances, this research provides good recommendation for the developers to build the best websites.

1.2 Problem statement

For organizations that need to use CMS at their work, they need to answer the question of which best and reliable environment. This research compares two top CMS platforms, Joomla and Word Press, and helps the developer in the construction site when an error occurs in html, CSS, java script, and PHP files that reduce the risk due to unknown location of error. That comparison help developer to determine which one is best to choose for the website.

1.3 Scope of research

In this research the focus on comparing the admin panel functions and how it helps the developers to fulfill their daily tasks. Moreover the research measures user's interaction with the site.

1.4 Proposed solution

Apply research on the documents and exposed the problems found in joomla and Word press, then use Google analytics to analyze websites Designed in this research and famous sites, in terms of functionality, content and interaction of users with the site, the results of this analysis enable the selection of the best among them.

1.5 State of the Art

There is three case study included in this research first "The Analysis of the Influence of Selected Factors on Website Traffic" a research produced by VŠB-TU Ostrava that aim to analyze the influence of a time period and banner adverts on Web traffic of school Newspaper monitored

Second "Performance Analysis of Content Management Systems- Joomla, Drupal and Word Press " a research produced by Institute of Computer Studies, Ganpat University

Third Foundation's Group of Institutions, Rajkot aim to comparison between joomla and Word Press in terms of acceptable and preference.

1.6 Research structure

This research has the following Thesis Layout:

Chapter 2 contains background of joomla, and WordPress and also previous studies.

Chapter 3 discusses the techniques and tools that will be used to achieve the research objective.

Chapter 4 contains the system description and implementation of Google analytics.

Chapter 5 displays research results and recommendations.

CHAPTER TWO
BACKGROUND AND PERVIOUS
STUDIES

2.1 INTRODUCTION

This chapter displays Joomla and WordPress tools. Also the previous studies related to this project.

2.2 A content Management System

Content Management System (CMS) software follows similar progressions. The Internet was crying out for a quick and easy way for people without programming or HTML skills to be able to edit the content of their web sites, and the developers answered.

The great thing about these open-source solutions is that they all tend to do things in a slightly different fashion. There are hundreds of open-source content management systems. Drupal, Joomla! and WordPress are by far the most popular and are where we'll focus.

2.3 Joomla Background

2.3.1 Joomla and how it works

Joomla is an open source Content Management System (CMS), which is used to build websites and online applications. It is free and extendable which is separated into front-end and back-end templates (administrator). Joomla is developed using PHP, Object Oriented Programming, software design patterns and MySQL (used for storing the data).

Joomla is a modular content management system. It is not limited to just what comes with the initial package. You can expand on it, customize it, and swap components

with a few clicks of the mouse. It is because of this extensive amount of control that it can be a bit overwhelming to someone attempting to navigate through the administrative side for the first time. In this page, we will attempt to tackle some of the most common Joomla components and how they relate to one-another Joomla is not just a platform on which content is displayed. It is also an incredible platform for site management and content creation. It is because of this dual-purpose nature of Joomla that much of its components are actually split between the visitors area of your site and the Administrator area.

Each part of Joomla has its own template. This is due to the fact that both the visitor area and the administrative areas can be customized to meet the needs of visitors and site managers alike. There are a number of different Administrator interfaces out there for you to choose from, just as there are thousands of Joomla frontend templates for you to pick from.

The Administrator interface gives you the ability to customize your site's layout, create and manage content, upload extensions, and more. It is the primary control interface for the entire site, and as such should only be accessible by individuals you absolutely trust not to break or harm anything. This is not a place for visitors. They are generally going to stick to the frontend for everything they need to do in your site, including potentially adding articles, making comments, or submitting answers to forms.

2.3.2 History

Joomla is based on Mambo CMS which was developed by an Australian company in 2001 and initially released on August 17, 2005. The official version of Joomla 1.0 was released on September 22, 2005.

2.3.4 Component of joomla

In Joomla the category must always be created first, the article is next and the menu item is third. You cannot go out of sequence because this is the way the database is

constructed. It is always done in this order:

1. Category

2. Article

3. Menu

The most efficient way is to create all of the categories, add all the articles and then create the menus and menu links pointing to category and article content.

Categories and Articles

Articles The article is part of consistent text content (HTML), it can contain images and other types of content, and it is possible with links to other resources. Articles are the basic units of information in the content system and the bottom level in the content hierarchy.

Categories Provides an optional way to organize articles. The category contains articles and also contains other categories. A single article exists in one category. There are two main reasons for organizing articles in categories:

- **List and Blog Layouts:** There is a built-in list of item types in the Joomla that benefit from this organization Category blog and Categories List. These list types (also called "layouts") make it very easy to show items that belong to certain categories. When you create new articles and assign them to categories, they will be automatically placed on these pages according to the criteria you specify for each page.
- **Organizing Articles in Article Manager:** If there are a large number of articles on the site, the second reason for using categories is to group articles until they are found. For example, in Article Manager, you can filter articles based on the category. So if you have 200 articles in your site, you can find the article more easily if you know the category.

There is also a possibility of confusion about categories. Categories are also used by other components, including banners, contacts, news feeds, and web links. These categories are completely different from article categories and are set up in different screens at the end of the back of the Joomla, Therefore there are different types of categories, may refer to categories of the article or they may refer to categories of these other components

- Categories are collections of articles.
- Each Category can be a child or subcategory of another category.
- There is a special Category, built into Joomla called 'Uncategorized'. This is outside the content hierarchy but can be displayed through a menu item.

Menus

Menu is a set of **menu items** used for website navigation. Each menu item defines an URL to a page on your site, and holds settings that control the contents (articles, categories) and style (modules, layout) of that page. To add a new Menu Item:

1. Log in to the Joomla back-end.
2. If needed, create a new Menu using the Menu Manager.
3. Open the Menu Item Manager in one of the following ways:
 - Select the Menu you wish to add an item to from the "Menus" drop-down menu.
 - From the Menu Manager, click the Edit Menu Item(s) icon for the desired Menu.
4. In the Menu Item Manager, click the New toolbar button to open the Menu Item: New screen.
5. Select the appropriate menu item type. For example to insert a single Article select **Internal Link > Articles > Article Layout**.

6. Complete the Menu Item Details section as required. Each Menu Item Type will have its own parameters to complete as well as common parameters and Menu Item Details.

Extensions:

Is a software package that extends your Joomla installation in some way. A small selection of extensions is included with the default Joomla installation. Some examples of Joomla extensions:

1. Component: adds custom functions to your site that can be selected from menus.
2. Language: defines an additional language for the site.
3. Module: shows nonessential data in a side box, possibly on multiple pages.
4. Plugin: modifies content in articles or provides functions to extend other extensions.

Toolbar

My Toolbar for Joomla is a Toolbar which sits at the bottom of your browser window, it is fully customizable and includes (optional) built in Jomsocial and Community Builder controls. The Jomsocial/Community builder controls and the logout button will only appear once your end user is logged into your site.

Module

Module is lightweight and flexible extensions used for page rendering. Module is assigned per menu item, so you can decide to show or hide. The login module depending on which page the user is currently on. Modules are managed in Joomla, administrator view by the module manager. Here are the standard modules available in a new Joomla Installation:

- Archived Articles: This Module shows a list of the calendar months containing archived articles.
- Footer: This module shows the Joomla Copyright information.
- Language Switcher: This module displays a list of available Content Languages
- Login: This module displays a username and password login form.
- Menu: This module displays a menu on the frontend.

Template

A template controls the overall look and layout of a site. It provides the framework that brings together common elements, modules and components as well as providing the cascading style sheet for the site. Both the front-end and the back-end of the site have templates.

When Joomla is first installed several templates are automatically included. You can find many more templates at joomla official website. Some are available without charge under various licenses, and some are for sale. In addition, there are many developers available who can make custom templates. You can also make your own template. Templates are managed with the Template Manager, which is located on the Extensions menu in the back-end (administrator) area of your site.[12]

2.4 Word press Background

2.4.1 Word Press and how it works

Word Press is Free and open source software, built by a distributed community of mostly volunteer developer which would either be part of an Internet hosting service or a network host in its own right. An example of the first scenario may be a service like WordPress.com, for example, and the second case could be a computer running the software package WordPress.org.[4] A local computer may be used for single-user testing and learning purposes.

2.4.2 History

Word Press was born out of a desire for an elegant, well-architecture personal publishing system built on PHP and My SQL and licensed under the

GPL. It is the official successor of b2/cafe log. Word Press is modern software, but its roots and development go back to 2001. It is a mature and stable product.[3]

2.4.3 Component of word press

2.4.3.1 Dashboard - Information Central

The Dashboard tells you about recent activity both at your site and in the Word Press community at large and provides access to updating Word Press, plugins, and themes.

The dashboard screen provides you a number of links to start writing posts or pages; statistics and links on the number of posts, pages, categories, and tags. A Recent Comments box shows the number of comments awaiting moderation and a list of the recent comments.

2.4.3.2 Home

From the Dashboard's Home page, you can quickly access your site's content and get a look into other areas of the Word Press community. The Dashboard Home Screen presents information in blocks called widgets. By default, Word Press delivers five widgets on this page: At a Glance, Activity, Quick Draft, Word Press News, and Welcome.

2.4.3.3 Posts - Make some content

This Screen allows you to populate your site with actual information most of the administration work is here. To create new post login to the Administration Screen, and in the navigation menu on the left, click on Posts, and then Add New. Word Press displays the Posts Add New Screen.

