



WEBSITE JOB SEARCH DEVELOPMENT: A CASE STUDY OF TOBA REGENCY

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ABSTRACT

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The information and communication development technology continues relentlessly. Especially when it comes to knowledge, data plays a significant role. In this case, one of the services obtained from the internet is website access. There is a wide variety of information provided by the website, one of which is the job opening website. Many people searching for work have difficulty because the information provided by the concerned often makes applicants disappointed because of the delay in data that has not mentioned the number of requirements needed. This study explores user responses to website containing job openings in one particular Toba district. Designing a web-based job application using the PHP programming language and MySQL as the database became a solution for the problem. The application for a job search in Toba Regency itself has never existed. This application can simplify job seekers to find job vacancies information and the employers can add job vacancies. The application development model used is the waterfall method. We chose this method because this method provides sequential and systematic development steps in developing software. The waterfall stages used in this website consist of communication, planning, modeling, and construction.

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1. Introduction

Work is always the dream of everyone, especially those who have just graduated from college. Working people can provide income so that through work, one can obtain a decent livelihood. Therefore, everyone is vying for a job so that their life and future are guaranteed. The definition of work is the process of creating or forming new values in a unit of resources, changing or adding value to a team of means of meeting existing needs [1]. The meaning of work is also associated with one's concept of the nature of working as an activity that produces something beneficial to others. The purpose of the work consist of 5 dimensions, namely: a) The dimension of the centrality of work in life. b) The size of social norms about work. c) The extent of valuable work, d) the time of the importance of the aspect of work. e) The scope of the role of work.

While work engagement reflects how many psychological resources, energy, and time a person expends out to carry out their duties [2]. Nowadays, technology development provides convenience for job seekers to apply for jobs easily through the internet. Internet is a term for a collection of computer networks that connect academic, government, commercial, organizational, and individual sites [3]. Finding an appointment over the internet makes it easier for job seekers in terms of time efficiency and provides more significant opportunities for job seekers to see more jobs. In addition, job seekers can easily submit applications to various companies at the same time.

Unemployed people may not get information from the website. Most of them get information from individuals. Of the 139.81 million workforces in Indonesia, 131.06 million people have jobs, while the rest or 6.26 percent people are unemployed [4]. In search of job information, applicants still use the manual method,



namely by visiting the company to see job notice boards and searching in newspapers, magazines, brochures, word of mouth, and other print media[5]. Surely this will waste time, effort and also costs are not cheap. In this case, there is still a long process of recruiting employees that job seekers must pass. The method of professional and qualified recruitment is not easy because the process has gone through different stages, ranging from forecasting the demand for labor, recruitment, selection, placement, induction training, and employee induction[6]. Job seekers face such problems. Companies looking for employees for their companies also face issues finding employees who match their company's criteria. Each company has different standards, and many job seekers who apply to these companies, despite the occupied areas of job applicants, are not by the demand.

Then the company also sometimes has difficulty finding suitable media to convey information that the company is opening a job opening. There are still many companies that use print media, and as we know that digital media will be easier to reach by apes than print media. Both parties need a medium that is an excellent intermediary meeting between job seekers and employers (companies) from the above problem. Media can make it easier for job seekers and employers. Therefore we build a website that will help and provide convenience for job seekers and employers (companies). A website is a collection 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. [7]. Where this website will be a medium that brings together job seekers and employers (companies) who are looking for employees.

This website itself will collect information from various companies or small, medium and large industries related to the job openings available in Toba district. Toba regency itself is an area of about 4,386.60 Km² located in North Sumatra Province, which is precisely in the middle of the province. Toba Samosir Regency is located at 2°03' – 2°40' North Latitude and 98°56' - 99°40' East Longitude. Toba Samosir regency is located between five districts, namely the North bordered by Simalungun Regency, the east is bordered by Labuhan Batu and Asahan, the south is bordered by North Tapanuli and the West borders Samosir Regency. Where the population of Toba district has 44,005 households and 179,704 inhabitants divided into 16 sub-districts. They are Balige, Tampahan, Laguboti, Habinsaran, Borbor, Nassau, Silaen, Sigumpar, Porsea, Pintu Pohan Meranti, Siantar Narumonda, Lumban Julu, Uluan, Ajibata, Parmaksian, and Bonatua Lunasi [8].

