

## WORDPRESS: EASY AND POWERFUL TOOL FOR WEBSITE DEVELOPMENT FOR BEGINNERS\*

BY

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### ABSTRACT

*This research paper is a general study of what is actually website building using most efficient modern applications and software. One of such software is wordpress which is very high technology software for website building. The main reason behind people using wordpress is lack of knowledge of front-end programming language. People who do not like or do not want to code for building or developing website can simply use wordpress. This paper illustrates how this powerful tool has helped a lot of businesses to grow on internet or on web. Several Business scenarios are being illustrated here and how they are related to web development and how the used wordpress for the same. All the key elements such as purpose, methodology, strong point of using this technology are being mentioned here as a form of study. Not only wordpress but also study related to other essential aspects and techniques of web development are being mentioned here. This study is not only limited to just developing a website but also include how to build responsive websites that are compatible with mobiles and tablets as well. There are also some studies based on hosting the website on web. So, overall this study is based on complete set of techniques involved in website development process.*

### KEYWORDS

Devs, Web Development, WordPress, Website.

### 1Introduction

Generally the term web development refers to performing the tasks which is associated with development of a complete website and hosting it on the internet or via internet . These tasks of web development mainly involves web designing, developing content according to design,

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client-side/server-side scripting, and configuration of security of the network. In the broadest sense, website development involves all the actions, updates, and operations necessary to ensure that a website's performance, user experience, and speed are optimal for building, maintaining, and operating. To ensure the proper and better ranking on results of search engine web development might include some strategic actions. Such actions relate to the different features named as Search engine optimization (SEO) in general. Also the web-development is commonly called as website- development, on the other hand the professional or group of professionals who develop and maintain such websites are called web-developers who are commonly known as web- devs.

Web development involves understanding the requirements and needs of the owner and accordingly developing website by adding and enabling the required functionalities by implementing coding or programming technique. Mostly it is related in context with non-designing aspect of building or developing a website including writing of markup and coding . Website development includes a large range of development from just creating a simple plain text web-pages to most complex applications based on web, electronic business applications and social network applications. The hierarchy of web development basically involves three basic processes namely client-side coding, server-side coding and database technology.

HTML1, CSS2 and JavaScript are most commonly and widely used technologies to develop a website by almost all web developers.

Web developers are generally divided into front-end devs, back-end devs, and full-stack devs. The process of combining all the visual aspects of website such as navigation bar, colour combination, layout, etc. ,their interaction with each other and many such elements is done by Front-end Developers or Devs. Back-end Devs takes care of the less visible functions that ensure the website runs, such as managing the website's hosting services, databases and applications. Back-end Davis may need to engineer solutions to server problems using additional server-side languages such as Unique, Ruby, Java and PHP3.

Full-stack Devs are developers capable of performing both front-end and back-end tasks at the same time.

Hence from the above information one can clearly notice that developing and building a website is not a easy task, it really requires really deep technical knowledge to design and develop a complete website. But wait what if an individual wants to develop a website without worrying about technical concerns? Is it really possible? Yes is possible with modern high technology applications present in the market such as WordPress.

WordPress which is the world's most popular and known tool for creating websites is a full-featured content management system. In fact, it has become so popular that almost 38% of all websites in world are made up with the help of WordPress. The reasons for that huge popularity need a little more explanation.

WordPress is what they call Content Management System (CMS). You can be something like an operating system for your website. When you use WordPress, you will not be able to use any of the thousands of DNS4 created for WordPress.

The WordPress system runs on a web server (your web hosting account). You access WordPress from a computer or mobile device with a standard web browser. Because WordPress works hard, you don't need any special software to create and manage your WordPress website.

Under the hood, WordPress uses a database server (MySQL5) to store your content and site settings, and a web server (usually Enginex or Apache) to deliver your web pages to your site visitors. The core WordPress application is programmed in PHP and JavaScript. But don't be scared by these technical terms. One doesn't need to know or learn anything about all these related techniques to use WordPress. But if you are a person who likes to tinker, you may find the technical details interesting.

## **2Concepts and Technologies of Wordpress**

### **2.1WordPress.org**

WordPress is free to used and free to modify software which is an open source and licenced under GPLv2.12. Even its own website is free to use and the packages are available in Wordpress.org.

