

DEVELOPMENT OF *MUALLAF HELP* APP AS CONVERT'S MEDIUM OF DATA STORAGE

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Abstract

This study aims to map the existence of converts in the city of Subulussalam. In essence, converts are expected to be able to participate in guidance activities from authorized institutions, as part of their spiritual journey. The existence of converts who are scattered and often not tracked by this institution is often neglected. Not only in terms of assistance but also social assistance. Social assistance itself is considered an important thing considering the number of cases of converts who are rejected by their families after converting to other religions. The Muallaf Help application is expected to be a tool that will map the location of the Muslim converts' residence, record their complete profile, help them to get good assistance and social assistance. All of these activities will take place under the supervision of the Subulussalam Muallaf Center. This converts application is designed with the waterfall development model as the formation and development. This system is also assisted by an analytical method that serves as an assessment to determine the extent to which this system can be accepted using the UTAUT approach.

Keywords: *Mualaf, Information System, Web-based*

1. Introduction

Indonesia is a country that has a very large population, where the state gives rights and obligations for its citizens to embrace religion, which aims to practice and carry out its teachings [1]. It means, everyone has the authority to determine which religion will be used as a way of life, which according to him is true and the beliefs that are believed by that person. Of course, there is no connection and coercion from other parties. So that religious conversion is not something that is rare or infrequent in Indonesia [2].

One example of religious conversion, for example from non-Muslims to Islam, is known as converts, even though in recent term people would use the word 'revert' instead of 'convert'. The word convert itself refers to people who from birth are not adherents of Islam [3]. The term convert also refers to people who initially embrace another religion, then *muallaf* can also make the decision to migrate to Islam [4].

In the context of the life of a convert, people who have recently embraced Islam or converted to Islam, must be given guidance and guidance to know more about Islam. This guidance and coaching are of course very important, this is in accordance with the findings where there are converts in a remote area who do not receive guidance and assistance [5].

In Aceh, the number of converts continues to grow. To date, Baitul Mal Aceh (BMA) have recorded more than 500 (five hundred) converts to Islam in Aceh Province in 2019. BMA has made program services for converts since 2006, in which the convert who have been registered will be given assistance in the form of scholarships for converts, religious education and business capital [6].

Likewise, Muallaf Center has taken big part in helping the *muallaf* through their transition to Islam. In 2020, there were 192 *muallaf* that were fostered by Muallaf Center Subulussalam. They came from different cities not only in Aceh, but also north Sumatra. Most of the new convert usually would have problem with the family, where they are being ignored or even worst, being kicked out of their hometown. As the same problem keep happening and rising, several activities that the foundation held not only focusing in helping them to get better understanding of Islam, but also including guidance in term of economic development [7].

This study is focusing on the recording the new convert data, including mapping their location as its spread in quite big radius in Subulussalam, record of the program they have taken part, aids they have received so far. It is important to have those data in order to reduce the possible of losing data of *muallaf* or even those that are already recorder but have never received any help through their transition. It uses the quantitative method because it examines a data using numbers that are used as a tool to analyze a description of the results you want to know [8]. The research model used by the author uses the Unified Theory of Acceptance and User Technology (UTAUT) approach model. The model which is a theory discovered by Venkatesh, consists of several theories that are used as a measuring tool for the acceptance of a combined technological system [9].

The development of muallaf help is expected to help both coordinator of muallaf center as well as the convert themselves in term of assistance and economic welfare. The app will be used to record the data of convert, record the assistance program that the organization held and welfare that they have received.

2. Literature Study

LeafletJS

Leafletjs is one of the open sources JavaScript library templates that functions as an interactive and good map creation, where Leafletjs has features that are easy to understand in making maps of an area. Leafletjs can be used very easily, Leafletjs also provides instructions on how to use it, in order to speed up the creation of regional maps. Leaflets are built so that users can use them to create systems with good capacity on a mobile or desktop [10].

Leaflet Routing Machine

The engine routing leaflet is one of the routing plugins (route) provided by the LeafletJs template created by a developer named Per Liedman. Per Liedman is a developer who has expertise in geography, Maps, Sig and visualization. This leaflet routing machine has an open source tool, with this anyone can use it for their own needs. There are several supports that exist in the routing of this machine, namely:

1. Mapbox Direction API
2. Grabhooper
3. Mapxen Vallahlla
4. Essri
5. OSRM and many others [11]

PHP

Hypertext Preprocessor or commonly abbreviated as PHP is a programming language similar to JavaScript (JS) which functions as a tool or language to create a software system program that is embedded in the HTML script of a website. So that when run, this program functions as a machine that can control more what appears in the browser than what is displayed in HTML [12].