2. Method

Software development requires a framework, as well as steps in developing a system/software. The development method used in developing the system to design and develop this web-based system is qualitative. Qualitative methods are defined as inquiry processes to understand a social or human problem based on a complex, holistic, worded, and reported picture in a natural setting. The number of open unemployment in Toba Regency is 2.50 percent of the total population in 2020[9]. For this study and to collect data following what happened in the field, the authors created and disseminated a questionnaire consisting of 4 questions containing responses related to job vacancy information in Toba District. The questionnaire is a data collection procedure by asking respondents in writing [10]. The distribution of questionnaires to the community around Toba Regency is carried out through social media such as Whatsapp.

The software development method used in the construction of this website is the waterfall method. The waterfall model is the oldest paradigm in software development. The waterfall model is also often referred to as a systematic model and sequential approach in software development that begins with the requirements and planning, modeling, construction, and deployment processes[11]. The developer chooses to use this method which begins with the requirements gathering process to collect the data needed for website development, then continues with the planning process to determine the estimated time in website development. The following process is modeling, where the developer conducts analysis and design for the website according to the results obtained from the requirements gathering process, then the construction process where the developer does the programming (code) and testing phase. The last process is a deployment, wherein this process, there will be several stages such as delivery, support, and feedback Figure 1 shows the waterfall model.



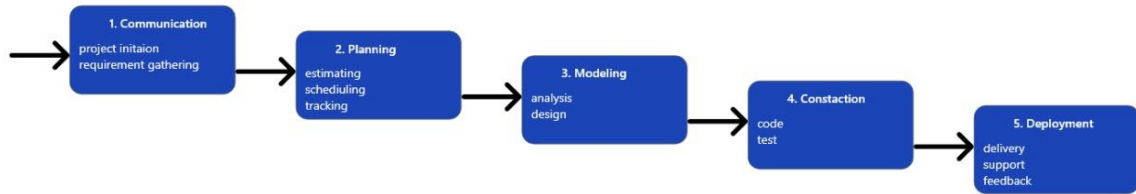


Figure 1 Waterfall Model [11]

From Figure1, Here is an overview of the development carried out by the developer:

1. **Communication**
At this stage, LokerToba development team conducts a requirement gathering to collect the data needed by the development team. The process carried out is to distribute questionnaires to the people living in Toba area. Then the next stage is an analysis of the questionnaire results to find out how high the level of community needs in Toba area is for job search websites.
2. **Planning**
At the planning stage, LokerToba development team continues the following process. At this planning stage, the development team draws up plans and schedules for website development. At this stage, LokerToba development team also compiles documents containing user wishes in software development.
3. **Modeling**
In the modeling stage, “Loker Toba” development team translates user requirements into a software design before entering the coding (coding) stage. This stage focuses on designing data structures, software architectures, interface representations, and procedural algorithms. And this stage produces a software requirements document.
4. **Construction**
This stage is the stage where LokerToba developer performs the coding process. At this stage, the developer translates the design from LokerToba made previously into a language recognized by the computer. In this process, the development team used the PHP programming language to build LokerToba website. At this stage, testing is also carried out on LokerToba website to find out and detect whether there are still errors that occur in the system that does not match the expected output.

3. Result

In chapter 2, we have known that the methodology used is qualitative. The data collection technique is to share customers containing some questions with the resource person who are the residents of Toba regency. The questions asked are then communicated to be filled in. The questions can be seen in Table1.

TABLE 1
QUESTIONNAIRE QUESTION LIST

Number	Question	Description
1	Are you looking for a job?	Interviewees give a yes or no answer.
2	Is it difficult to get information about job vacancies? (Especially in Toba Regency)	Interviewees give a yes or no answer and also the reason.
3	Do you know any application that informs about job openings? What do you think of the application	Interviewees give a yes or no answer, and if yes, the source provides an opinion about the application.
4	Do you act as a Toba district resident require a job application?	Interviewees replied yes or no and also the reason.

