E-PTJOB: Application Link And Match Job Seekers Based On Android

Alfredo Pasaribu[1], Yoas Arnest Soetopo[2], Dedy Prasetya Kristiadi[3], Sutrisno[4]
[1,2]Information Systems Department, STMIK Kuwera, Indonesia
[3,4]Department of Computer Systems, Universitas Raharja, Indonesia

Abstract

The impact of the corona virus disease-19 has caused many companies to close and workers to be laid off. This also has an impact on the decline in economic growth and the level of welfare of the population in the affected areas. The need for labor management is an urgent and serious matter. The creation of the e-PTJOB application is a breakthrough to deal with this problem. This part-time job seeker application is made with a link and match model where job seekers are met with job seekers based on the needs or requests of job seekers who are not limited by education level. Jobs given by job seekers are temporary with payment based on duration of time, meanwhile prospective workers can choose work categories based on location, level of education and work to be done. The e-PTJOB application begins with registration of job seekers and job seekers where each actor provides data according to his capacity. Furthermore, job seekers will make a deposit on the application via transfer of a nominal amount that will be used to pay workers according to job criteria and work duration. Workers who have already done work will get paid according to the job offer. This e-PTJOB application will assist the government in dealing with cases of unemployment of productive age which are not limited by education level as well as increase the income level of the population in the region.

Keywords: job seekers, job seekers, job seekers applications

1. Introduction

Population growth in Indonesia has increased significantly. Based on data from the Population Administration (Adminduk) the results of the Population Census (SP2020) in September 2020 recorded a population of 270.20 million people. Meanwhile, the results of the census as of June 2021, the total population of Indonesia is 272,229,372 people, of which 137,521,557 people are men and 134,707,815 people are women [1]. The large population is Indonesia's advantage in terms of productive age or in terms of labor supply. However, the negative impact with the fast growth rate and the large availability of labor, causes a very serious problem, namely the problem of job availability, if the rapid growth of the labor force and the relatively slow growth of employment can lead to large unemployment. The Central Statistics Agency (BPS) recorded the number of Open Unemployment Rates (TPT) in February 2021 at 6.26 percent, down 0.81 percentage points compared to August 2020. The working population was 131.06 million people, an increase of 2.61 million people. from August 2020[2]. Meanwhile, unemployment in February 2022 was 5.83%, down 0.43% compared to February 2021. The real number of unemployed was 8 402.15[3], as has happened in the city of Tangerang, Banten province[4].

The impact of the COVID-19 pandemic has triggered a reduction in the workforce, plus education, age, working time, work experience and recruitment are the next problem[5]. This has an impact on economic growth and the level of welfare of the population which tends to decline and the need for handling labor becomes urgent[6]. In the above problems, an application is needed that can connect the workforce with freelance labor providers. The workforce in question is a workforce that is ready to work without being
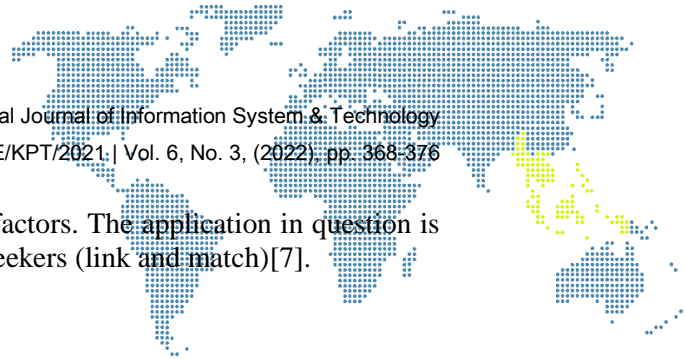
limited by education, experience and working time factors. The application in question is an application that can connect job seekers and job seekers (link and match)[7].

2. Research Metodology

2.1. Android

Android is an operating system for mobile phones based on Linux. Android provides an open platform for developers to create their own applications for use by various mobile devices. Android is commonly used in smartphones and tablet PCs[8]. Its function is the same as the Symbian operating system on Nokia, iOS on Apple and BlackBerry OS. Some examples of android-based systems include: Electronic medical records [9]. Android is an open source operating system based on Linus. At first Android was only for mobile phones, but now it can be used on tablets, TVs, computers and car stereos..