2.5.3.1 All Posts

Via the All Posts Screen to select the Post or Posts, Multiple Posts can be selected for deletion and for editing. A handy in-line edit tool, called Quick Edit, allows the update of many fields for an individual Post. Various search and filtering options allow find the Posts that need edit or delete.

2.4.3.4 Categories

Every Post in Word Press is filed under one or more Categories. Categories allow the classification of the Posts into groups and subgroups, thereby aiding viewers in the navigation and use of the site. Each Category may be assigned to a Category Parent so that may set up a hierarchy within the category structure. The Posts Categories Screen allows add, edit, and delete Categories, as well as organize your categories hierarchically. Multiple Categories can be selected for deletion. A search option allows find the Categories that need edit or delete. Also remember Categories can be added in the Posts Add New Screen.[11]

2.4.3.5 Media

Media is the images, video, recordings, and files, you upload and use in your blog. Media is typically uploaded and inserted into the content when writing a Post or Page. Note that the Uploading Files section in the Settings Media Screen describes the location and structure of the upload directory.

Add New Media

The Media Add New Screen allows the upload of new media to later use with posts and pages. A Flash Up loader is provided and the ability to use a Browser Up loader is supplied if the Flash Up loader does not work.

Edit Media

The Edit Media page allows the edit of information (title, caption, alt text, etc.) of media files uploaded to the site. This page does not appear as a link in the main Dashboard navigation, but is reached by clicking on the Edit link in the Media Library Screen that appears when hover over each item, or when uploading media for the first time on the Media Add New Screen once the upload has completed.

2.4.3.6 Pages - Your Static Content

A Page is another tool to add content to a Word Press site and is often used to present "static" information about the site; Pages are typically "timeless" in nature. A good example of a Page is the information contained in "About" or "Contact" Pages. A Page should not be confused with the time-oriented objects called Posts, nor should a Word Press Page be confused with the word "page" referring to any web page or HTML document on the Web. Because Pages live outside of the normal blog chronology, and as such, are not displayed with the rest of your Posts, but are displayed individually.

2.5.6.1 All Pages

The All Pages Screen provides the necessary tools to existing Pages.

On this Screen you can select the Page to edit, delete or view.

2.4.3.7 Menus

The Menus feature allows you to create a navigation menu of pages, categories, custom links, tags, etc. that is presented to your visitors. A custom menu Word Press Widget allows display of a custom menu in the sidebar or other widget zed areas in the Theme. This option will only be present if the Theme author has configured the theme to allow this capability and the site administrator uses them.

2.4.3.8 Plugins

Plugins allow add new features to the Word Press blog that don't come standard with the default installation. There are a rich variety of Available Plugins for Word Press, and with the following Screens, plugin installation and management is an exploding.

2.4.3.9 Users

Every blog probably has at least two users: admin, the account initially set up by WordPress, and the user account you, as the author/owner of the blog, use to write posts. But perhaps the work need more, Maybe many writers need to blog. If a person to be able to post to your blog is needed, that person must have access to a user account; typically, every person will have her or his own user account. Via the Users option in the main navigation menu you can set up all of the user accounts that are needed, as well as change user information, or delete users.

An important administrative feature here is the Roles feature. Depending on their Role, different users have different Capabilities. Briefly, a user can be assigned the following Roles: Administrator, Editor, Author, Contributor, or Subscriber, also specify the personal information, such as name, e-mail, etc. from these User Administration Screens.[5]

2.5 Previous studies

2.5.1 The Analysis of the Influence of Selected Factors on Website Traffic

The aim of this paper is to analyze the influence of a time period and banner adverts on Web traffic of school Newspaper monitored by using Google Analytics tool and Yahoo Web analytics.

Web traffic analysis and a correct interpretation of the Results are essential to optimize the site and effective Online communication, which is today for some organizations even more important than offline communication.

The methodological basis is the use of statistical system, namely the

correlation coefficient and ANOVA.

From Google Analytics software derive indicators, such as the number of visitors, number of unique visitors, an overview of visitors (the number of new and returning visitors), the number of page views, average web page views, rate of exits, timeliness of visits, loyalty visits, an over-view of languages, time spent on the website, depth of visits, an overview of user defined, sources (direct, Referring websites, search engines), content (the Number of page views), a list of objectives (an over-view of the conversions) .

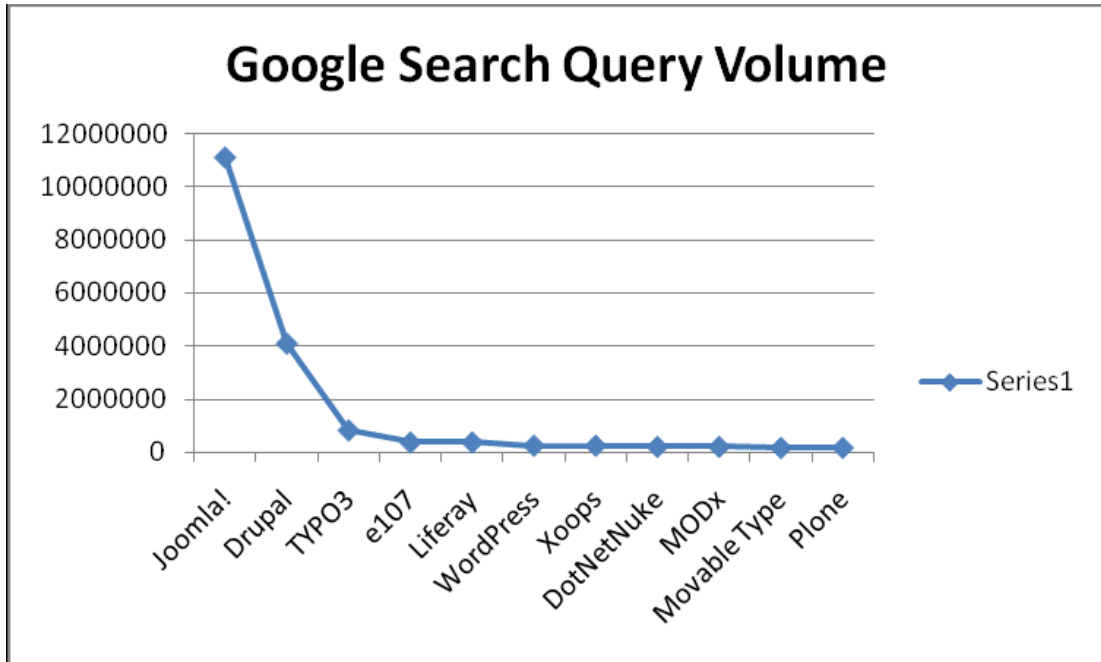
From Yahoo Web analytics demographics and psychographic structure of the web users is derived. These segments are important for managing advertising campaigns and because of the faster and easier targeting of the on-line marketing.

The research results confirm the importance of planning, managing and adapting the content of online communication to increase web traffic.

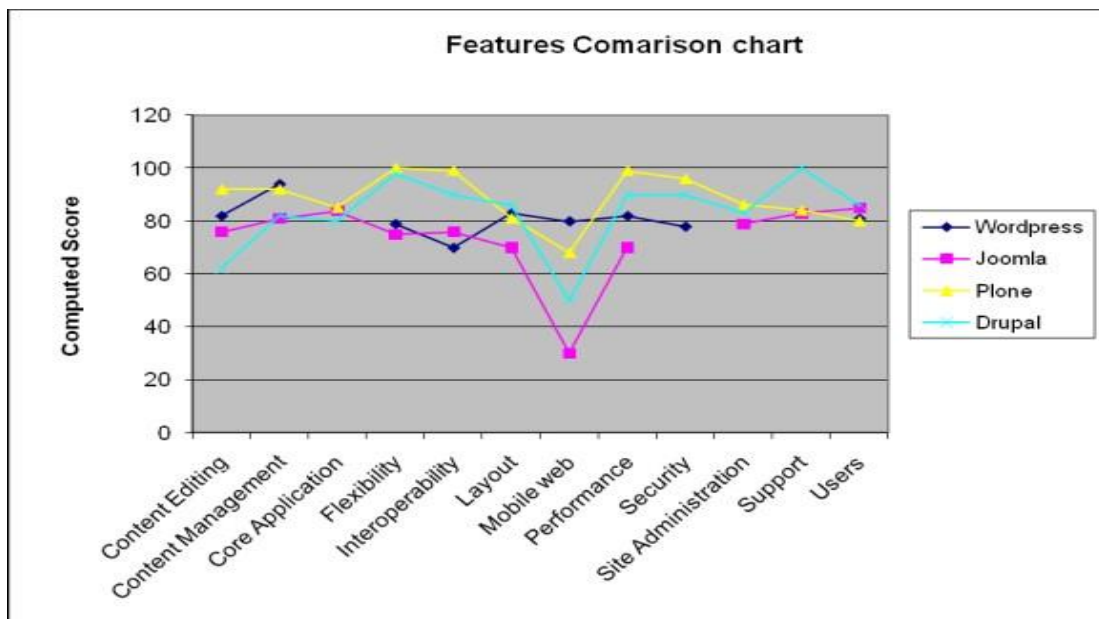
2.5.2 Performance Analysis of Content Management Systems- Joomla, Drupal and Word Press

In this paper comparison between joomal and wordpress in terms of acceptable and preference, and also we want to discover which is better for each case.

