

ANALYSIS AND DESIGN SIDOARJO ON HANDS (SOH) SYSTEM FOR SUPPORTING SIDOARJO POTENTIAL PROMOTION

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ABSTRACT

SoH is mobile application android based which has importance in a discipline oriented to help people get information about local potential of Sidoarjo. The analysis and design SoH presented here carry out objective to support promotion of potential of Sidoarjo.

Specific analysis and design tools will be essential to assure the development of SoH itself. This paper addresses the results of analysis and design SoH. The result includes 5 steps : digitized map of Sidoarjo, design of system architecture, flowchart for describing SoH system flow, design of SoH database using entity relationship diagram (ERD), data flow diagram (DFD) for describing relation between system flow and SoH database, and design of SoH user interface

We evaluate the result of analysis and design of SoH. The final result is used as blueprint to develop an effective SoH system. In this paper, the final result has satisfied user requirements. The result will be used as preliminary study on the future research.

Keywords : analysis and design system, Sidoarjo on Hands, potential promotion

Introduction

Sidoarjo is one of district in Jawa Timur province. Its coverage area is 714,243 km² (Bagian Telekomunikasi dan Informatika Kabupaten Sidoarjo, 2015). Sidoarjo provides many kind of local potential which can attract tourists for visiting Sidoarjo. The local potentials are including potential of industry, agriculture, fishery, crafts, tourism and culinary.

The local government has implemented various way to promote potentials of Sidoarjo using conventional media promotion such as newspaper, billboard, and local television. But it seems the promotion method is less optimum. The official website is owned by local government and tourism department has less known even by local population itself. Besides that, the information which is shown inside less complete and uninformative.

With the increase of mobile application technology, it was possible to implement this technology for promoting potentials of Sidoarjo. We can take advantages of Sidoarjo on Hands (SoH) mobile application as a promotion medium. Thus the need arose to study the analysis and design SoH that could help in introducing potentials of Sidoarjo. Next, we can get all information about local potentials of Sidoarjo easily. So, people who wants to know deeply about Sidoarjo can retrieve the information using SoH.

Research Methodology

The following are the procedures for finishing the analysis and design phase of SoH :

1. Analyze and map all of potentials of Sidoarjo. This first phase aimed to classify each potential into its main category.
2. Collect primary data of local potentials at each districts in Sidoarjo.
3. Collect and validate secondary data from related departments of local government at each district in Sidoarjo.
4. Combine analysis between primary and secondary data.
5. Digitize map of Sidoarjo areas.
6. Set marking point at the Sidoarjo digital maps.
7. Create design of SoH system architecture
8. Describe of SoH system flow using flowchart.
9. Design of SoH database using entity relationship diagram (ERD)
10. Design of SoH of user interface.
11. Evaluate the result of analysis and design phases above.

Discussion

The first phase is analyze and map all of potentials of Sidoarjo. At the first time, we had six main categories for local potentials of Sidoarjo. They are potential of industry, agriculture, fishery, crafts, tourism and culinary. We used this pattern when collected primary and secondary data of local potentials at each districts in Sidoarjo. Then we took the combination of those data for analysis. We found that some categories need to be decomposed into some sub categories. They are :

1. Main category of industry potential has three sub categories which are home appliances, exhaust, and iron tools.
2. Main category of craft potential has six categories which are bag and suitcase, embroidery, batik, convection, hat, and slippers.
3. Main category of tourism potential has two sub categories which are natural tourism and artificial tourism.
4. Main category of culinary potential has seven sub categories which are crackers, tofu, tempe, salted egg, petis, nugget, and sausage.

The fourth phase is digitize map of Sidoarjo areas. We implemented GoogleMaps API library. Then, we marked the Sidoarjo map using pointer to specific area according to the result of second phase. As general, the architecture of SoH system as shown in the figure 1 below :