2.2. UML

According to Bambang Hariyanto in his book entitled Object-oriented system engineering is a graphical language for documenting, specifying, and building software systems[10]. UML is object-oriented, applies many levels of abstraction, does not depend on the development process, does not depend on language and technology, the integration of several notations in various methodologies, the joint effort of many parties, supported by tools integrated through XML (XMI). UML is managed by OMG (object management group). UML is a modeling language for specifying, visualizing, constructing and documenting system artifacts.

2.3. Waterfall Model

According to Pressman linear sequential or better known as the waterfall model offers a systematic and sequential approach in software development starting from the system label and its development through the stages of analysis, design, coding and testing. The waterfall model is the most popular version of the system development lifecycle model for software engineering. The description of the waterfall methodology is as follows:
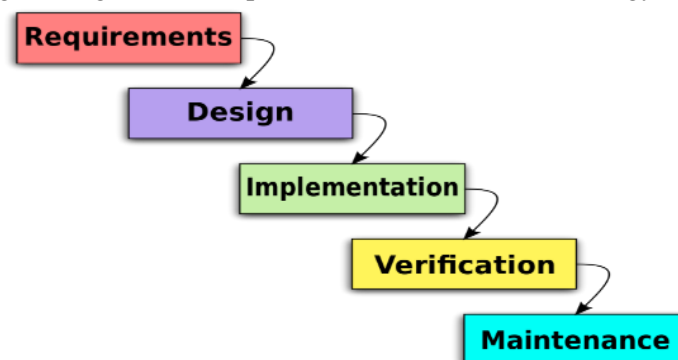

Figure 1. Waterfall Model

Job seekers only need to fill in the required worker criteria, duration of work and also the location of the job. Next, the Application System will find and select workers who match these criteria right away.

1) Job Seekers will get a notification and accept the job.
2) Job seekers will get detailed information on the job and go directly to the job location that has been determined.

a) Use Case Diagrams

The use-case below describes the system from the point of view of worker seekers, job seekers and also admins, so that the making of this use-case diagram is more focused on
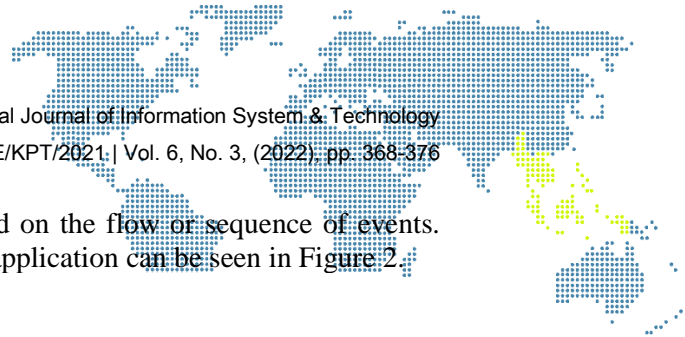
the functionality that exists in the system, not based on the flow or sequence of events. The use-case diagram for the temporary Job Search application can be seen in Figure 2.
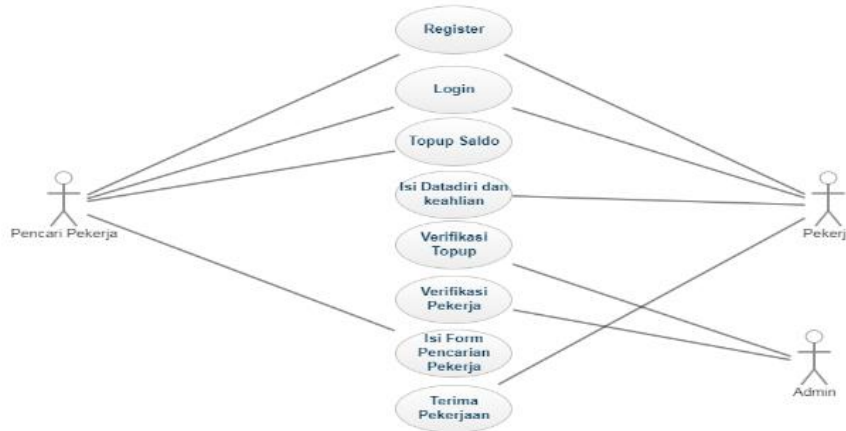