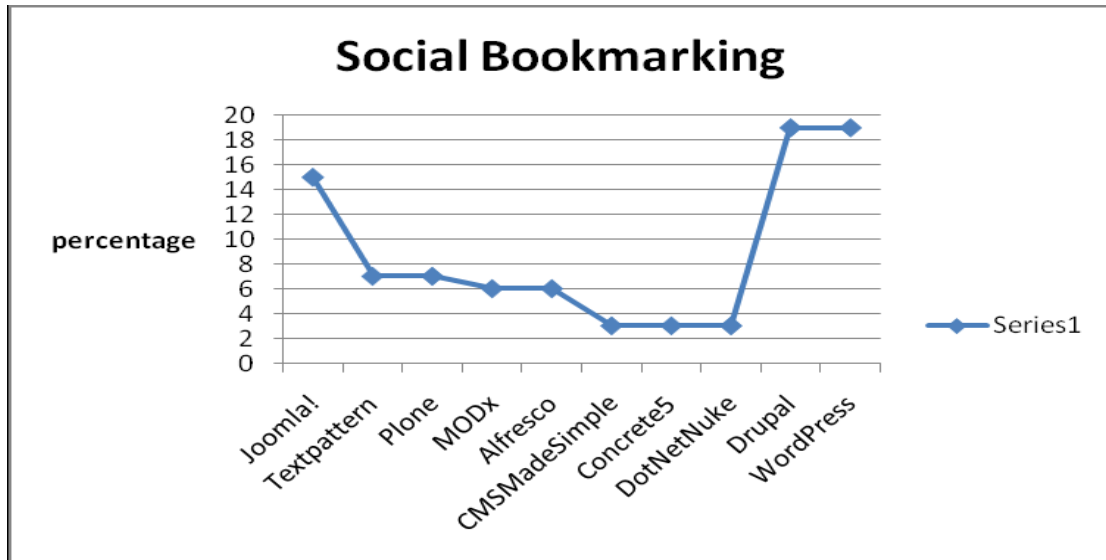
It's clear that word press and joomla are the most famous CMS available. A comparison between them has been made to determine the best CMS. You can see which CMS more popular among the users through which more and better documents are provided to the user, and the CMS that contain good communities.



In the figure above, Google search shows that Joomla gets a great popularity over 90 lacks search, yet it cannot say that the best for everyone because there are things to consider.



From the figure above, the paper find that word press gets a higher rating than joomla in terms of features. In terms of flexibility it finds that word press and joomla have lower rating than others. In terms of layout we find that joomla gets a lower rating than word press.



From the above analysis it has been proven that word press and joomla are more effective CMS compared to others, many site owners want a good layout of the site and user friendly environment. If you are beginner in CMS joomla has shown that it is the best and word press provides more additions to improve your site.[14].

In this research used goggle analytics to prove the effective CMS between them.

2.5.3 Using Content Management System Joomla! To build a website for search

This paper explain the joomla system which is one of the best and most famous CMS, the important concept and the basic function and common application of this system, and focus on the techniques that enable you to customize the template for you and your clients according to their request.

The task of manually creating sites has become time-consuming that's why most websites now rely on CMS systems, which allow the user to develop the site using a

graphical user interface. The CMS is program that tracks every piece of your site whether

text, Image, music or other. Joomla has additional features that distinguish it from the rest of CMS. There are five types off extensions available to joomla: Components, Modules, Plugins, Templates, and Languages.



However, joomla component and modules do not meet all our requirements, so we need to install modules and component created by other people.

Gavickpro is a professional Joomla and development studio that offers innovative products, better services, more advance designs and quality. There is also DOC Man Company that offers you additional modules that you use in the right position after installing all the modules of joomla.

Joomla has proven its efficiency and importance in the management and development of sites, providing great flexibility, allowing developers to customize their own templates.[15]

CHAPTER THREE
TOOLS AND TECHNIQUES

3.1 INTRODUCTION

This chapter describes the tools and techniques that will be used; to achieve the objectives of the project and it includes UML diagrams.

3.2 Tools and Technique

3.2.1 Html

HTML is a computer language devised to allow website creation. These websites can then be viewed by anyone else connected to the Internet. It is relatively easy to learn, with the basics being accessible to most people in one sitting; and quite powerful in what it allows you to create. It is constantly undergoing revision and evolution to meet the demands and requirements of the growing Internet audience under the direction of the W3C the organization charged with designing and maintaining the language.[2]

The Hypertext Markup Language (HTML) is a representation standard that specifies the syntax for a web page. HTML has the following general characteristics:

- Uses a textual representation
- Describes pages that contain multimedia
- Follows a declarative rather than procedural paradigm
- Provides markup specifications instead of formatting
- Permits a hyperlink to be embedded in an arbitrary object
- Allows a document to include metadata

HTML is a Language, as it has code-words and syntax like any other language.[4]

3.2.2 Cascading Style Sheet (CSS)

A cascading style sheet (CSS) specifies the possible style sheets or statements that may determine how a given element is presented in a Web page and it derived from multiple sources with a defined order of precedence where the definitions of any style

element conflict. The Cascading Style Sheet, level 1 (CSS1) recommendation from the World Wide Web Consortium (W3C), which is implemented in the latest versions of the Netscape and Microsoft Web browsers.[1]

3.2.3 JavaScript

JavaScript is an interpreted programming or script language from Netscape. It is somewhat similar in capability to Microsoft's Visual, Sun's Tell, the UNIX-derived Perl, and IBM's REXX. In general, script languages are easier and faster to code in than the more structured and compiled languages such as C and C++. Script languages generally take longer to process than compiled languages, but are very useful for shorter programs.

3.2.4 PHP

PHP is stands for "Hypertext Preprocessor". It is a recursive acronym. PHP is an HTML-embedded Web scripting language. This means PHP code can be inserted into the HTML of a Web page. When a PHP page is accessed, the PHP code is read or "parsed" by the server the page resides on. The outputs from the PHP functions on the page are typically returned as HTML code, which can be read by the browser. Because the PHP code is transformed into HTML before the page is loaded, users cannot view the PHP code on a page. This make PHP pages secure enough to access databases and other secure information. A lot of the syntax of PHP is borrowed from other languages such as C, Java and Perl. However, PHP has a number of unique features and specific functions as well. The goal of the language is to allow Web developers to write dynamically generated pages quickly and easily. PHP is also great for creating database-driven Web sites.[10]

3.2.5 XAMPP

XAMPP is an open-source web server package that works on various platforms. It is actually an acronym with X meaning “cross” platform, A for Apache HTTP server, M for MySQL, P for PHP, and P for Perl. XAMPP was designed to help webpage developers, programmers, and designers check and review their work using their computers even without connection to the web or internet. So, basically XAMPP may be used to stand as pages for the internet even without connection to it. It can also be used to create and configure with databases written in MySQL and/or SQLite. And since XAMPP is designed as a cross-platform server package, it is available for a variety of operating systems and platforms like Microsoft Windows, Mac OS X, Linux, and Solaris.

To use XAMPP, only one zip, exe or tar file is needed. Users just need to download this file and run the application. There is also not much configuration and tinkering to be done in terms of settings and its components. The XAMPP package is also updated on a regular basis to synchronize with the updates made on the different platforms involved in the package like Apache, PHP, Perl, and MySQL.

Aside from being cross-platform, XAMPP is also a freeware. This means users on different operating systems can download this server package free of charge. Not to mention that there is no configuration necessary to setup the system. After downloading and extracting the free application, users can immediately use XAMPP. Users also do not have to worry on removing the application. If XAMPP is not needed by the user anymore, removing it should not present any problem. One just needs to delete the XAMPP directory and all the files concerning this server package will be deleted. Or if XAMPP was installed

using the Windows installer version, one just needs to go to the “uninstall” feature of the operating system to get rid of the server package.[8]

3.2.6 Google Analytics

Google Analytics is a free Web analytics service that provides statistics and basic analytical tools for search engine optimization (SEO) and marketing purposes. The service is available to anyone with a Google account. Google bought Urchin Software Corporation in April 2005 and used that company’s Urchin on Demand product as the basis for its current service.[7]

Google Analytics is geared toward small and medium-sized retail websites. The service has limitations that make it less suited to more complex websites and larger enterprises. For example, the system collects data through a JavaScript page tag inserted in the code of pages the user wants to collect data on. The page tag functions as a Web bug to gather visitor information. However, because it’s reliant on cookies, the system can’t collect data for users who have disabled them. Google also uses sampling in its reports rather than analyzing all available data.

Furthermore, some security experts have raised concerns about privacy issues in Google Analytics. Through the Google Analytics Dashboard, users can collect information on people whose websites link to social networking sites such as Facebook and Twitter.[9]

3.2.7 UML

UML is stands for “Unified Modeling Language.” This is a programming language that is used for object-oriented software development. To organize program code more efficiently, programmers often create "objects" that are sets of structured data within programs. UML, which has been standardized by the Object Management Group (OMG), was designed for this purpose. The language has

gained enough support that it has become a standard language for visualizing and constructing software programs.

3.2.7.1 Deployment Diagram

Deployment diagram is a structure diagram which shows architecture of the system as deployment (distribution) of software artifacts to deployment targets. Artifacts represent concrete elements in the physical world that are the result of a development process.