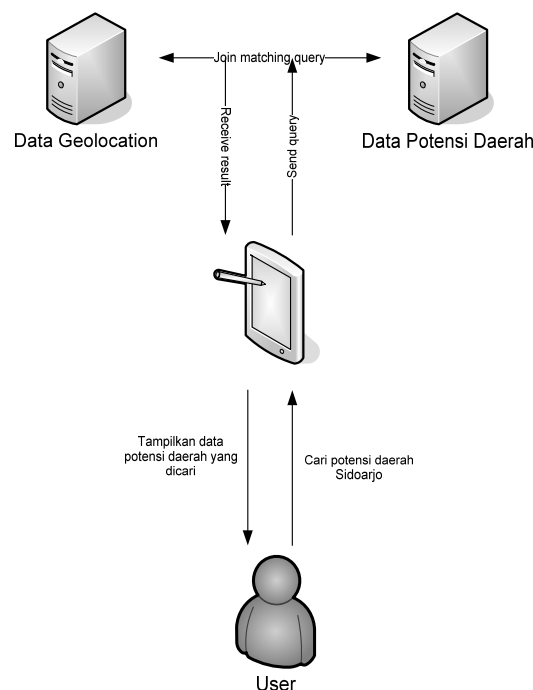


Figure 1. The architecture of SoH system

Figure 1 showed that user of SoH will retrieve the information about potentials of Sidoarjo easily. User only need to entry data about any kind of potential that he wanted. System will use the input data as predefined data searching inside server. System implemented join matching query as searching method. This searching method is combine between text data searching at Sidoarjo potential server and maps data searching at geo spatial server. The searching result will be shown at client side of SoH application itself.

As stated previously, in order to derive an effective SoH system, we provide an optimum database design of SoH. Following is entity relationship diagram of SoH :

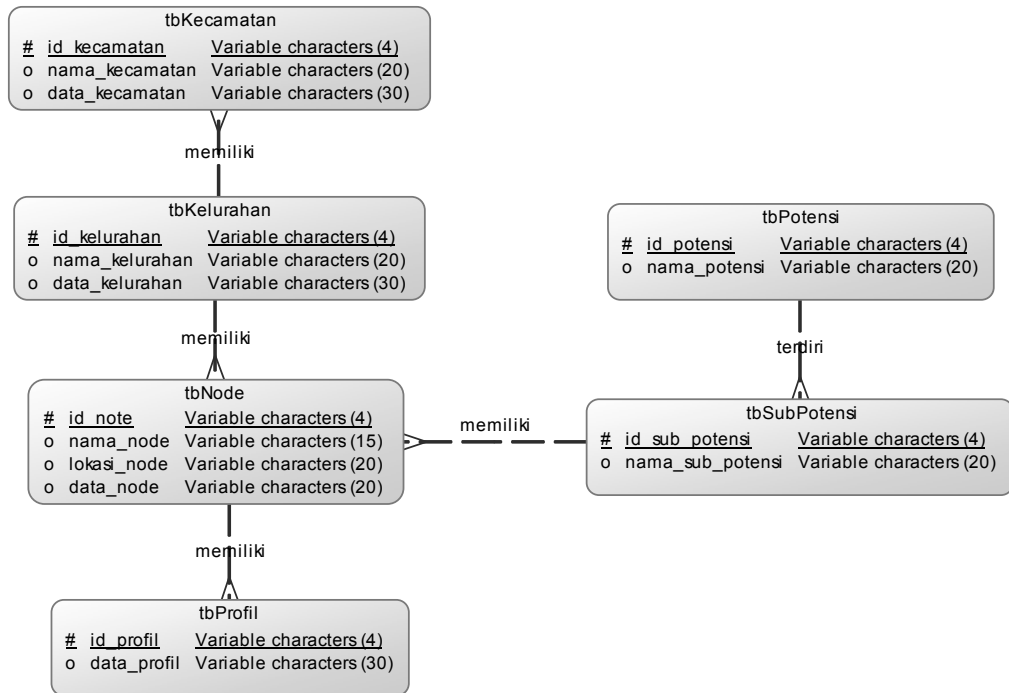


Figure 2. Design of SoH entity relationship diagram

Each table has own function as shown as below :

1. Table of Kecamatan was used to save data of 18 districts in Sidoarjo. They are Balongbendo, Buduran, Candi, Gedangan, Jabon, Krembung, Krian, Porong, Prambon, Sedati, Sidoarjo, Sukodono, Taman, Tanggulangin, Tarik, Tulangan, Waru dan Wonoayu (Bagian Telekomunikasi dan Informatika Kabupaten Sidoarjo, 2015).
2. Table of Kelurahan has function to keep data of village in each districts of Sidoarjo. Sidoarjo has amount of 322 villages.
3. Table of Potensi was used to save data of main category of potentials of Sidoarjo. We have six main category of potentials data which are potential of industry, agriculture, fishery, crafts, tourism and culinary.
4. Table of SubPotensi was used to save subcategory data of each main category.
5. Table of Node was used to save all of location points which contain specific potential.
6. Table of Profil was used to save supporting data for each location which has own potential.