Figure 2. Use Case Diagram

b) Activity Diagram User Registration

Activity Diagram User Registration is started by the users who will open the registration page, fill in their personal data and also verify until finally the accounts of the users can be activated. Activity Diagram of User Registration can be seen in Figure 3.
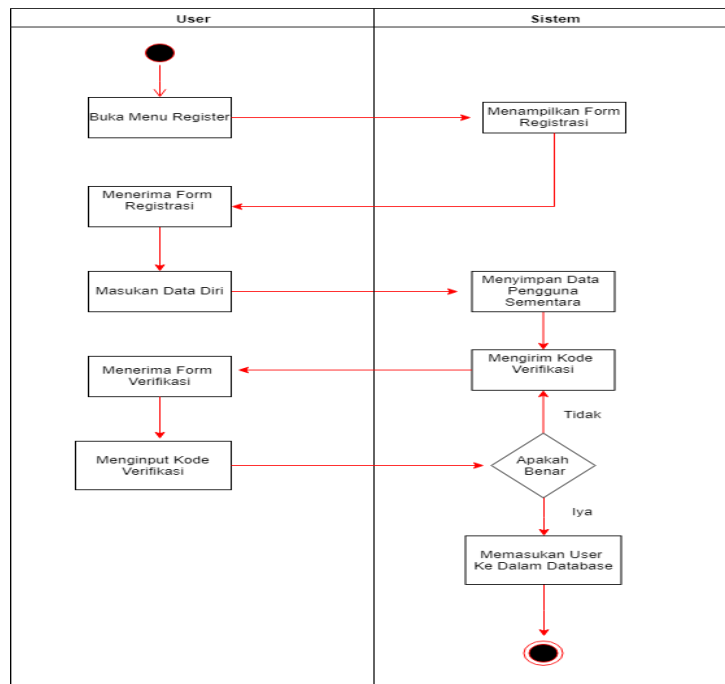

Figure 3. User Registration Diagram

c) Job Search Activity Diagram

The Job Search Activity Diagram is a menu that will appear when a user with worker status has logged into the application, and in that menu users will be asked to fill in their personal data with details and verify if they are entering the job search menu for the first time. The Job Search Activity Diagram is shown in Figure 4.
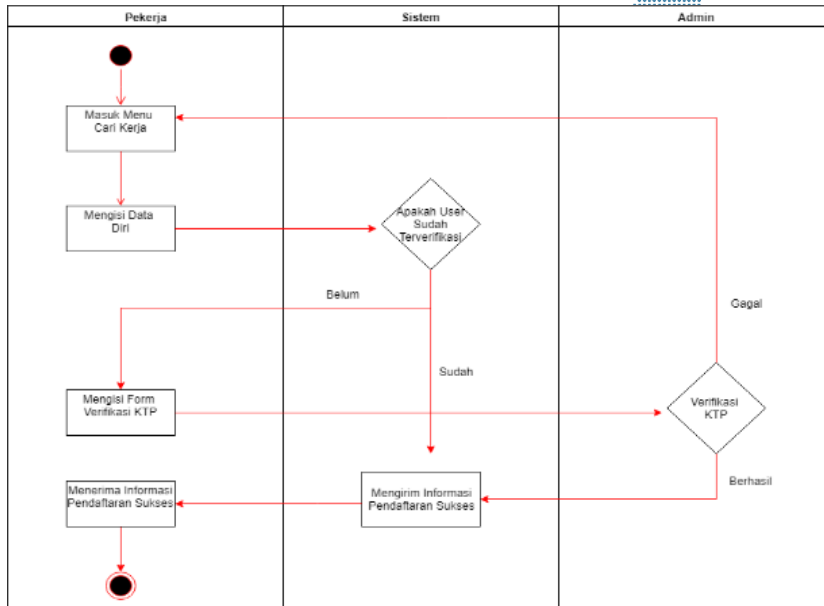
Figure 4. Activity Diagram