WordPress.org is a self-hosted version which can run on owners servers (if they owe one) or have purchased a hosting package from among thousands of available web- hosting companies for example, Hostgator, WPEngine, Flyville , Goddard, Kinsta, Bluehost, SiteGround, Media Temple and other third-party hosts. There are monthly costs to consider plus you will have to pay for your own domain name which can range from \$ 3 to about \$ 60 depending on which domain extension you choose:. Foreign TLD Are usually more expensive.

The advantage of a self-hosted blog is that webmasters have access to the code behind their site, as well as about 56 56,000 free plugins and 2, 2,500 themes listed on the Facial Repository (WordPress.org) - and more than business resources.

GPL Licence states that the website can be used by anyone and they will be considered the owner of their own website for free.

WordPress.org needs to be set up with your hosting provider. In most cases, this is a simple click-install and really easy. The fact is if owner buys domain from the web- hosting provider itself then there is no need to modify or change domain name, it will be done for them. In Addition to that, WordPress.org has many and that too better customization options. You are able to install plugins, use custom website themes and do whatever you want with your site. You can also monetize your website if you want, which is great if you are thinking of making it a business.

## 2.2 WordPress.com

WP's creator, Matt Mullenweg, is a company that runs WordPress.com, a free, hosted version of the platform that resides on Mat Tomatic's servers and pays little, for example, you can use your own domain name, but you This option will cost some money. Apart from Mat Tomatic's WordPress.com service, there are several other options for getting a free, hosted WordPress site, although it is the most popular choice.

With WordPress.com, you don't have to worry about buying hosting or maintaining your site. In spite of having existing paid plans wordpress can also be free.

The limitations of free plan are that it gives only 3 GB of data and also subdomain no domain name for free. This includes ds of wordpress.com.

Moreover, you will not be able to install your own "plugins" or "themes" unless you pay for an expensive business plan. The biggest loss will be that this wordpress will not allow developers to install their own and very essential third party themes and plugins for their own website. They are Bound to use inbuilt pre-existing themes.

If the idea of changing a domain name server (DNS) or backing up your website data is not considered difficult, WordPress.com may be the way to create a basic blog / website. But if you want some sort of relief, plan to monetize your site, or your site develops in the long run, WordPress.com can be very limited.

## 2.3 Difference between Wordpress.com and Wordpress.org

There is major difference in hosting your website on wordpres.org and wordpress.com. Wordpress.org lets you host website with you own domain for free whereas wordpress.com lets you host website with their own wordpress.com domain. Though wordpress is easy to get started with but gives less freedom.

But WordPress.com will not allow owner to set up their website for free of cost, instead of that they impose some restrictions to Owners if they want it for free:

- Owner cannot freely host website with their own domain name instead they need to use subdomain of wordpress.com.
- Owner cannot remove ads of Wordpress.com from their site
- The storage as mentioned gets limited to 3 GB
- Presence of ads of wordpress.com does not lets you monetize you channel.
- External plugins outside the wordpress eco-system cannot be installed and activated. If the owner need to use their website for commercial purpose using wordpress.com they will end up paying \$8/month and in addition to that custom domain name requires around \$15/ a year. This results in paying overall of \$111/ a year for owner to run their own website according to their own needs.

With WordPress.org on the other hand, you can start a fully functional website at \$ 35 for the first year and \$ 50 per year thereafter.

To make it happen, you first need to choose a web host. In this case it is recommended Bluehost. They are a respected company with many options for WordPress. Here's what's good about Bluehost's offering fur:

- The hosting services starts with 2.95 / month
- Owner gets free domain name that too for complete first year
- It will install wordpress for developers automatically

From a user's point of view, Bluehost will work in same way as WordPress.com - as you sign up, choose a hosting plan, ask to install WordPress for yourself, finalize a purchase, and developers are good to go.

Plus, you also get complete freedom over what you want to do with your site - something WordPress.com doesn't give you.

### **3Literature Review**

#### **3.1Summary of the Literature**

Author of [1] has proposed the methodology of object design of statistical information, management concepts and integrated marketing to design a Content Management system using wordpress which is tools used for building such systems without or less manual coding. This system will lead to ease of transaction, promotion and marketing, and economy of the business for which this system was build.

However this system gives very less manual control while developing it which does not give access to our manual security feature, so we can't fully modify security according to our needs. This proposed model can be extended to fully marketing system in future.