3.2.9 ENTERPRISE

An enterprise application is a business application, obviously. As most people use the term, it is a big business application. In today's corporate environment, enterprise applications are complex, scalable, distributed, component-based, and mission-critical. They may be deployed on a variety of platforms across corporate networks, intranets, or the Internet. They are data-centric, user-friendly, and must meet stringent requirements for security, administration, and maintenance. In short, they are highly complex systems.[13]

The Enterprise Application Model introduced in this chapter gives you a way to look at the enterprise application to bring some order out of this complexity. It organizes an application's requirements into a small set of distinct but interdependent categories, and shows how each requirement interacts with the others. By balancing the effects of each design choice against all the other requirements, you can avoid the nasty shock of discovering too late that you've overlooked or underestimated some important design consideration.[6]

3.3 3.3 Deployment System Environment

In order to get a good working environment for the Joomla and word press systems we need a corei3 computer with 4 GB RAM and 100 MB Hard disk to gives the result of analyze in suitable time. Also we need Joomla source software version 3.6.5, word press source software version 4.5.3 and the appropriate templates for them, so we can communicate with the web server that contains the database dedicated to the system.

3.3.1 Joomla Deployment Diagram

Figure3.0-1 shows the system environment form Joomla CMS to work probably.

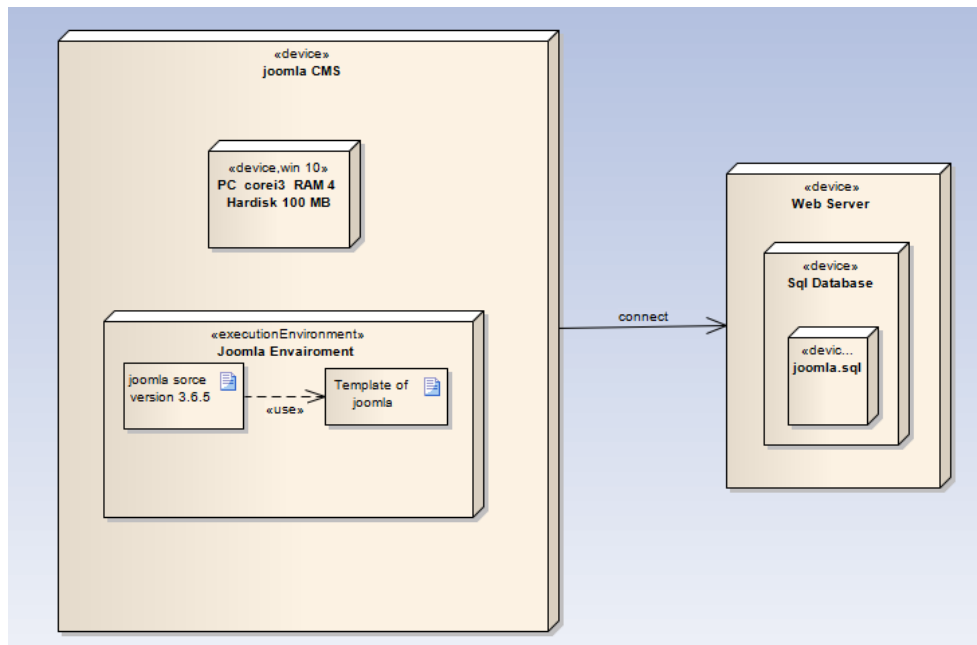


Figure3.0-2 Joomla Deployment diagram

3.3.2 Word Press Deployment Diagram

Figure3.2 shows the system environment form WordPress CMS to work probably.

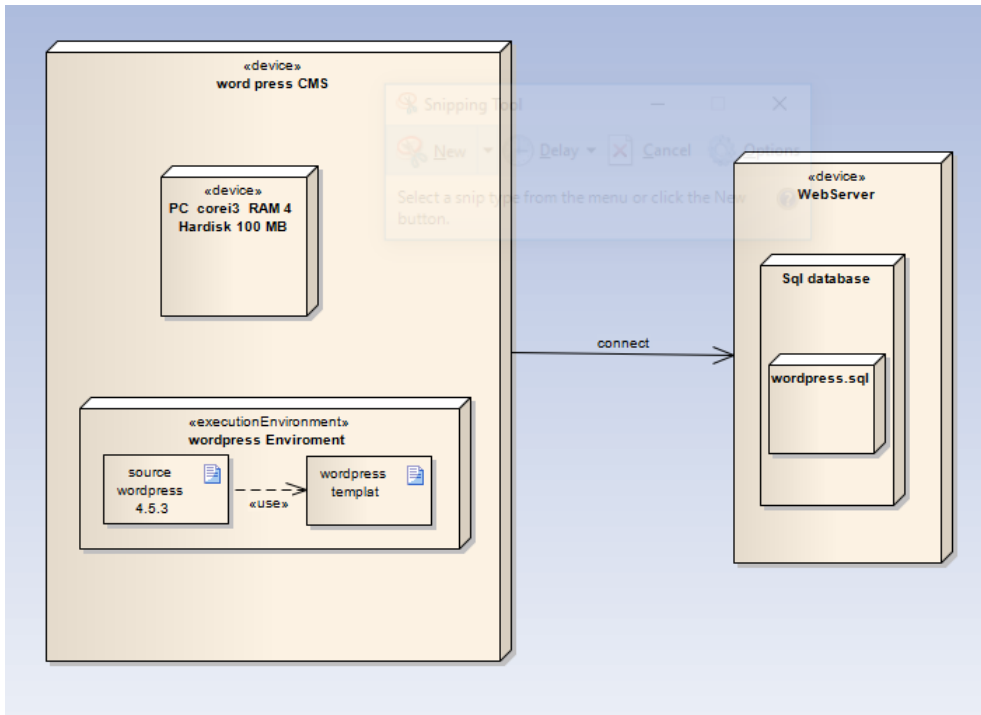


Figure3.2 WordPress Deployment diagram

CHAPTER FOUR
EVALUATION

4.1 Introduction

This chapter deals with statistics analysis of sites designed by Joomla and Word Press and discusses the results from Google analytics

4.2 Popular Site Analysis

The site of Mashreq University was taken as an example of a site designed by Joomla. All the contents of the site were analyzed by Google Analytics; the next sections introduce the results of the analysis

4.2.1 Real Time of Page View Traffic

The figure (4-1) Overview of what is happening on your website at any moment. Shows the number of visitors currently on the site, the most important sources of public traffic, the most important sources of social traffic, and the country where the active users reside.

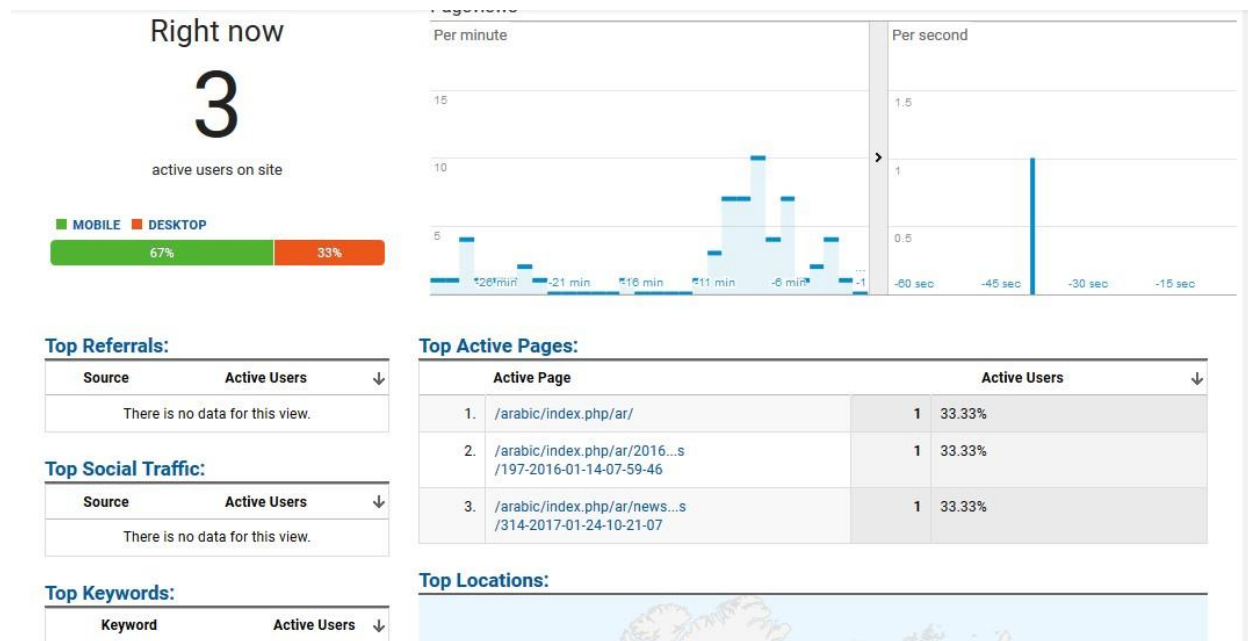


Figure4-1: Real Time

4.2.2 Audience of Active Users

The Figure(4-2)Audience Overview has shown the total number of sessions for the last week. Every blue dot on the chart represents a day, and this shows the total sessions for each day. It also includes a statistical study of the rates of access on each page and the number of active users per day