d) Activity Diagram Cari Pekerja

Activity Diagram for Searching Workers is a menu that will appear if a user with the status of Worker Seeker has logged into the application, in this menu the user will be asked to fill out a worker search form and after the user has filled out the form, verification will be carried out whether the user balance is sufficient or not, if not enough, the transaction will be canceled and if the balance is sufficient, the system will process the order and find workers with the selected criteria. The Activity Diagram for Searching Workers is shown in Figure 5
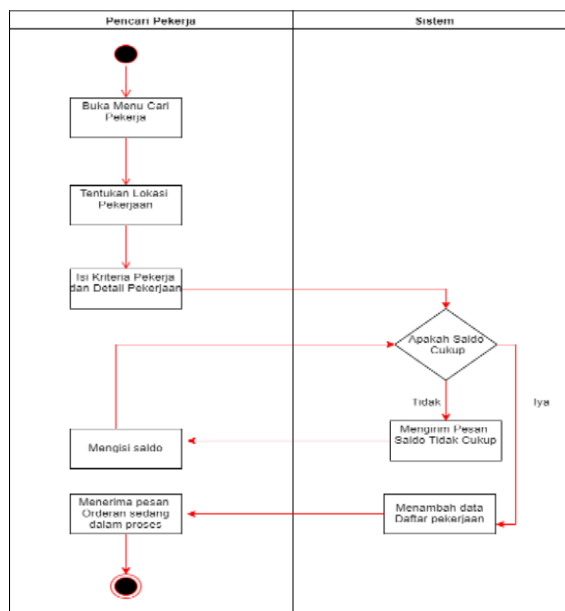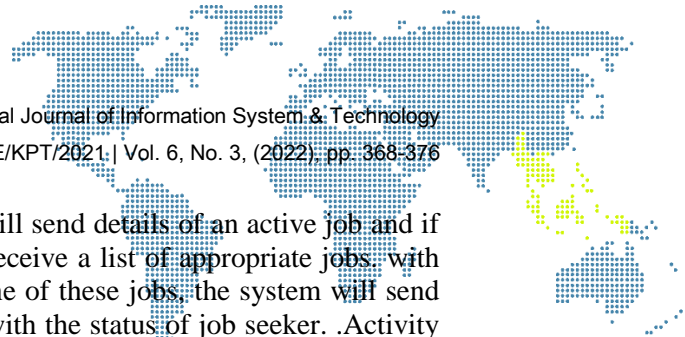

Figure 5. Worker Search Diagram

e) Activity Diagram Job List

Activity Diagram Job List is a menu that will appear if the user with the status of the worker has been verified. In this menu, the user will automatically send detailed information to the system and the system will verify whether the user currently has an

active job, if the user has an active job the system will send details of an active job and if the user does not have an active job, the user will receive a list of appropriate jobs. with their expertise. After the user selects and accepts one of these jobs, the system will send detailed information related to workers to the user with the status of job seeker. .Activity Diagrams Job List is in Figure 6
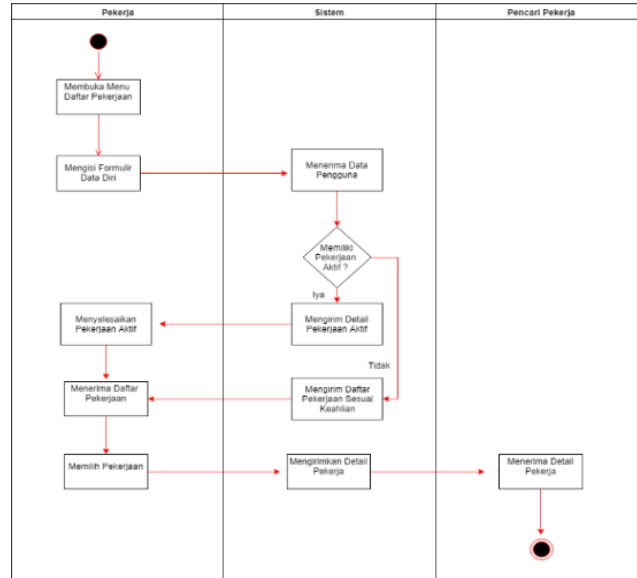