In [2] the author has suggested that one can easily make money using Wordpress which is one of best Content Management system. This can be achieved by designing a business development solution and selling that solution designs to particular business. Currently Wordpress is a multibillion-dollar business and will remain same in future [2]. It is because the wordpress is an easy way of building and developing a website for business purpose. This advantage also many times turns into a major challenge for developers which is a never-ending competition in market as it is very easy to use and learn, so it can be mastered by anyone. Wordpress will continue evolving in future and this continuous evolution will help it to stay at top of CMS6 market.

Methodology of comparing the tradition web development method with new wordpress is proposed by the authors in [3] which have led study of difference in performance analysis of these two technique easier. According to the authors of this study the work load of writing complete code, for building a website, is eliminated to much extent while using wordpress which helps better focus on business. But the tradition websites have their own plus points such as developing a highly optimized and completely modified website. It also takes very less time to load as compared to websites developed on wordpress. In future, it is possible to implement methodologies on core functionalities of the wordpress built website to enhance the loading speeds.

A study of different kinds of frame works, used in web development, is done by the authors in [4] to understand best practices on web development frameworks. This is achieved by understanding the functionality of different kinds of web-development frameworks. The main advantage of using such frameworks rather than automatic tools for developing website is that a code once written in frameworks can be easily reused in any other projects as it is, no need of developing code on framework again. We cannot rely on single frame work as different frameworks have different functionalities thus making code of development more complex. The future research will aim to a comprehensive analysis by comparing Lift with other different frameworks such as Yii and Play. Thus this will result in developers to make a choice for such Web frameworks which will be best according to their needs and will provide largest number of advantages for their Website project.[4]

Author of [5] has proposed the methodology of Exploratory Research with Systematics Literature Review, Focus Group Discussion (FGD), and Interview for exploration of Wordpress as E-Commerce CMS for SME's in Indonesia. In the study it was found that Word press gives detailed tutorial which is Beginner-Friendly, , comprehensive, and easy to use and Fast to Setup. Hence one can setup such environment for developing a responsive and mobile friendly website even within 1 hour if website elements are not too complex. Also authors in [5] stated that accuracy achievement chances are low while using this wordpress. In future the research will continue on education for SME's<sup>7</sup> on developing their own e-commerce websites for their business using web development.

In [6] the author has suggested that developers should realize and apply UX8 Pattern elements approach for wordpress to enhance the UX considering the wordpress theme service. It becomes easier for the developer to choose between different themes for their website content easily when tags and theme filtering services of wordpress are used [6]. As a result UX automatically increases. But choosing theme makes code level optimization if website almost null or difficult to work with. In Future research can include advance UI9/UX filtering so that it becomes easier for the developer to find the exact required same theme for their website and also for such themes code level optimization is not really needed.

Methodology of identifying a gap of website building skill in the department of communication and design for undergraduates in an institute (KMITL) is proposed by the authors in [7] to ensure blended learning of management of wordpress website development as a skill apart from regular studies. It ensures that students from non- technical stream also gain knowledge of web-development using wordpress which is easy to use [7]. Skills developed using this methodology are limited to non-technical knowledge as there is no deep diving into coding section of web development. Future work can include a bit of intense learning of web-development if necessary.

A study to understand how Adobe Dreamweaver functions as a website designing software and tool is done by authors in [8] to make people understand how Dreamweaver play an important role in web development and later how it can be embedded with cloud to make website. The use of Dreamweaver actually illustrates that how with the help of power of cloud technology amazing fully functional websites can be built. The major drawback of using cloud technology in web development is that it requires professional cloud skills in a person as making mistake is not an option in this area. Web development tools should implement their own cloud in future to become independent of third party cloud.

Author of [9] has proposed the methodology of using quantitative and qualitative indicators for understanding the pragmatic phenomena of UX to understand the impact of responsive web design on blind users. It was found that responsive web designs have more positive impact as compared to non-responsive web design on blind users as well which clearly indicates there are more chances of user to visit and stay online on such websites as UX increases [9]. The fact that, the more the responsive website the more complex the codes become, cannot be denied in this case. Maybe in future such responsive websites can be made with less code complexity using certain software or technology.