Following are design of SoH user interface which are including startup form and main forms of SoH :

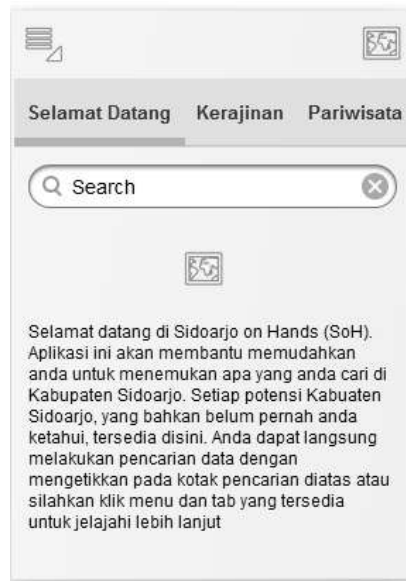


Figure 3. Welcome screen

While SoH was running, startup form of SoH was shown by figure 3. This form provided a brief description of SoH and simple guidance for operating SoH. User can use the searching box for finding general information which is provided by SoH.

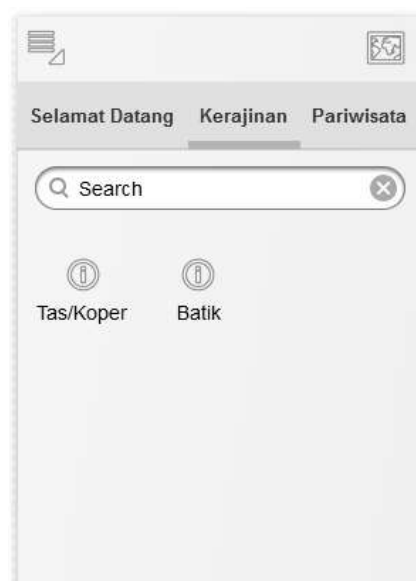


Figure 4. Design form for each main category

Figure 4 showed design of main form of SoH. Each SoH main category will be displayed using tab dialog. Each tab dialog contains sub category of each main category. The sub category will be displayed using mini icon. If user chooses one of mini icon, then user will pursue to the next form as shown in figure 5. User can use searching box in this form for finding the information in accordance with the chosen main category.

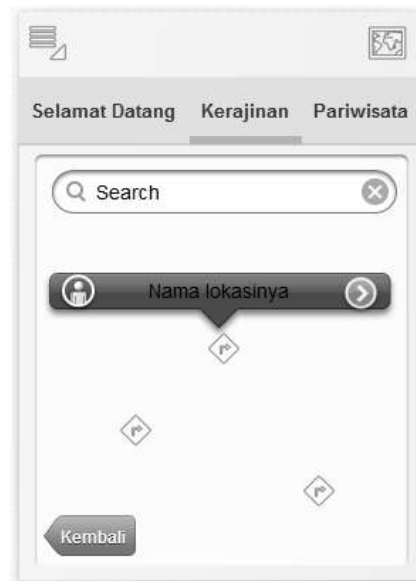


Figure 5. Design form for each sub category

Figure 5 showed form within Sidoarjo map inside. The digitize map had completed with points. The points which is shown on the map in accordance with sub category had been chosen by user from the previous form. Each point displayed the name of each potential in Sidoarjo. If user chose one of these points, then SoH will display the profile of its potential on the next form. See figure 6.



Figure 6. Design form of potential profile

The result of analysis and design phases above will be evaluated. Below are the result of evaluation phase :

1. There are two searching box with different purpose. Searching box in the welcome screen was used to find general information inside SoH. And the other one, which is in the main form, can be used to find information which is suitable with user chosen category.
2. System will search local potential data using join matching query as searching method. This searching method is combine between text data searching at Sidoarjo potential server and maps data searching at geo spatial server.
3. System will implement Apriori TID algorithm on the future research. It is aimed to optimize result of SoH searching (Astuti, 2016)
4. SoH doesn't provide login form. System will create user log activity by Universal Unique Identifier (UUID). System will use this identifier as the searching key on the next research.

Conclusion

This research discuss analysis and design of SoH system using Structured Analysis and Design (SAD) approach. It presents design of SoH system in flowchart, entity relationship diagram, and data flow diagram. On the next discussion, SoH will implement Apriori TID algorithm for searching engine inside. Also, SoH will use UUID as key of data searching. The output of this research will be used as a blueprint for developing an effective SoH. Based on this research, we conclude the final result has satisfied user requirements.

Acknowledgement

DRPM Research and Higher Education Ministries of Indonesia for providing research funds

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