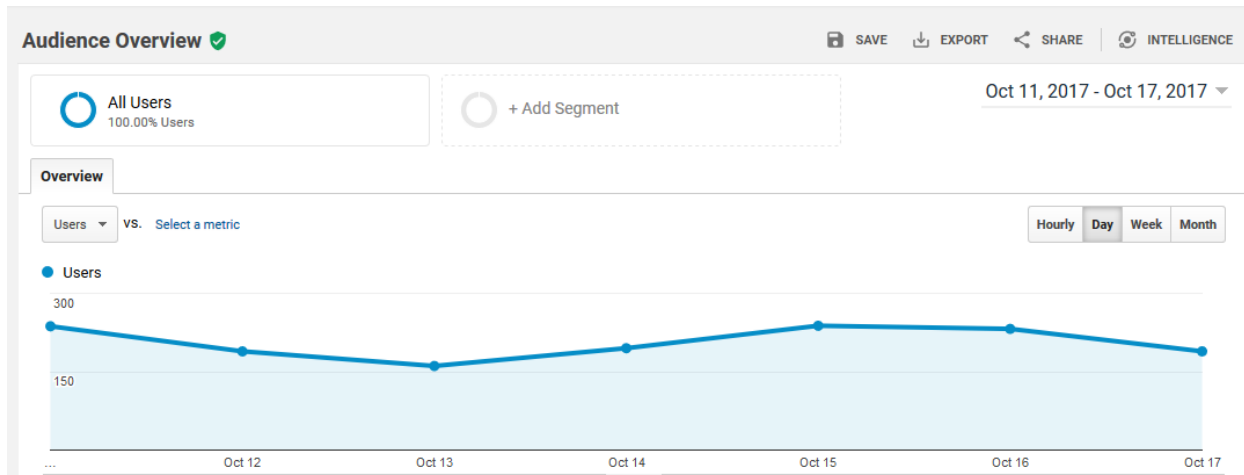


Figure 4-2: Audience of Active Users

The Figure(4-3)shows that 1,691 sessions were recorded last week by 742 people. Also shows the average session duration it is the length of each person who stayed on this site. 2 minutes and 14 seconds is the average time it takes for a user to click and read those pages. This session has the potential to fluctuate violently because of promotions, photo galleries, and interesting blog posts that entice people to stay a little longer.

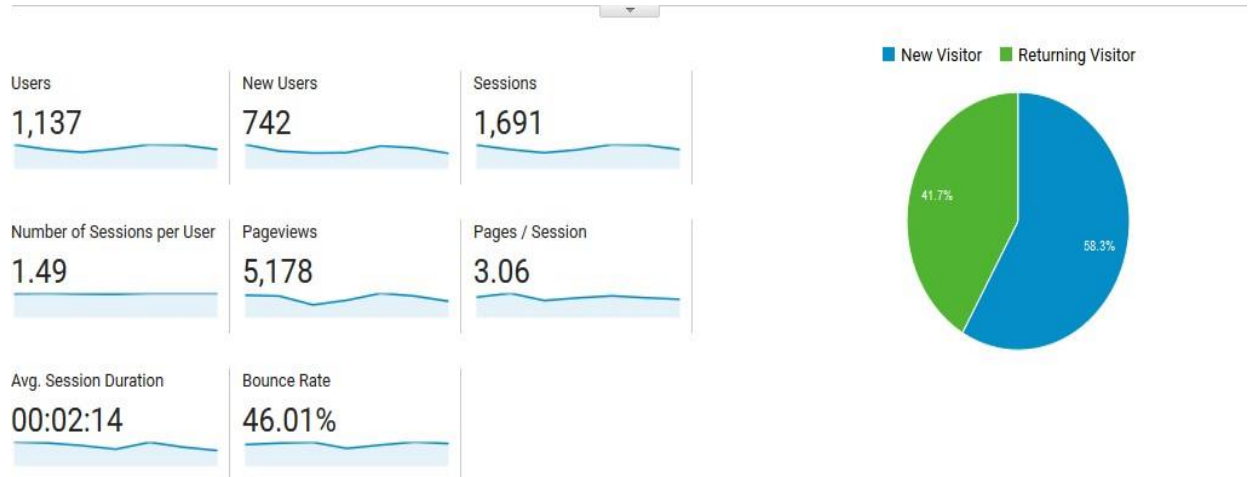


Figure (4.3) Audience of Active Users

Language ?	Users ? ↓	New Users ?	Sessions ?	Bounce Rate ?	Pages / Session ?	Avg. Session Duration ?	Goal Conversion Rate ?	Goal Completions ?	Goal Value ?
	% of Total: 100.00% (1,137)	% of Total: 100.27% (742)	% of Total: 100.00% (1,691)	Avg for View: 46.01% (0.00%)	Avg for View: 3.06 (0.00%)	Avg for View: 00:02:14 (0.00%)	Avg for View: 0.00% (0.00%)	% of Total: 0.00% (0)	% of Total: 0.00% (\$0.00)
1. ar	504 (44.17%)	312 (41.94%)	719 (42.52%)	44.09%	2.97	00:02:09	0.00%	0 (0.00%)	\$0.00 (0.00%)
2. en-us	356 (31.20%)	243 (32.66%)	569 (33.65%)	47.45%	3.25	00:02:20	0.00%	0 (0.00%)	\$0.00 (0.00%)
3. en-gb	109 (9.55%)	59 (7.93%)	182 (10.76%)	42.86%	2.82	00:01:52	0.00%	0 (0.00%)	\$0.00 (0.00%)
4. (not set)	34 (2.98%)	34 (4.57%)	34 (2.01%)	82.35%	1.38	00:00:15	0.00%	0 (0.00%)	\$0.00 (0.00%)
5. ar-sa	33 (2.89%)	22 (2.96%)	58 (3.43%)	44.83%	2.71	00:02:17	0.00%	0 (0.00%)	\$0.00 (0.00%)
6. ar-eg	32 (2.80%)	20 (2.69%)	41 (2.42%)	39.02%	2.85	00:01:40	0.00%	0 (0.00%)	\$0.00 (0.00%)
7. ar-ae	28 (2.45%)	22 (2.96%)	36 (2.13%)	33.33%	6.47	00:07:14	0.00%	0 (0.00%)	\$0.00 (0.00%)
8. en	27 (2.37%)	17 (2.28%)	33 (1.95%)	63.64%	2.09	00:01:22	0.00%	0 (0.00%)	\$0.00 (0.00%)
9. fr	6 (0.53%)	6 (0.81%)	6 (0.35%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	\$0.00 (0.00%)
10. ar-sd	2 (0.18%)	2 (0.27%)	3 (0.18%)	33.33%	5.33	00:03:44	0.00%	0 (0.00%)	\$0.00 (0.00%)

Show rows: 10 Go to: 1 1 - 10 of 19

Figure 4-3: Audience of Active Users

4.2.3 Acquisition Overview

The Figure(4-4)shows Acquisition Overview that provides a summary of the top channels that send visitors to your website, as well as the acquisition details, behavior, and conversions associated with each channel.

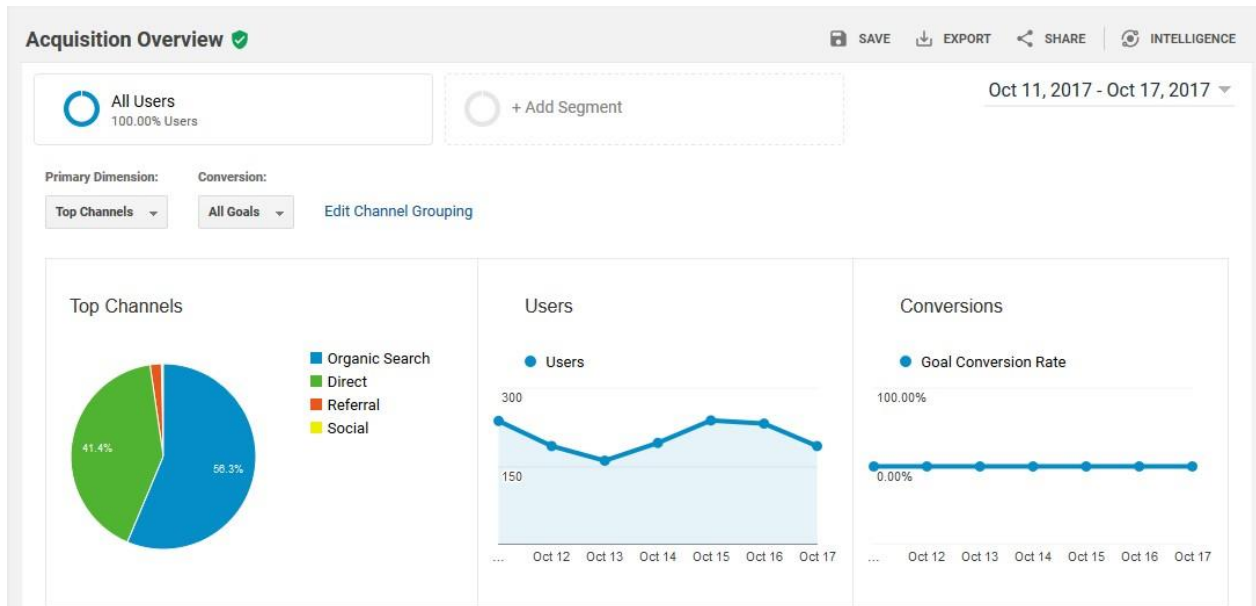


Figure 4-4: Acquisition overview

	Acquisition			Behavior		
	Users ↓	New Users ↓	Sessions ↓	Bounce Rate ↓	Pages / Session ↓	Avg. Session Duration ↓
	1,137	742	1,691	46.01%	3.06	00:02:14
1 ■ Organic Search	658			42.47%		
2 ■ Direct	483			50.76%		
3 ■ Referral	23			57.14%		
4 ■ Social	4			50.00%		

Figure 4-5: Acquisition overview

4.2.4 Behavior

The Figure(4-6)shows Behavior Overview that provides a graph showing the amount of traffic of website receives.