UTAUT (Unified Theory of Acceptance and Use of Technology)

UTAUT is one of the methods developed by Vankatesh in 2013. UTAUT is used as a measuring tool in a study on the acceptance of a new system design, in order to find out the extent to which the system that has been designed can be accepted by users [13].

Regarding the variables in UTAUT can be seen in Figure 1 below:

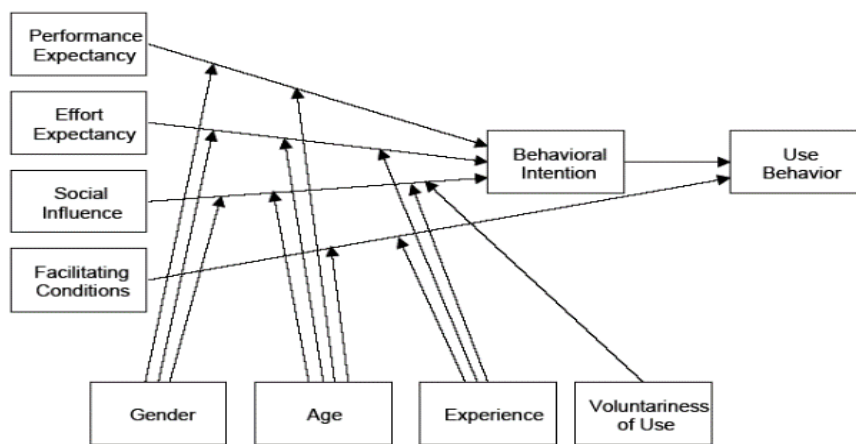


Figure 1: Unified Theory of Acceptance and Use of Technology (UTAUT)

The following are models of approach methods in research prior to UTAUT, namely:

1. TRA (Theory of Reasoned Action)
2. TAM (Technology Acceptance Mode)
3. MM (Motivation Model)
4. TPB (Theory of Planned Behaviour)
5. MPTU (Combined TAM and TPB)
6. MPCU (Model of PC Utilization)
7. IDT (Innovation Diffusion Theory), *SCT (Social Cognitive Theory)*

Convert

The word convert comes from the Arabic convert, which means someone who has just convinced himself to convert from a non-Islamic religion to Islam. Religious conversion is not a rare phenomenon or rarely happens, this often happens to everyone, people who have recently migrated to Islam are called converts, this is done without any connection or compulsion in that person's life In Indonesia, especially in Aceh, a convert is someone who has recently converted to Islam, therefore the government has made program services for converts since 2006, in which registered converts will be provided with assistance in the form of scholarships for converts, religious education and business capital [14]. In addition, converts also need guidance and guidance in embracing Islam, this is done so that converts can fully know Islam

3. Research Methodology

This study uses a research method of the type of R&D (Research and Development) method. R&D (Research and Development) is a research method that functions as a producer of products that are developed and discusses the efficiency of the product. So that this research can produce a product, of course using research that is characterized by analyzing a need and testing its efficiency on the product, this research is carried out in stages so that the designed product can be utilized by the parties concerned [15]

In this research. The researcher uses research in the flow of quantitative models using the Unified Theory of Acceptance and Use of Technology (UTAUT) approach developed by Vankatesh in 2013 and as a form of the design stage for the Web-Based Converting Application, the author uses the waterfall model which was introduced by Winston W. Royce in 1970 [16][17]. Waterfall is a unique model that is systematic (sequential) in designing and building a system [18]. Waterfall has become one of the most widely used models by developers around the world. This waterfall model makes developers (Software Engineers) very careful in building and designing what the system should do at the time of use, so that all the needs of the system can be met [19]. The following image shows the waterfall model used in designing a system information

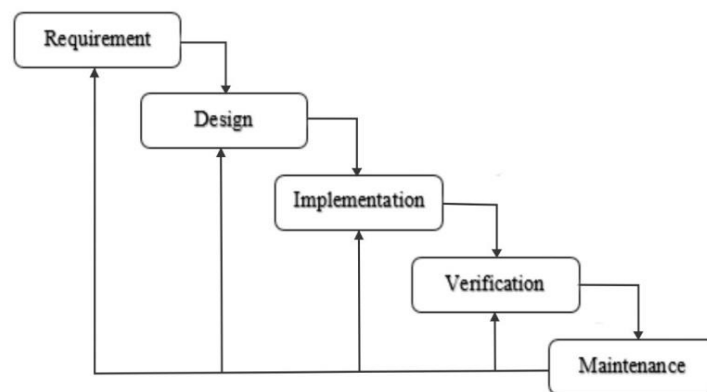


Figure. 2. Waterfall Model

Regarding the design of this system using the Waterfall model, of course there must be an explanation in order to provide a complete understanding of the design. The following is an explanation of each of the variables in the waterfall as follows:

1. Requirements Analysis (Needs Analysis)

A Software Engineer must of course determine the requirements that exist in the system to be designed, all before the design technique will be implemented [20]. Data collection or requirements for the system can be done by means of surveys, interviews and observations, after all the needs have been obtained, the information obtained will be processed and analyzed so that it becomes a complete data or information regarding the specification of system and user needs [21].

2. System and Software Design

After the requirement analysis is obtained, analysis techniques will be carried out at this stage, then it will be applied to design development [22]. This design is designed to make it easier to give a full picture of what must be done. At the System and Software Design stage, this function is to assist in preparing hardware (Hardware) [23].

3. Implementation and Unit Testing

At the Implementation and Unit Testing stage, this is the stage for programming (writing code). Work on the software system will be divided into several small modules which will be put together in the next stage [24]. Regarding this, at this stage checking and testing will be carried out on the functions of the modules that have been made, with predetermined criteria in order to find out whether they meet the desired criteria [25].

4. Integration and System Testing

After the Implementation and Unit Testing stage and all developed modules have been tested, they will be implemented and then integrated into the system as a whole [26]. After that it will proceed to the stage of checking and testing the system as a whole in order to find out if there is a possibility of errors and failures in the system [27].

5. Operation and Maintenance

Operation and Maintenance is the last stage in the waterfall, the system that is ready to be used and run will be carried out system maintenance. This maintenance allows development to be carried out as a fix for errors that cannot be found in the previous stage [28]. Maintenance functions as one of the repairs of errors, the application of system units and improving the system as needed [29].

4. RESULT and DISCUSSION

Before developing the app, it is important to define the chart that will be used in designing and developing the app. It is also in need to have use case diagram, in order to differentiate the privilege of each kind of user