After getting the questionnaire, the authors summarize the result that can be shown in Table 2

TABLE 2
QUESTIONNAIRE RESULTS LIST

Number	Respon		
	Yes	No	Reason
1	7 respondents	3 respondents	-
2	7 respondents	3 respondents	Most of making job information announcements still use word of mouth method. A few of them use official media.
3	7 respondents	3 respondents	The application provides official and up-to-date information, and people who are looking for work will be helpful because they can adjust to the criteria for the required workforce.
4	8 respondents	2 respondents	Jobseeker applications will significantly help residents and reduce the unemployment rate in Toba Regency.

As discussed earlier, this research focuses on analyzing user needs for applications that can help users obtain information related to job vacancies in Toba Regency. Based on the questionnaire results, the main focus of the respondent's discussion is the need for applications for job vacancies. By conducting an investigation, providing complete information to users can be done by the developer using the "Loker Toba."

1. The first question is whether respondents are looking for work. Seven out of ten respondents replied that they were looking for a job and three out of ten replied that they were not looking for job.
2. The second question is whether the respondent has difficulty getting information on job vacancies, especially in Toba Regency. Seven out of ten respondents answered that it was difficult to get information on job vacancies because they had not received notification from official media. Some even spread the news by word of mouth. Providing jobseeker information is still done manually. Three out of ten respondents answered that they had no difficulty in getting information on job vacancies.
3. The third question is whether respondents know which apps people generally use to get information about job openings and what they think about them. Seven out of ten respondents replied that they were aware of an application informing them about job openings. According to them, the application provides official and up-to-date information. This application will help people looking for work to obtain information and adjust their abilities to the criteria for the required workforce. While three out of ten replied that they were not yet aware of a standard application that provided information about job openings.
4. The fourth question is whether respondents, especially those living in Toba district, need a job application. Eight out of ten respondents replied that they needed a job application because of the high unemployment rate in Toba Regency. Residents in the district had difficulty obtaining information related to job openings where there are no media that is the place to disseminate information related to job openings, especially during the current pandemic. By using "Loker Toba" application, the residents will be significantly helped. In comparison, two out of ten respondents replied that they did not need a job application.

The next stage after collecting data through questionnaires is the implementation process. The implementation process produces ten website pages. Users can access every page. The methods that occur are job seekers can register as job seekers. After that, job seekers can log in and see the details of each job offered.



1. Login

page

The login page is a page where job seekers and employers log in before entering the website's main page. Figure 1 shows the interface of the login page

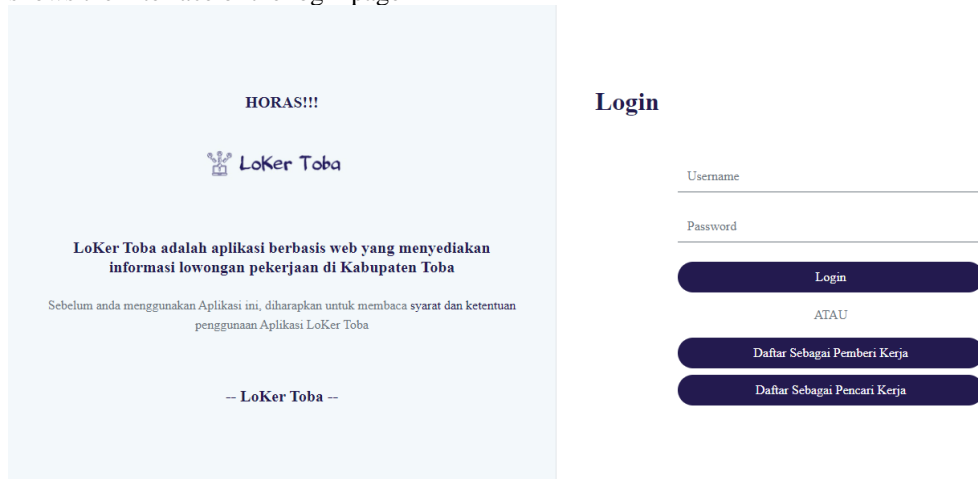


Figure 2 Login page

2. Registration Page

The registration page is where job seekers and employers register to obtain an account to log into the system. Figure 2 shows the image for the registration page.