In [10] the author has to convey that developing a mobile-friendly website design has great influence on search results on Google search. This was achieved by methodology of understanding research questions and principles upon which Google search Algorithm operates [10]. This study shows how current mobile technology world, where almost each and every thing happens on finger tips, can create impact on developers to create more such mobile-friendly websites. This helps developers to learn and explore new skills and user to visit mobile friendly website on their mobile devices easily without adding such filter. To make mobile-friendly websites many descriptive sections and elements of actual websites remain hidden unless explored. So in future new and enhanced web- development technologies can be implemented to over this problem.

The methodology of understanding how CSS and HTML when combined together work as a powerful technology for web designing is used by authors in [11] to illustrate how we can implement these technologies to make responsive web designs. The advantage of using these technologies is that one can easily add and modify the elements of web design such as flexible images, fluid grids and many more which makes the web design layout more interesting and responsive [11]. But there are more advanced automated tools and technologies in markets which serves the same purpose of developing responsive web design layouts without learning codes of HTML and CSS. More web technologies can be combined together with HTML and CSS to build more powerful design and responsive layout for web design in future.

For testing the usability of mobile web applications build using RWD10 approach the authors of [12] have developed a two experimental versions of ACIIDS 2016 web application. After doing research on both the versions experts were able to provide extensive list of recommendations of how to improve the information structure and the application of the websites which will help developers to make better web application versions. Old age user groups found difficult to adapt and use more responsive web designs on their devices. It is planned work out and develop an

enhanced version of ACIIDS web-app in future on the basis of recommendations which were formulated by this study [12].

The authors in [13] have proposed the methodology of demonstrating the three models of web-hosting and illustrating their pros and cons and accordingly recommending the best protocol which can be used for web-hosting the ensures providing three privacy preserving features[13]. This study resulted in proposing IPFS model hosted websites can be accessed in more faster and secured manner as compared to traditional methods. But decentralized way of hosting website requires hosting on more than one device or server which results in higher redundancy. So as decentralized hosting systems are more secure in future almost all website should be hosting by using this method.

To achieve Next-Level static content hosting methodology of manipulating the static content to make it feel more dynamic is used by authors in [14] by using HTML and CSS. Cloud and client-side scripting can use resources on the visitor's computer and interact with their session in a way that feels like a lightweight, positive experience for the visitor, which becomes the advantage of using this methodology. However the content does not change in run-time so in case if there is a need to update content the static content of the pages needs to be updated manually at some other time [14]. In future such static content delivering content websites should be made dynamic in back end to interact with users which will make content attractive according to them.

The methodology of learning and choosing different types of hosting available in the market is used by authors in [15] to find out the best suited model of hosting for a Company's website. This study gives a better and clear idea to a business about how and what kind of hosting models are available at what price and how to choose between them according to the requirements of the company.

#### 4. Architecture

The Architecture of a website developed on word press is very simple. Here the user will access the public website on web and then they will be able to view the Content displayed on website.

This Architecture consists of mainly three Componnts i.e User, Website(front end and back end) and client who is the service Provider.



Figure 1: Basic Architecture of Website

The internal Architecture of Wordpress website has n number of components such as php files, plugins, user interface, buttons, pages, style sheets, and many more. All these components are merged or combined together on the wordpress application to create an attractive website.

In this case the website has contact us section wherein if the user has any queries or need to buy services from the service provider they can drop a message and then service provider will receive that request and will respond o user accordingly.

## 5.System Details

### 5.1Proposed System

This proposed system is a perfect solution for the limitations and challenges faced by the only physical businesses. This system includes developing a web application and hosting that website on the internet. This will help business to reach more and more people which results in less physical advertising efforts. Even this system is a solution for a Financial Advisor or any other business individual who is willing to build a website but does not have any idea of how to start building a website according to needs and maintaining it in future. This helps individuals to focus on business instead of focusing on technical knowledge. Diagramatical representation of flow of proposed system is given below.