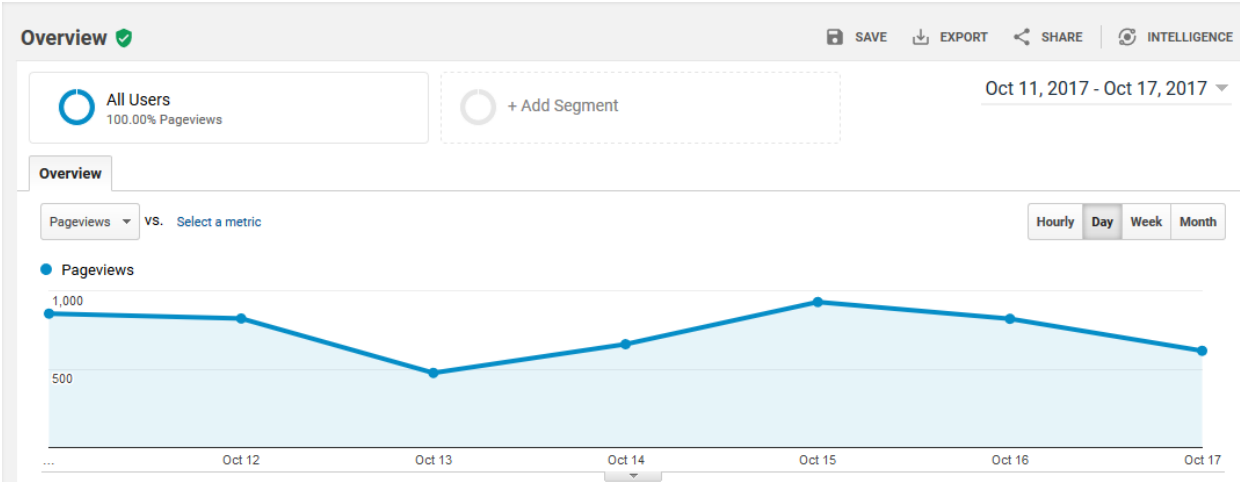


Figure 4-6: Behavior overview

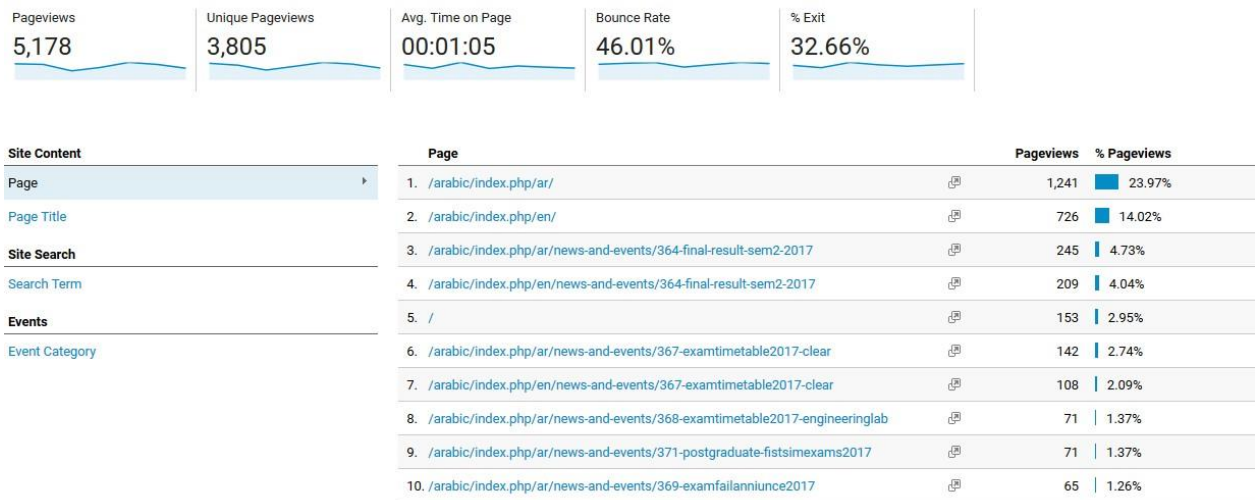


Figure4-7: Behavior overview

Below is a brief description of the data in the Behavior Overview report:

Page views (5,178): the total number of pages viewed. This number includes repeated views of a single page. Or a single person may view the same page several times and each view is counted as a page view.

Unique Page views (3,805): The number of individual people who have viewed a specific page at least once during a visit. For example, if a single user views a page more than once during the same visit, only the original view is counted. The Unique Pageviews metric counts each page URL In addition to Page Title combination.

Avg. Time on Page (1 minute and 5 seconds): The average amount of time users spend viewing a specific page or screen, or set of pages or screens

Bounce Rat (46.01%): The percentage of single-page visits or the number of visits in which people left the website from the same page they entered on.

% Exit (32.66%): The percentage of users who exit from a page or set of pages.

4.3 local site Analysis joomla

In this research, a site was designed by Joomla as a study case, all the contents of the site were analyzed by Google Analytics, Here are the results of the analysis.

4.3.1 Audience of Active Users

The Figure(4-8)Audience Overview has shown the total number of sessions for the last week. Every blue dot on the chart represents a day, and this shows the total sessions for each day. It also includes a statistical study of the rates of access on each page and the number of active users per day.

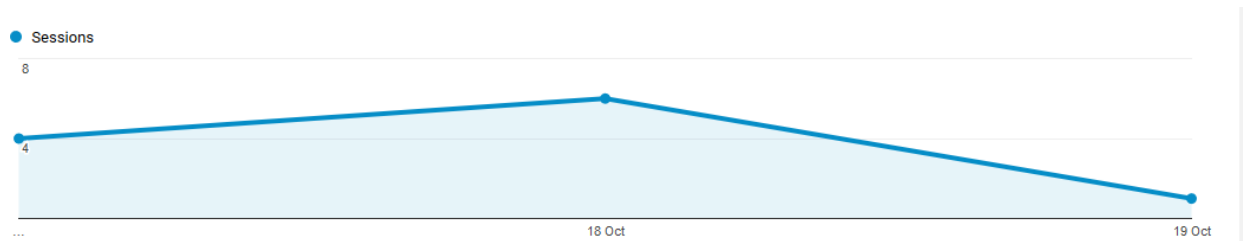


Figure 4-8: Audience of Active Users

The Figure(4-9)shows that 11 sessions were recorded last week by 3 people. Also shows the average session durationit is the length of each person who stayed on this site. 5 minutes and 29 seconds is the average time it takes for a user to click and read those pages. This session has the potential to fluctuate violently because of promotions, photo galleries, and interesting blog posts that entice people to stay a little longer.

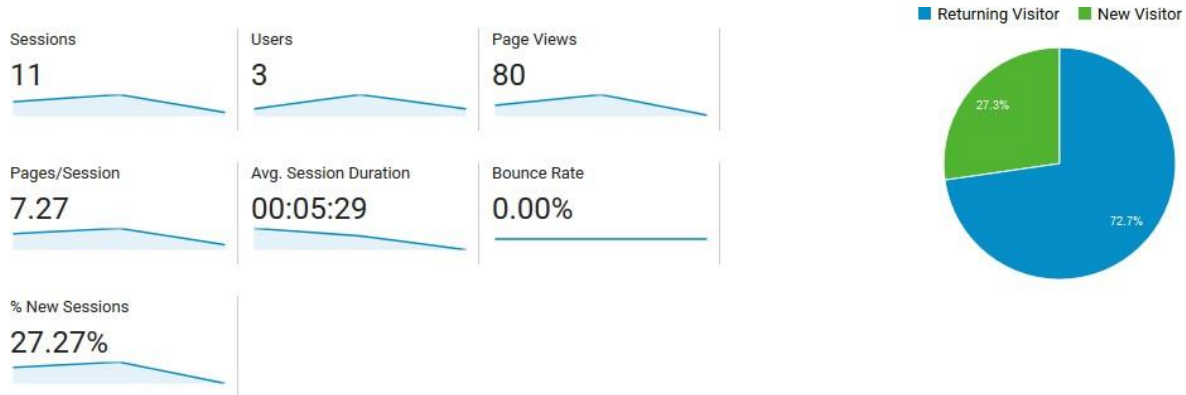


Figure 4-9: Audience of Active Users

Language ?	Acquisition			Behaviour			Conversions		
	Sessions ? ↓	% New Sessions ?	New Users ?	Bounce Rate ?	Pages/Session ?	Avg. Session Duration ?	Goal Conversion Rate ?	Goal Completions ?	Goal Value ?
	11 % of Total: 100.00% (11)	27.27% Avg for View: 27.27% (0.00%)	3 % of Total: 100.00% (3)	0.00% Avg for View: 0.00% (0.00%)	7.27 Avg for View: 7.27 (0.00%)	00:05:29 Avg for View: 00:05:29 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	US\$0.00 % of Total: 0.00% (US\$0.00)
1. en-us	11(100.00%)	27.27%	3(100.00%)	0.00%	7.27	00:05:29	0.00%	0 (0.00%)	US\$0.00 (0.00%)

Show rows: 10 Go to: 1 1-1 of 1

Figure 4-10: Audience of Active Users

Acquisition Overview

The Figure(4-11) shows Acquisition Overview that provides a summary of the top channels that send visitors to your website, as well as the acquisition details, behavior, and conversions associated with each channel.

