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Making a Website Using Bootstrap for SMK Students in Sungai Raya Kepulauan District

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Abstract: The problem that often arises in an educational institution such as a vocational school is the lack of complete digital literacy knowledge about web design and creation through training. So that students lack competency in designing and building a web technology. In fact, the training conducted is a way to increase the competency of SMK students and female students to be able to have expertise in building websites according to the needs of both static web needs and dynamic web needs. Website technology is a new way of facilitating the process of conveying information which is a logical consequence of the current developments in information and communication technology on the internet. In building a website there are many frameworks that can be used, one of which is bootstrap. Bootstrap is a free and open source CSS framework for designing websites and web applications. This framework contains HTML and CSS-based design templates for typography, forms, buttons, navigation, and other interface components, as well as optional JavaScript extensions.

Keywords: Website, Framework, Bootstrap

Introduction

From the results of a survey of internet users in Indonesia, it reached 168.3 million users in 2019 and is projected to have 212.2 million users in 2023. This data shows that web-based information is very important in absorbing knowledge so that it becomes an opportunity for SMK students to take part in designing and building a website through web creation training using bootstrap. In an application design, both mobile-based and website-based, it is not uncommon for programmers to always use a framework to develop applications. Framework is a framework for developing website and desktop-based applications. The framework here really helps developers in writing source code in a more structured and neat manner. The framework was created to ease the performance of the programmer.

In making and designing a website, there are many choices of frameworks that can be used in developing websites. Among them are laravel, bootstrap, codeIgniter, symphony, zend, phalcon, yii, fuelPHP. Students at the vocational high school level are always faced with various problems regarding their ability to make web-based applications. The first problem is the lack of subject hours related to expertise in website creation due to factors regarding specific subjects making websites that don't exist. Having knowledge about frameworks clearly makes it easier for SMK students to get a framework for developing a website. So that the website is built according to the analysis of user needs. Frameworks are not only useful for helping create websites or applications, this framework can also make it easier for developers to maintain devices after they are launched. With the right framework, developers can perform bug fixes and maintain websites or applications more efficiently.

Literature Review

Description of Website and Bootstrap

The internet as a medium of information that can be accessed by everyone anytime and anywhere, currently the internet has become one of the needs of the community in obtaining information, this is supported by the development of various devices such as tablets and smartphones that make it easier for many people to access information. To support various devices in accessing information (websites) via the internet then the application must adapt to the device used, especially in terms of managing web layouts (Zakir, 2016). website or abbreviated web, can be interpreted as a group of pages consisting of several pages that contain information in the form of digital data in the form of text, images, video, audio and other animations provided via an internet connection (Christian et al., 2018).

There are many types of websites that can be created, starting from buying and selling websites, web profiles, news websites, and so on. What is really needed and easy to create is a web profile. A profile website is a website that only displays information about the vision,

mission, history of organizational development, services or products offered but does not directly sell products, only information (Sanjaya & Hesinto, 2018). As for accessing and retrieving documents or information on the Website, it can be accessed using the following applications (Putri et al., 2020):

a. Web Browsers

A website can be accessed using an application called a web browser or often known as a web browser application. According to Sibero (2013) in saying that "A web browser is a software application that is used to retrieve and present web information resources". Web information sources are identified by a Uniform Resource Identifier (URL) which consists of web pages, videos, images or other content.

b. Web servers

Web server is a computer consisting of hardware and software. In shape and physically and how it works, web server hardware is no different from a home computer or PC, the difference is the capacity and capabilities. Sibero said in the function of the web server as a recipient of requests in the form of client pages and sends back the requested results in the form of web pages. One of the web servers that is widely used in the world of web programming is XAMPP.

c. Apaches

Apache is a webserver that can run on many operating systems (Unix, BSD, Linux, Microsoft Windows and Novell Netware and other platforms) that are useful for serving and functioning websites.

Responsive web design is a website design that can adjust to each size on each device. This responsive design application combines flexible grids, JavaScript, CSS media queries and HTML. The benefit of a responsive web design is a website that can adapt to the layout size of devices with font sizes, images and other components without having to do horizontal scrolling (Putra, 2020). CSS frameworks are used to speed up creating web template designs, including Gumby, Foundation, Less Framework, Blueprint CSS and Twitter Bootstrap. Twitter Bootstrap is accompanied by a very complete tutorial and documentation responsive features. The application of Bootstrap is used specifically to make web page headers, menu items attractive and responsive (Putra, 2020).