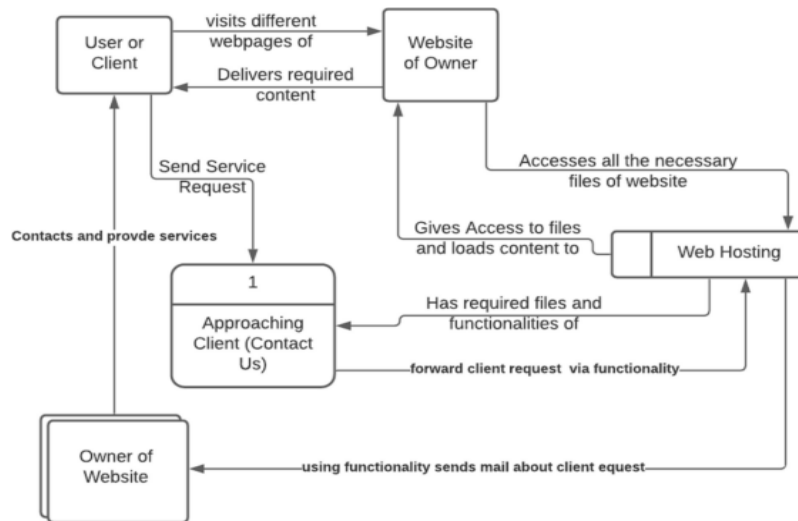


Figure 2: Data flow Diagram of proposed system

With the help of Financial Advisor also the users will be able to reach their financial goals which they wish to accomplish that too just by visiting the website and seeking services and advice online.

User can also read the latest financial blogs on this website to keep them updated with financial world.

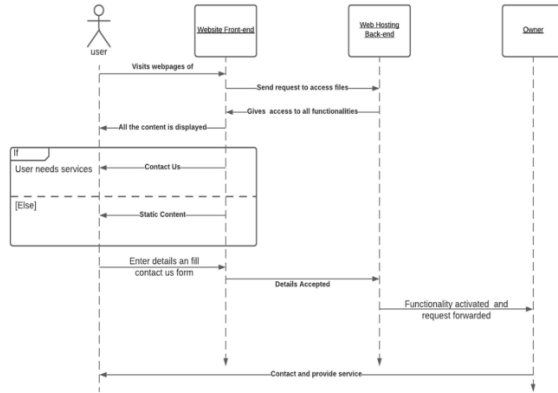


Figure 3: UML Diagram

## 5.2 Methodology of developing Website

### 5.2.1 Planning and Understanding Problem

The first and very important step to build a website is to identify the problem that the service provider or organization is facing. After Identification we also have to analyze and Understand that problem.

### 5.2.2 Finding Appropriate Solution

After understanding the problem we need to find a solution of that problem. Just to find the Solution is not enough also one needs to design the solutions in the mind so that it becomes easier while actually implementing the solution of the problem in form of website.

### 5.2.3 Implementing Solution (Developing Website)

So as mentioned the next step is very crucial step that is implementing the actual design to start building website. This the actual part where the development of website actually starts.

Designing and developing in wordpress is done by selecting the required design theme if available. But wait, what if required theme according to business is not available? The solution is, Wordpress allows developers to build website from scratch. Building website from scratch or editing the existing theme is done using the in-built webpage editors of wordpress. Another available option is using third-party page editors such as Elementor. All these manipulation processes of webpages is done in Page Editor section of Wordpress. Options of adding and removing all kinds of functionality from the webpage are also itself available in web pages editors with options of all the designing aspects.

A Website will be fully functional only if all the required plugins are installed and active.

This step is very necessary as without plugins no functionality of the websites will work. Thus without functionality website will look totally dull and will make our website look very dull to attract clients and customers. Some of the plugins are paid but some of them are freely available. Same goes for themes in Wordpress.

All the above mentioned methodology is completely based on UI i.e User Interface and nothing involves writing a code for developer. Once a developers learns thoroughly all the concepts and functions of Plugins and Editors, it becomes very easy for them to design and develop a highly responsive website using Wordpress.

After the website becomes fully functional and is ready to use the appropriate hosting services is chosen to host that website on internet and made available for the public.

## **6.Conclusion and Future Work**

With the help of the power of web-technology now an individual business owner who is running their business offline can even start their business online. It will overcome the limitations of the technical knowledge possessed by the business individual.

The overcoming of this limitation will encourage more and more business owners to even run and spread their business online on the internet. This will also lead to an increase in the number of businesses running online just by focusing on business strategies instead of worrying about technical development and deployment of their business website. Now all these businesses have an ability to get global recognition as their businesses will be visible to everyone across globe.

Chabot can be implemented in these system for frequently asked questions so that customers need not to contact admin directly for normal questions.

Feedback Sections can be added so that the admin can analyze the needs of people and implement the changes suggested by the customer on the website.

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