1. Use Case diagram dan Activity Diagram of Muallaf Help

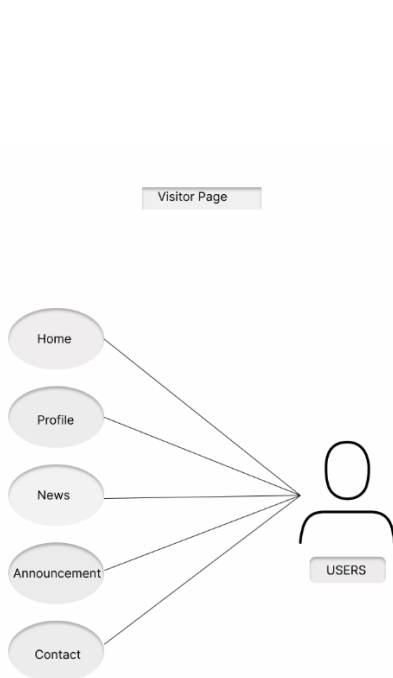


Figure. 3. Use Case for Front End

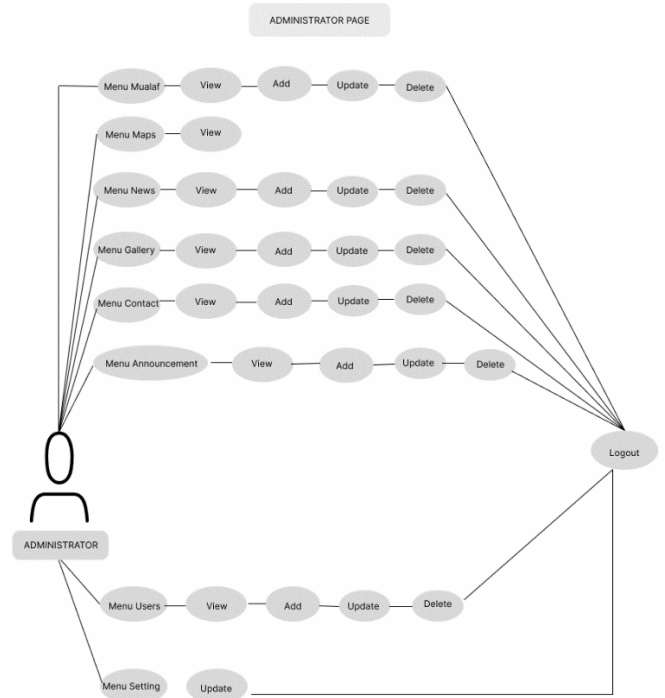


Figure. 4. Use Case Diagram (UCD) Admin

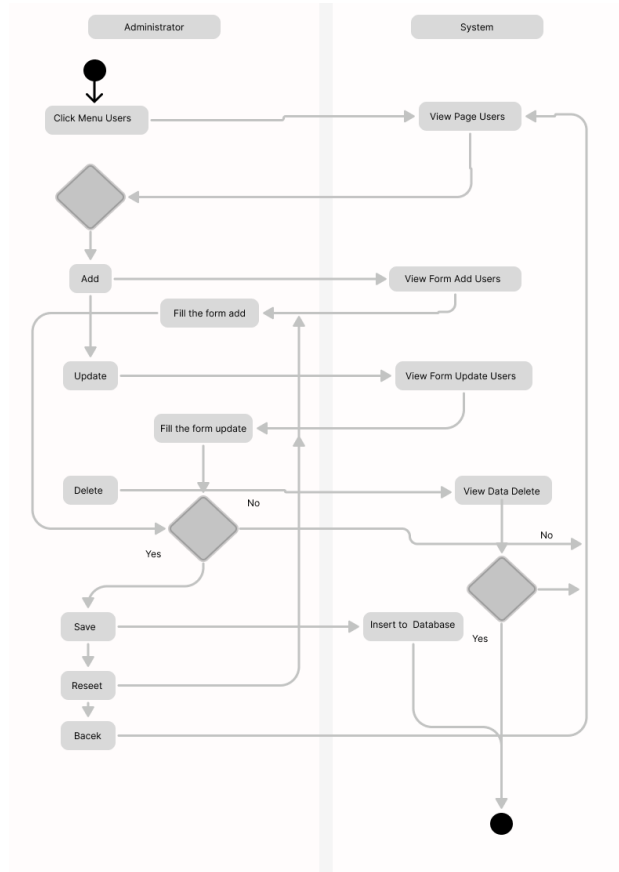
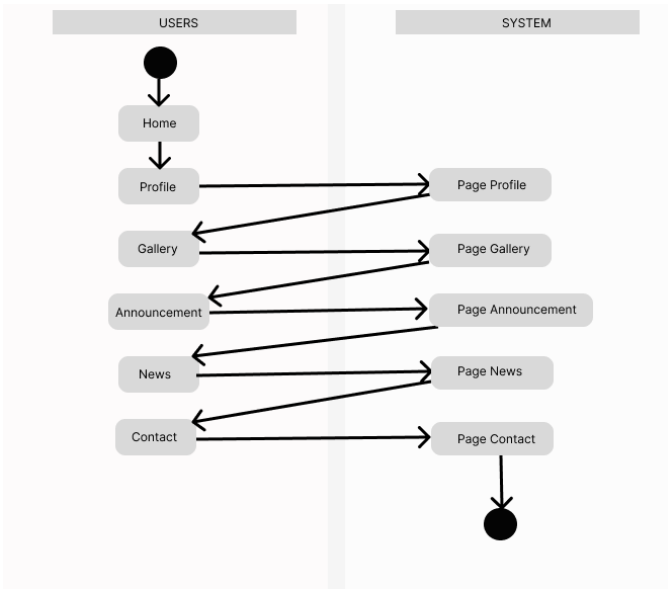