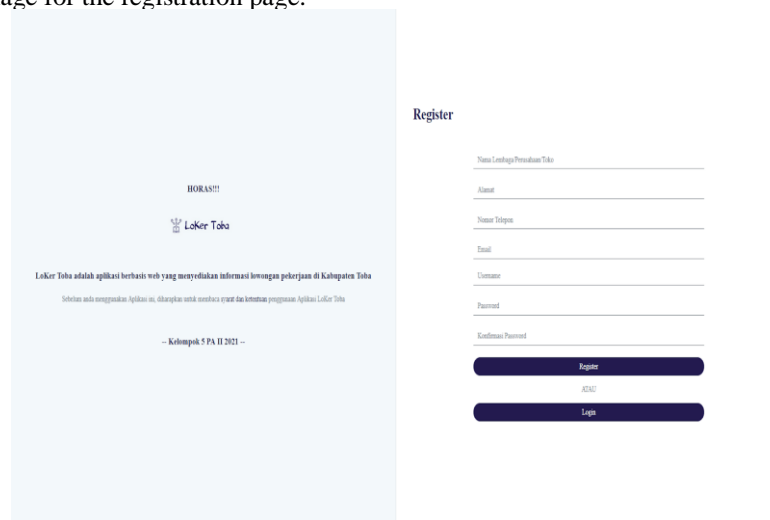


Figure 3 Registration Page

3. Job seeker home page

The job seeker home page is the first thing that will appear when job seekers successfully log in. Figure 3 shows the home page that job seekers will see when logging in.

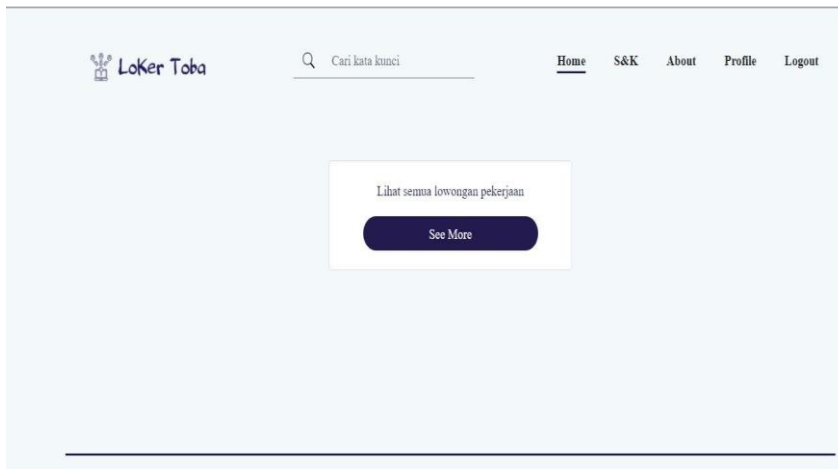


Figure 4 Job seeker home page

4. Employers home page

The employers home page is the first page that appears when employers successfully log in. Figure 4 shows the home page that employers will see when logging in.