Figure 6. Activity Diagram Job List

Class diagrams describe the types of objects in the system and the various static relationships that occur. In the Temporary Job Search application there are 5 main classes, namely users, workers, jobs, add balances and also confirm topup. The Worker Search Class Diagram is shown in Figure 7.
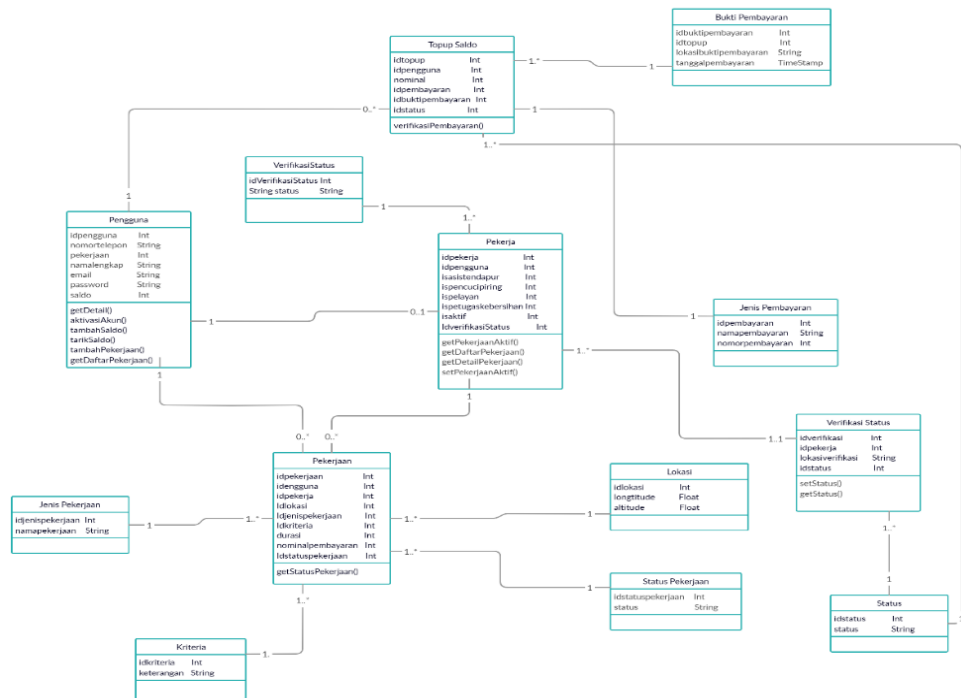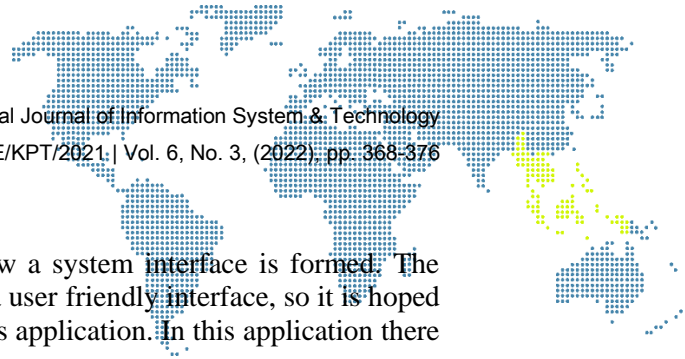

Figure 7. Job Search *Class* Diagram

3. Result And Disscussion

Interface design is the process of describing how a system interface is formed. The Temporary Job Search application is designed with a user friendly interface, so it is hoped that it will make it easier for every user who uses this application. In this application there are several layouts and forms, among others.