Figure 5. Activity Diagram of User

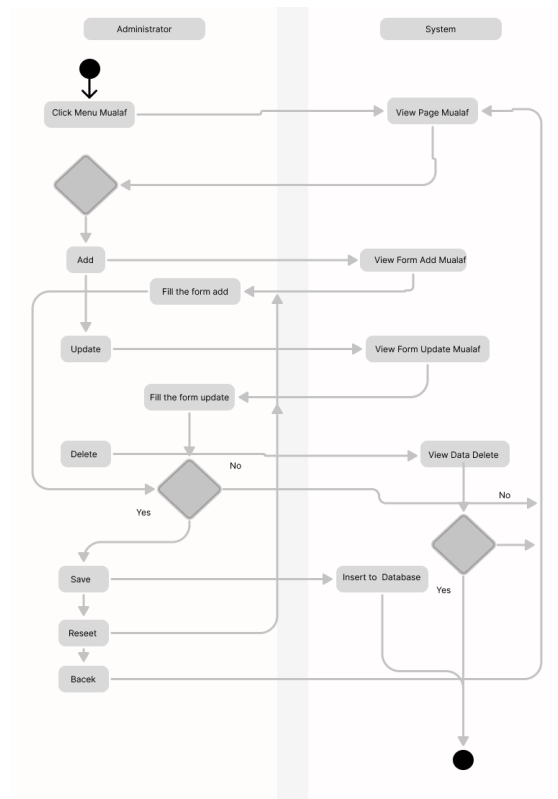
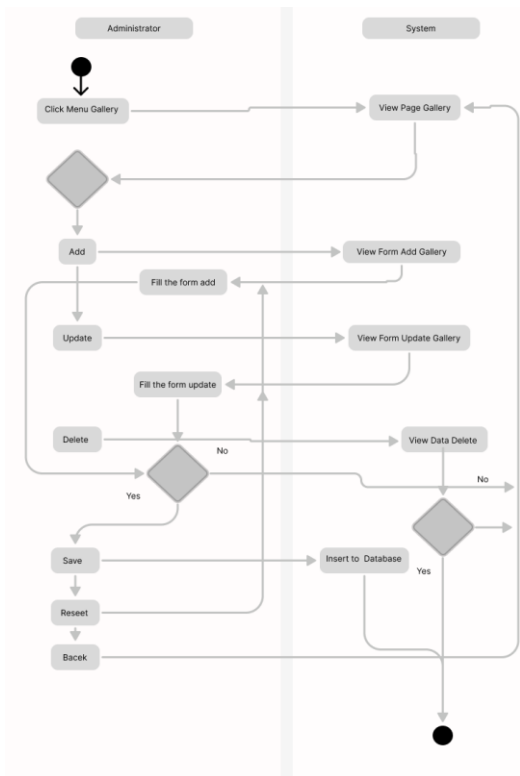


Figure 6. Admin Page

2. APP Development

Originally, in order to ease the proses of developing the app, developer would first make the mockup of the app to get better overview. The use of mockup would help also for user to know general view of the app itself.

a. Front-end interface

Figure below shows the news page of muallaf help. Here, several activities within the muallaf help will be shown to public.

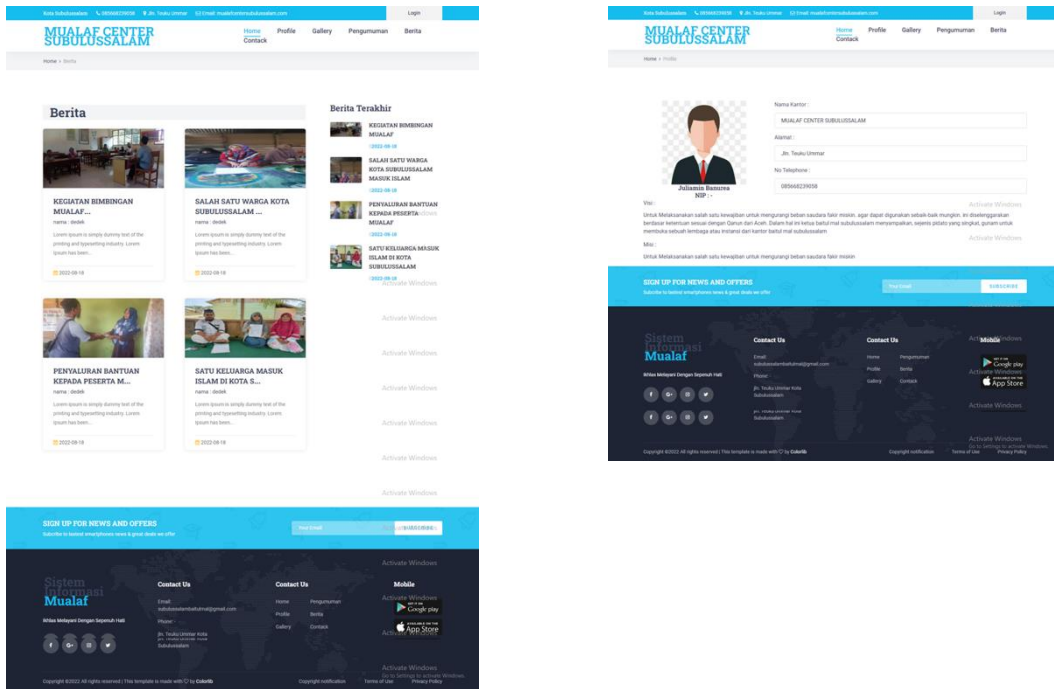


Figure. 7. News and User Profile Page

b. Back-end interface

In the backend interface, it will shows behind the app that will be managed by admin. Figure below shows some pages that will show the activity in admin side.