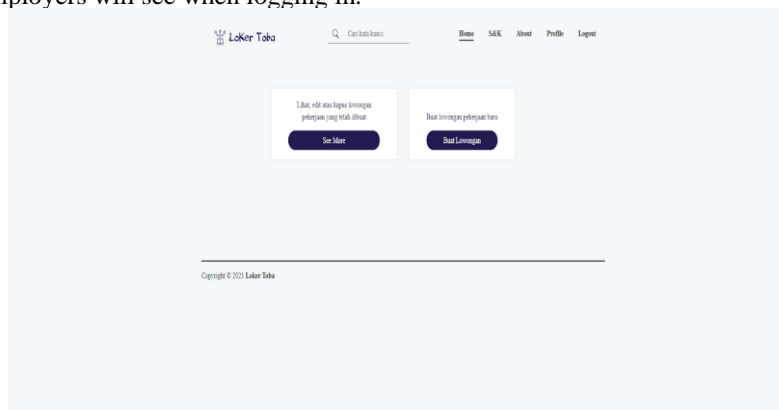


Figure 5 Employers home page

5. Job Vacancy List Page

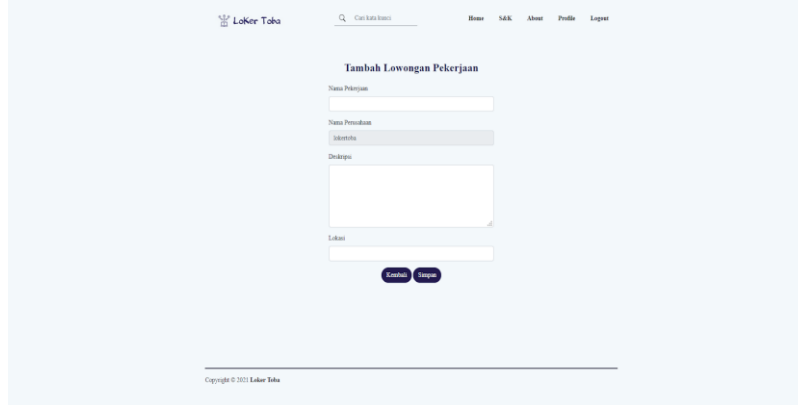
The job vacancy list page is a page that employers and job seekers can access. On this page, a list of available vacancies is displayed, which has been added by each employer to the website. Figure 5 shows the job vacancy list page.



Figure 6 Job vacancy list page

6. Adding Job List page

Only employers can perform this action on the add job listing page. Figure 6 shows adding job list page.

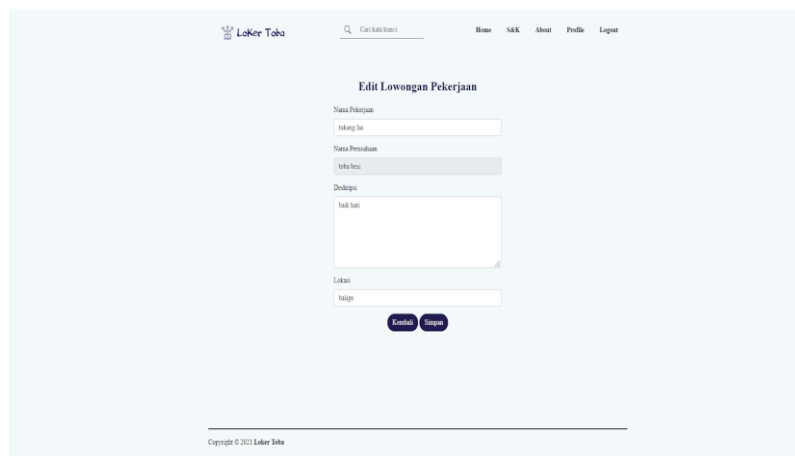


The screenshot shows the 'Tambah Lowongan Pekerjaan' page. At the top, there is a navigation bar with the Loker Toba logo, a search bar, and links for Home, S&K, About, Profile, and Logout. The main content area contains a form with the following fields: 'Nama Pekerjaan' (text input), 'Nama Perusahaan' (text input), 'Alamat' (text input), 'Deskripsi' (text area), and 'Lokasi' (text input). Below the form are two buttons: 'Kembali' (Back) and 'Simpan' (Save). The footer contains the text 'Copyright © 2021 Loker Toba'.

Figure 7 Adding Job List page

7. Job Change Page

The job opening data update page is a page that can only be accessed by the employers where on this page the employers can change the data of the job opening that has been created if there is incorrect data or details that must be added. Figure 7 shows the page.



The screenshot shows the 'Edit Lowongan Pekerjaan' page. It has the same navigation bar as Figure 7. The form fields are: 'Nama Pekerjaan' (text input), 'Nama Perusahaan' (text input), 'Alamat' (text input), 'Deskripsi' (text area), and 'Lokasi' (text input). Below the form are two buttons: 'Kembali' (Back) and 'Simpan' (Save). The footer contains the text 'Copyright © 2021 Loker Toba'.

Figure 8 Job Change Page

8. Job Vacancies Data Change Page

Only employers can access this page. Employers can change data from previously created job vacancies if there are incorrect data.