a. Layout Login

Users can login via email and password that has been created or via gmail login if the registered email is in accordance with the gmail account, the system will automatically move the user to the Main Menu layout. Picture of Login Layout can be seen in Figure 4.8
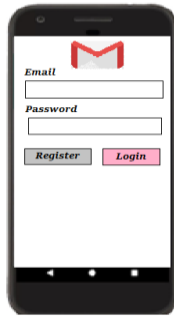
Figure 8. Layout Login

b. User and Registration Options Menu

Users can choose to look for work (for members with employee status) or search for work (for users with job seeker status). Main Menu layout is shown in Figure 9.
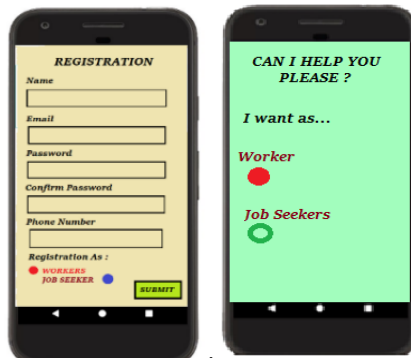
Figure 9. User and Registration Options Menu

c. Job Seeker Identification

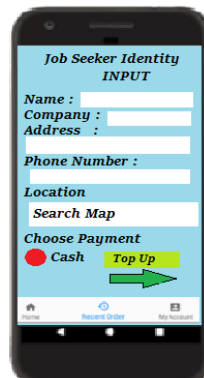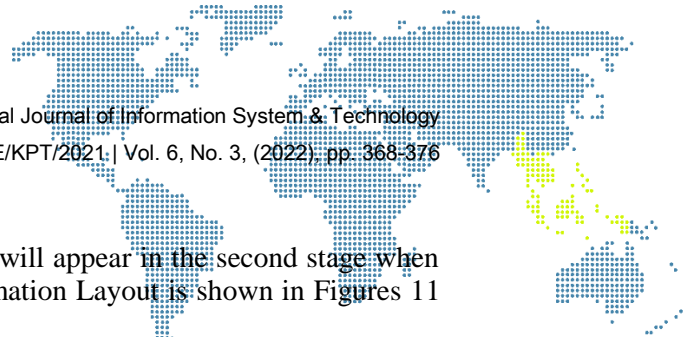This menu contains the identity of job seekers who will provide job vacancies to job seekers.

Figure 10. Job Seeker Identification

d. *Layout* **Topup Confirm**

The Topup Confirmation Layout is a layout that will appear in the second stage when the user wants to add a balance. The Topup Confirmation Layout is shown in Figures 11 and 12.

Figure 11. *Layout* Top up   **Figure 12.** Confirm Top up

e. **Location layouts and offers**

Location and offer layouts are layouts that appear if the user selects the second option in the menu navigation contained in the main menu layout. Location and offer layouts are shown in figure 13 and 14.
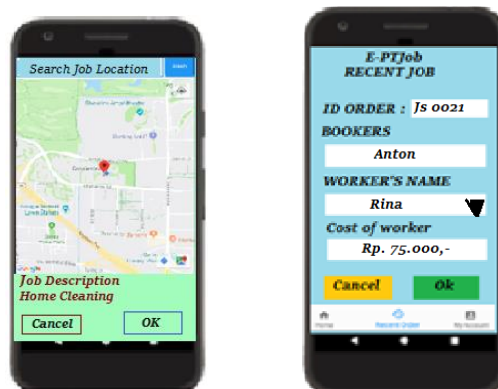

Figure 13. Job Location   **Figure 14.** Recent Job

f. **Confirm Worker Location**

The Worker List Layout will appear when a user with worker member status first accesses the job search menu. The Work List Layout is shown in Figures 15 and 16
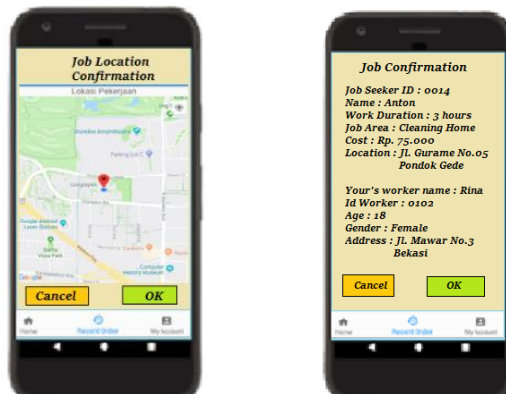