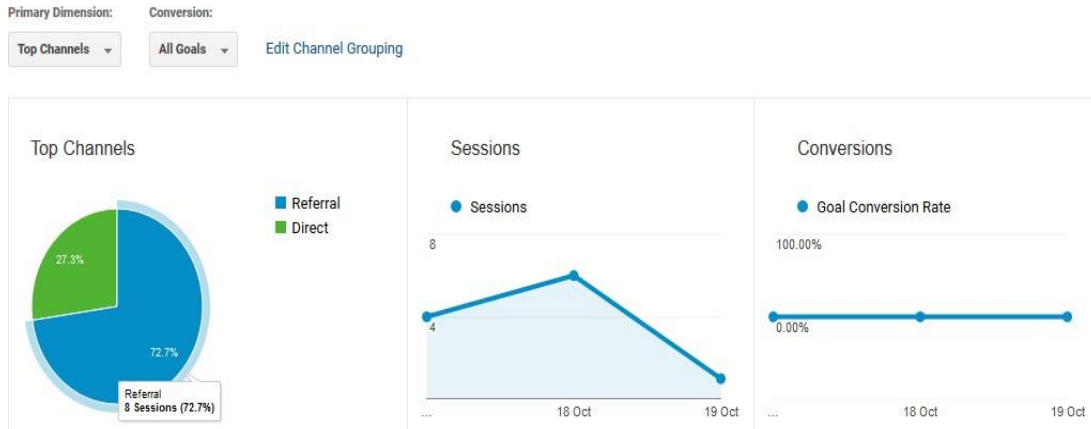


Figure 4-11: Audience of Active Users

	Acquisition			Behaviour		
	Sessions ↓	% New Sessions ↓	New Users ↓	Bounce Rate ↓	Pages/Ses... ↓	Avg. Session Duration ↓
	11	27.27%	3	0.00%	7.27	00:05:29
1 ■ Referral	8	<div style="width: 29.6%;"></div>		0.00%		
2 ■ Direct	3	<div style="width: 27.3%;"></div>		0.00%		

Figure 4-12: Audience of Active Users

Behavior

The Figure(4-13)shows Behavior Overview that provides a graph showing the amount of traffic of website receives.

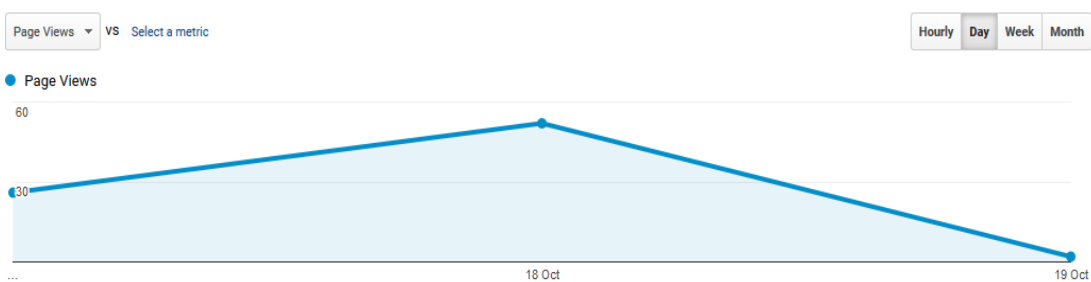


Figure 4-13: Behavior overview

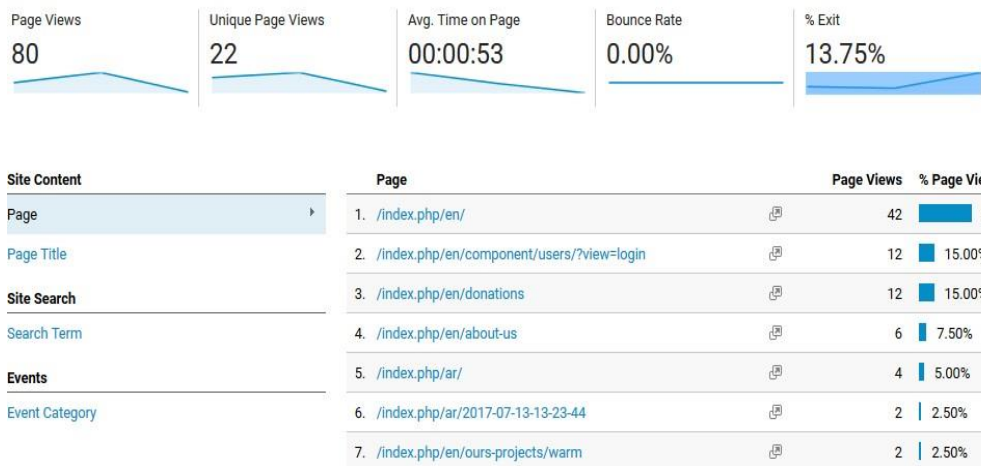


Figure 4-14: Behavior overview

Below is a brief description of the data in the Behavior Overview report:

Page views (80): the total number of pages viewed. This number includes repeated views of a single page. Or a single person may view the same page several times and each view is counted as a page view.

Unique Page views (22): The number of individual people who have viewed a specific page at least once during a visit. For example, if a single user views a page more than once during the same visit, only the original view is counted. The Unique Pageviews metric counts each page URL In addition to Page Title combination.

Avg. Time on Page (53 seconds): The average amount of time users spend viewing a specific page or screen, or set of pages or screens

Bounce Rat (0.00%): The percentage of single-page visits or the number of visits in which people left the website from the same page they entered on.

% Exit (13.75%): The percentage of users who exit from a page or set of pages.

4.4 local site Analysis Word Press

In this research, a site was designed by Joomla as a study case, All the contents of the site were analyzed by Google Analytics, Here are the results of the analysis.

4.4.1 real time of page view traffic

The Figure (4-14) Overview of what is happening on your website at any moment. Shows the number of visitors currently on the site, the most important sources of public traffic, the most important sources of social traffic, and the country where the active users reside.

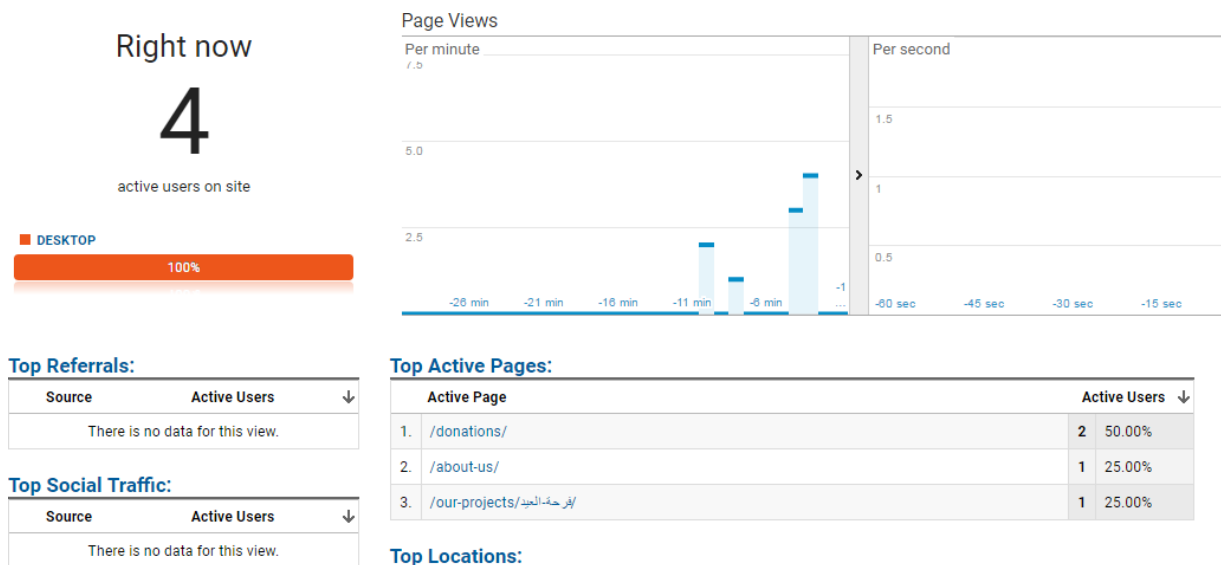


Figure 4-14: Real Time

4.4.2 Audience of Active Users

The Figure(4-15) and Figure(4-16) Audience Overview shown the total number of sessions for the last week. Every blue dot on the chart represents a day, and this shows the total sessions for each day. It also includes a statistical study of the rates of access on each page and the number of active users per day, and shows that 83,33 sessions were recorded last week by 50 people. Also shows the average

session duration it is the length of each person who stayed on this site. 24 minutes and 91 seconds is the average time it takes for a user to click and read those pages. This session has the potential to fluctuate violently because of promotions, photo galleries, and interesting blog posts that entice people to stay a little longer