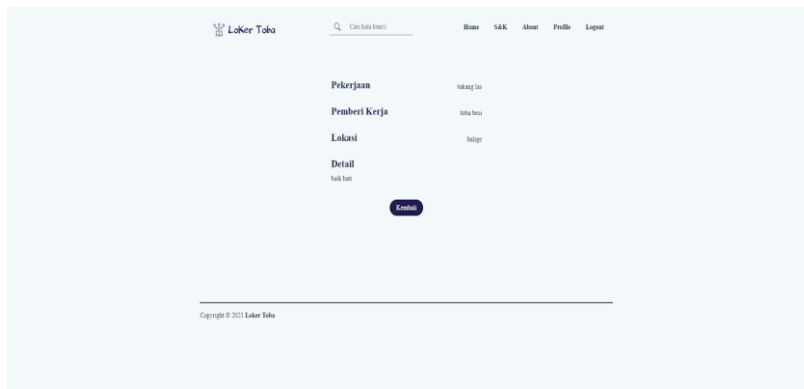


Figure 9 Job Vacancy Details Page

9. Change Profile page

Those who can access this page are employers and job seekers. If they want to change the username, but the system detects that another party has used that username, they must find a new username that is not the same as the username already registered in the system. The page can be shown in Figure 9.

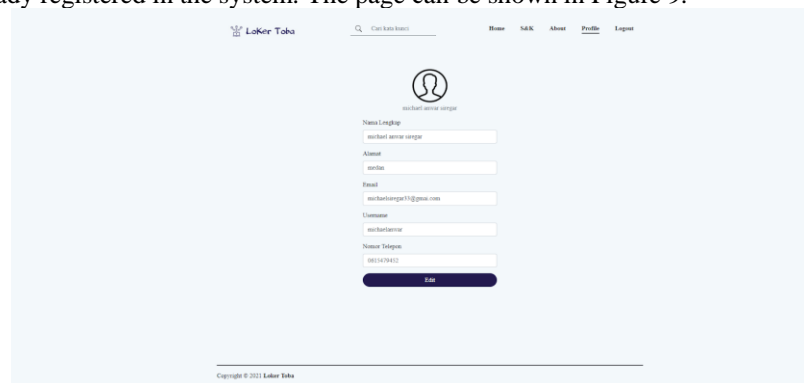


Figure 10 Change Profile Page

10. Terms and Conditions page

All users can access this page. On this page will display the terms and conditions that must be obeyed by users in using this website. Figure 10 shows the terms and conditions page

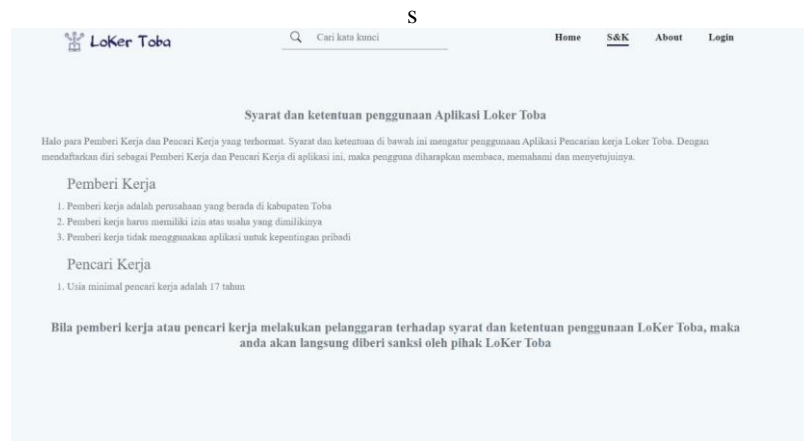


Figure 11 Terms and Conditions page

4. Conclusions

The purpose of the Job Seeker website in Toba Area is to help the people of Toba Regency so that the people of Toba can exchange information about the work in Toba Regency. The author, who is also a developer, hopes that employers using the app to share job vacancy information through the app and job seekers can get job information that matches their specifications. Through the Job Seeker Web in Toba Region, the author hopes that human resources in Toba Regency will increase and become one of the efforts to advance Toba Regency. The author has suggestion for further research, to provide maps feature for employers to make it easier for employers to disseminate specific company location information.

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