Figure 15. Worker Location   **Figure 16.** Job Confirmation

374

g. *Payment Layout*

Payment layout is a view when workers have finished working on work and can claim payment from the payment layout menu in figure 7

Figure 17. Payment

4. Conclusion

The e_PTJOB application is an application built to find workers and job seekers without being limited by education level. This job seeker application is also intended for workers who want to fill vacancies by earning more. Furthermore, the benefit for job seekers is that they can ease homework that cannot be done because of their busy schedule. E-PTJOB can also provide solutions for office workers in administrative matters such as typing, cleaning work desks and work files as well as many tasks that allow using the services of temporary workers. For the government, this application is useful in reducing unemployment because it provides job opportunities for the community. With the ease of this application, it allows a lot of employment that supports people's income. The development of the PTJOB application requires the cooperation of the government and the community. The local manpower office can help promote this application as well as provide security guarantees in the form of validating worker seekers' data. Through job training centers, local governments can provide job opportunities through this application and support them by providing pocket money in exchange for payment during job training.

References

[1]   Kemdagri.   Penduduk   Indonesia   2021, https://dukcapil.kemendagri.go.id/berita/baca/809/distribusi-penduduk-Indonesia-per-juni-2021).2021.

[2]   Badan   Pusat   statistic,   Jumlah   Penduduk   dan   Pengangguran https://www.bps.go.id/indicator/6/1953/1/jumlah-dan-persentase-penduduk-bekerja-dan-pengangguran.html. 2022.

[3]   Sindonews.com.2018,   Jumlah   Pengangguran   di   Indonesia, https://ekbis.sindonews.com/read/1303706/33/bps-jumlah-pengangguran-diindonesia-capai-687-juta-1525681109.

[4]   Tangerang   municipality   in   figures   2022 https://tangerangkota.bps.go.id/publication/download.html?nrbvfeve=YjE1NTN mODU4MDAwNjU1YTMyODEzNzZk&xzmn=aHR0cHM6Ly90YW5nZXJhbm drb3RhLmJwcy5nby5pZC9wdWJsaWNhdGlvbi8yMDIyLzAyLzI1L2IxNTUzZj g1ODAwMDY1NWEzMjgxMzcxZC9rb3RhLXRhbmdlcmFuZy1kYWxhbS1hb

mdrYS0yMDIyLmh0bWw%3D&twoadfnoarfeauf=MjAyMi0wOC0yMyAwODo
0Nzo1Ng%3D%3D.

[5]   Irhamni. *Pengaruh Jumlah Penduduk, Pengangguran, Dan Pengeluaran
Pemerintah Terhadap Kemiskinan Di Indonesia Tahun 1986-2015,2017.*

[6]   Kemenkes,   Covid   19   Varian   Omicron   di   Indonesia,
https://www.kemkes.go.id/article/view/21121700001/varian-omicron-terdeteksi-
di-indonesia.html,2022.

[7]   Kemdikbud,Link   and   match   dunia   kerja   dan   industry
https://www.kemdikbud.go.id/main/blog/2020/09/lima-syarat-link-and-match-
pendidikan-vokasi-dan-dunia-industri, 2020.

[8]   Wikipedia Android,2019.Android,
https://en.wikipedia.org/wiki/Android_(operating_system) Retrieved 28 August
2022.

[9]   Kristiadi,D.P Muhaimin,Sutrisno,"Mobile application of electronic Medical
Record Systems using NFC Technology" International Journal of Open
Information Technologies2020,,68-72.

[10]   Hariyanto Bambang. *Rekayasa Sistem Berorientasi Objek. volume* 259.
Bandung,2014,Informatika Bandung .

.

.