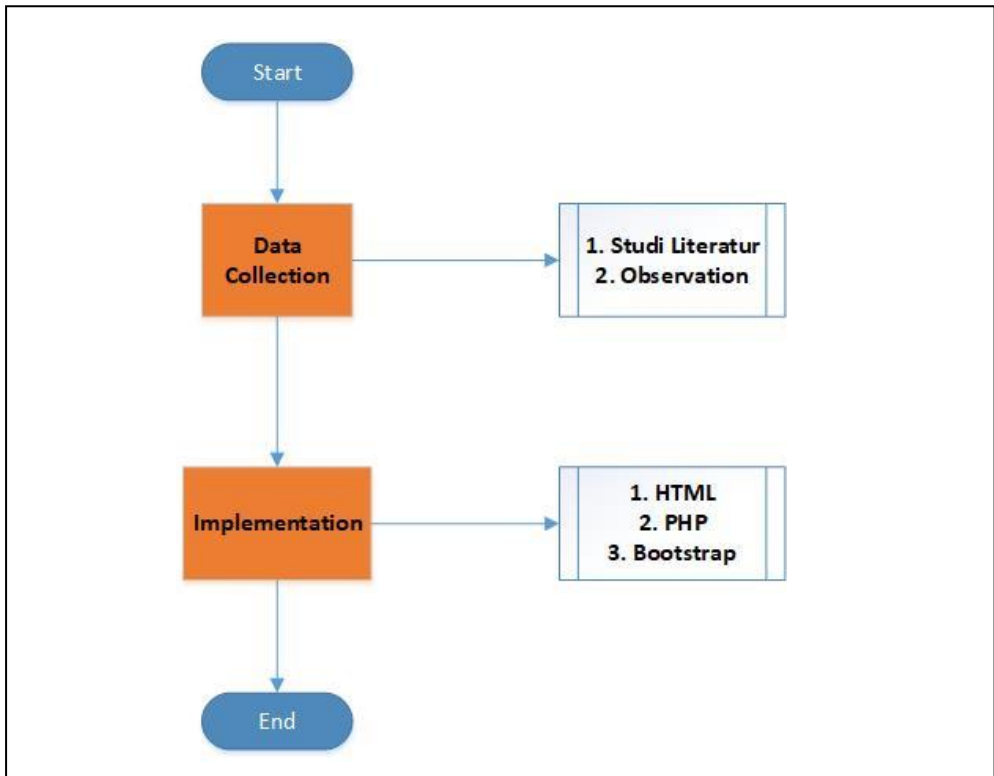
Meanwhile, Bootstrap is a ready-to-use application package for creating a front-end website. That said, bootstrap is a web design template with plus features. Bootstrap was created to simplify the web design process for various levels of users, from beginner to experienced (Christian et al., 2018; Zakir, 2016). Bootstrap has provided a collection of basic class interface components that have been designed in such a way as to create an attractive, clean

and lightweight appearance. In addition, bootstrap also has a grid feature that functions to arrange layouts that can be used very easily and quickly (Sanjaya & Hesinto, 2018).

Methods

The research methodology is as follows:

Figure 1. **Methods**



This research methodology begins with data collection through literature studies and observations, then when the data has been obtained, it is immediately implemented into the html, php program code and uses the bootstrap framework. Can be seen in figure 1

Findings

Based on the problems previously described, it is necessary to create a WEB using bootstrap for SMK students. This activity involved village office apparatus and SMK students. In this activity, 3 main topics will be presented, namely:

- Material about what is responsive web design?
- Why use bootstrap?
- Practice making web using bootstrap

The first material will be explained to students of Bengkayang Regency Vocational High School, Kapur Village about what is meant by a responsive web. So this is the opening material to provide an understanding of what responsive web is. This initiation material will also provide vocational students with an understanding that responsive web design is about creating websites that automatically adjust to look good on all devices, from small phones to large desktops. The second material will provide an understanding to the public about why using bootstrap in view of the brief history that bootstrap was developed by Mark Otto and Jacob Thornton on Twitter, and released as an open source product in August 2011 on GitHub. One of the advantages is the responsive feature: bootstrap responsive CSS adapts to mobiles, tablets, and desktops.

The third material is about the practice of creating a web using bootstrap. So that the presence of this third material gives hope to be able to provide knowledge in the form of the ability to create and design simple web structures for SMK students in Bengkayang Regency effectively and efficiently.

Conclusion

The implementation of this research was very useful for web development participants at SMK 1 Sungai Raya Kepulauan. It was seen from the response and enthusiasm of the students who wanted to increase their abilities in the field of information technology, especially developing web-based applications. So that this activity provides new knowledge for the participants. It is hoped that with this research on making this website, it will increase students' abilities in terms of hard skills in the field of information and communication technology.

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