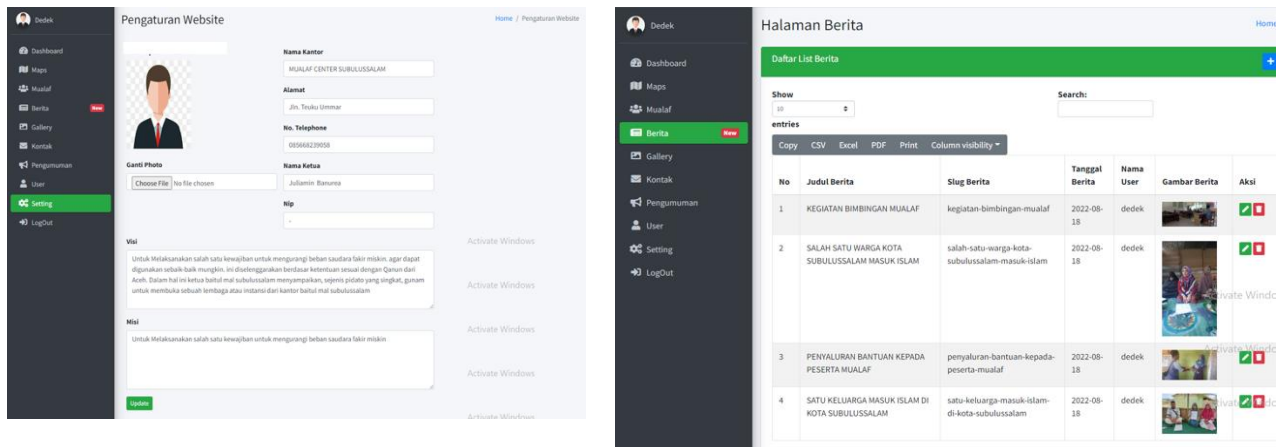


Figure. 8. Admin Page

What shown in the figure 9 below is one of the key point of this Muallaf help. Using technology, location of muallaf that live in Subulussalam will be recorded in this map.

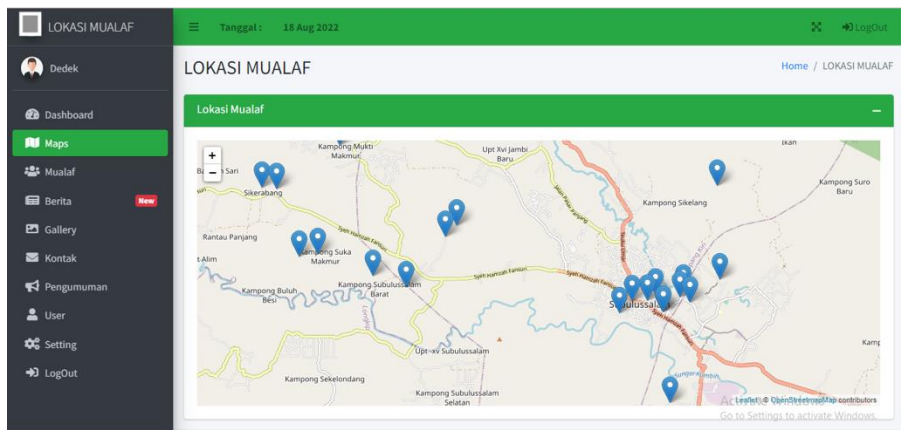


Figure. 9. Map Of Muallaf Location

By having this map, it will ease the work on the *muallaf* center or any other related institutions who need to have detail information of the *muallaf*. As mentioned before, *muallaf* living in this city are not easy to find as most of them are living in secluded area.

5. Conclusion

The app is developed with the purpose of helping the *muallaf* center in collecting data, store the data of the convert (or revert). These data include the welfare that they acquire during their transition. By using php, html, and those mentioned above the app is developed in accordance to the center needs as well as the *muallaf*. On the other words, *muallaf* play a big role in the development process, as they also need to access information and get proper help accordingly.

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