Figure 4-15: Audience of Active Users

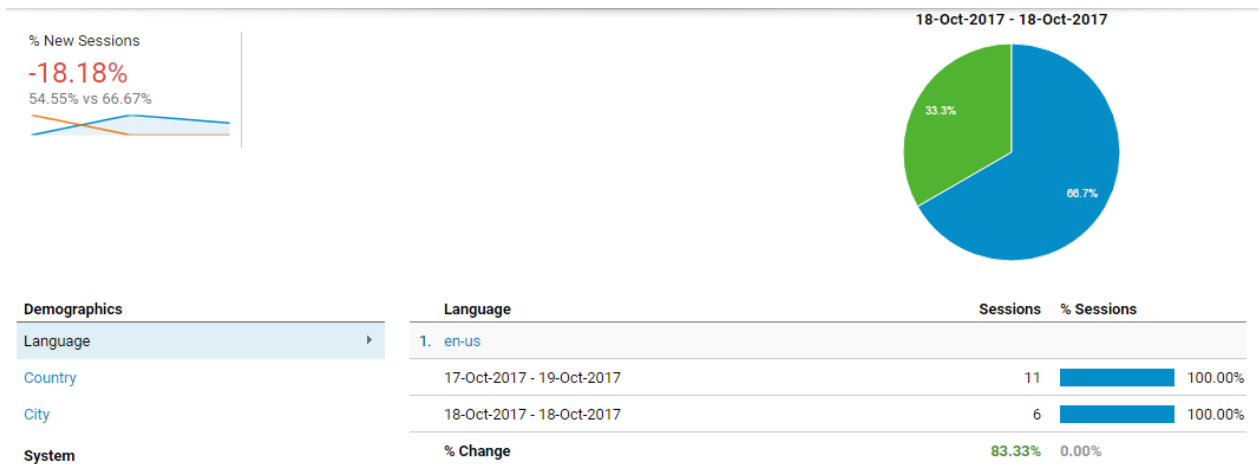


Figure 4-16: Audience of Active Users

4.4.3 Acquisition Overview

The Figure(4-17)shows Acquisition Overview that provides a summary of the top channels that send visitors to your website, as well as the acquisition details, behavior,and conversions associated with each channel.

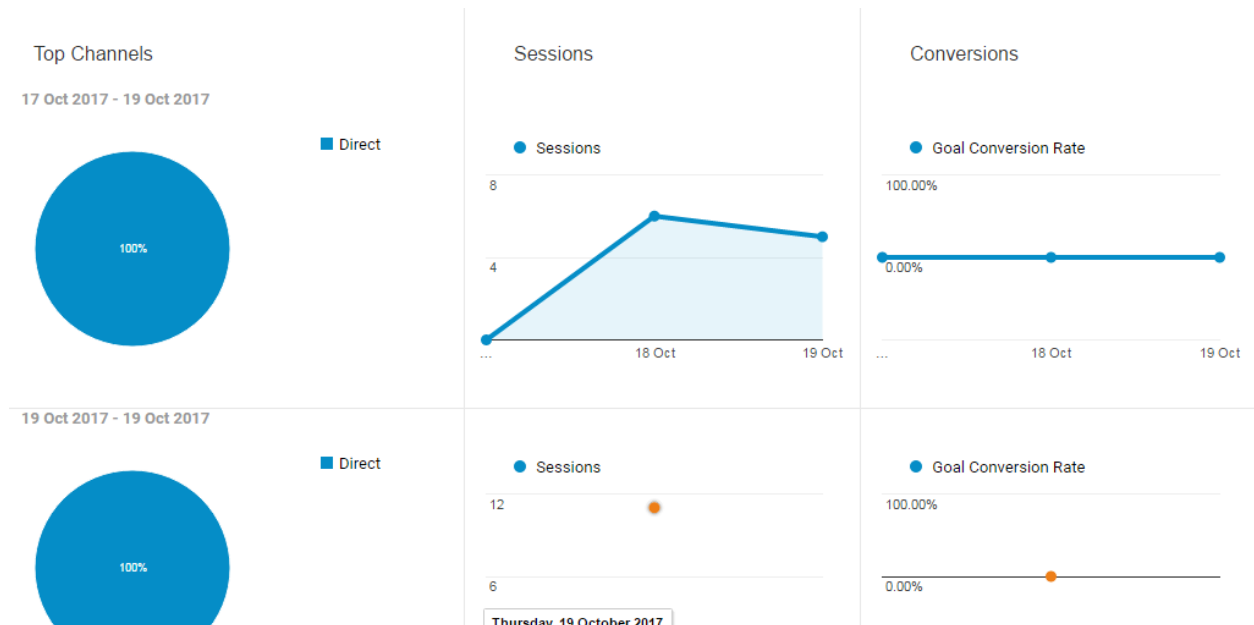


Figure 4-17:Acquisitions overview

4.2.4 Behavior

The Figure(4-18)shows Behavior Overview that provides a graph showing the amount of traffic of website receives.

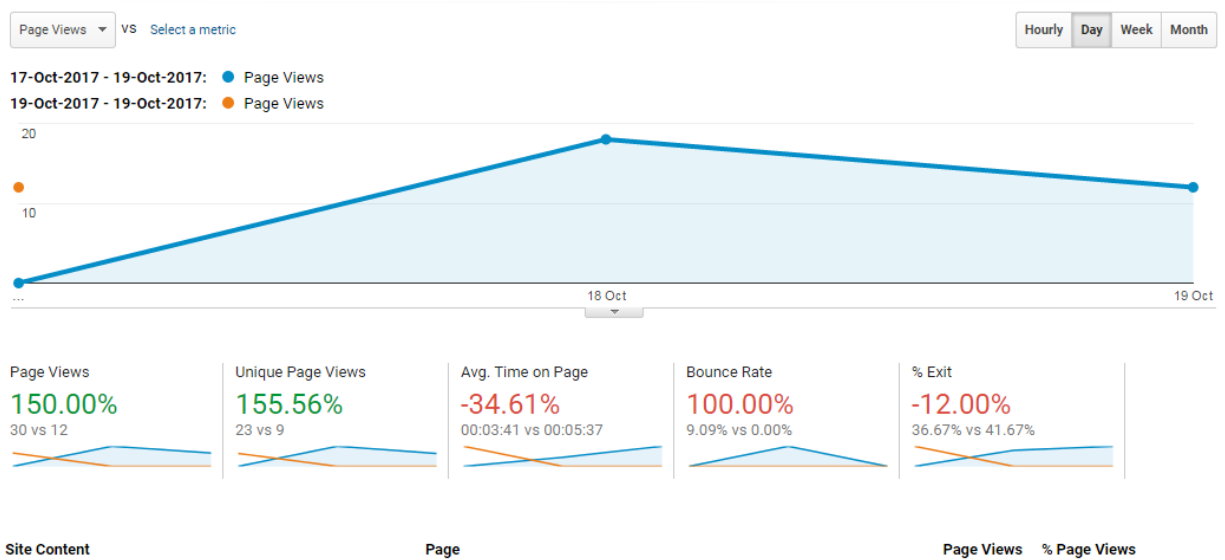


Figure4-18: Behavior overview

Page Title	17-Oct-2017 - 19-Oct-2017	19-Oct-2017 - 19-Oct-2017	% Change
	14	8	75.00% -30.00%
2. /donations/	5	2	150.00% 0.00%
3. /about-us/	4	1	300.00% 60.00%
4. /our-projects/ادعم علاج لطفال السرطان والفتل الكلوي	3	0	100.00% 100.00%

Figure 4-19: Behavior Overview

Below is a brief description of the data in the Behavior Overview report:

Page views (150.00): the total number of pages viewed. This number includes repeated views of a single page. Or a single person may view the same page several times and each view is counted as a page view.

Unique Page views (155.56): The number of individual people who have viewed a specific page at least once during a visit. For example, if a single user views a

page more than once during the same visit, only the original view is counted. The Unique Page views metric counts each page URL In addition to Page Title combination.

Avg. Time on Page (-34 minute and 61 seconds): The average amount of time users spend viewing a specific page or screen, or set of pages or screens.

Bounce Rat (100.00%): The percentage of single-page visits or the number of visits in which people left the website from the same page they entered on.

% Exit (-12%): The percentage of users who exit from a page or set of pages.

CHAPTER FIVE
RESULTS, CONCLUSION AND
RECOMMENDATION

5.1 Introduction

This chapter display research results that have been accessible after Implementing the websites, analyze it, and recommendations for future research and studies.

5.2 Results

From the analysis above:

- It was found that the average time period for the user to stays in site is Designed by Joomla, Higher than stays in word press site.
- The average amount of time users spend viewing a specific page in word press less than viewing page in joomla.
- Bounce Rat of joomla less than rate of word press.

Based on these results and after the comparison between Joomla and Word press was reached that the use of sites Joomla more than word press, and also prefer Joomla in building sites for the developer.

5.3 Conclusion

We designed two sites that build by Joomla, Word press and analyzed the functionality and contents of the sites. The objective of this analysis is to help companies and web developers to select suitable and flexible CMS for building and developing sites. This saves the time and effort and makes it easier for the developer to work.

5.4 Recommendations

After the completion of this project and applied it, we recommend the following to improve the system:

- Analysis of other components management systems such as Drupal and determine its benefits and problems
- Development and evaluation of Joomla and Word Press.
- Design a check list for the developers website content best practice.

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