
Educating *Family Medicinal Plants (Tanaman Obat Keluarga)* Efficacy Through Mobile Application

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ABSTRACT

Family Medicinal Plants or in Bahasa named as TOGA (*Tanaman Obat Keluarga*) has been a historical tradition in Indonesia for its effectiveness. most of villager merely depend on tale on how to utilize the home plants as medicine. Also, there are some hereditary habits which become their guidelines on how to make use of family medicinal plants. This community service purpose is creating mobile application for educating family medicinal plants for villager. This mobile application containing knowledge for utilizing family medicinal plants based upon scientific research and its recipe for them. Mobile application has already been published to play store and available for downloading. It also already trained to villager and disseminate by putting it in banner at village office of Petung Sewu.

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INTRODUCTION

Family Medicinal Plants or in Bahasa named as TOGA (*Tanaman Obat Keluarga*) has been a historical tradition in Indonesia for its effectiveness. Utilization of family medicinal plants (TOGA) is no longer leisure activity for families who have unoccupied land. Because, Indonesia government has already set formal law which rule TOGA as one of communal potency in society. This formal law as stated in *Peraturan Menteri Kesehatan RI no. 9 tahun 2016* which mention traditional health development efforts through independent care for the use of family medicinal plants and skills (Kemenkes RI, 2016).

On the other hand, the use of TOGA as medicine also received special attention from the government which already stated in Republik Indonesia health minister's decision letter no. 381 /MENKES/SK/III/2007 which regulates the policies of traditional Indonesian medicine (Kemenkes RI, 2007). Thus, TOGA usage should be disseminated through community intensively.

Especially for village community who has more opportunity to seed their own home plants and harvest them as traditional medicine. However, most of villager merely depend on tale on how to

utilize the home plant as medicine. Also, there are some hereditary habits which become their guidelines on how to make use of family medicinal plants.

Some of the hereditary habits are true, but some of them are not. It depends on how the science can explain them all using scientific experiments which has been tested. On the other hand, usage of family medicinal plants continuing to rise from time to time (Supardi, Jamal, & Loupatty, 2003). Mostly, this rising is merely coming from their hereditary habits instead of their reluctant in visiting doctor or hospital.

Therefore, the activity of community service in this period tries to encourage villager in utilizing family medicinal plants properly, based upon scientific knowledge which is packed into simple package. Some of community services which already did such activity, mostly tried to communicate with villager using class tutorial (Maziyah, 2015; Susanto, Margadana, & Hallalan, 2017), or just door to door activity in motivating villager for utilizing family medicinal plants (Bakti et al., 2015).

However, those kinds of approaches are not effective in this era, since that communication nowadays generally being done using mobile phone. Even in village, almost every villager using their mobile phone intensively, while class tutorial usually only takes once a month, it would not be effective at all for educating them all.

Thus, this activity should be done in different approach, which has simple package and should be able simplifying villager in accessing knowledge about family medicinal plants, anytime they want, and anywhere they be. This package should be installed in their mobile phone which they usually carry in daily activity.

The effectiveness of mobile phone application for education is already proven nowadays (Frohlich et al., 2009; Plaza, Martín, Martín, & Medrano, 2011). While this application also should not be burden villager for their internet connectivity, thus it must be built as offline application (install once, run anytime), rather than online application. This kind of option has its advantages as it will become light application, however, every update data will need further update installation rather than real time data.

Based upon the explanation, this community service purpose is creating mobile application for educating family medicinal plants for villager. This mobile application containing knowledge for utilizing family medicinal plants based upon scientific research and its recipe for them. It also created as offline application in order to enlighten its access for users.

METHODS

This activity took place in Petung Sewu village, in Kecamatan Dau, Kabupaten Malang, which merely about 5 – 6 km from Universitas Ma Chung (campus where team reside). Thus, it took less than 20 minutes for its trip, make it easier to reach. This distance become one of main reason why the village is chosen.



Figure 1. Distance Map Between Petung Sewu Village and Universitas Ma Chung

On the other hand, Petung Sewu village is full of orange field and most of the house has its own home plants. It made stronger reason why this activity is being done there because of its natural resources.

Survey and Observation

Before the activity took place, community service team doing survey and observation under village leader agreement. This observation took several times before the team really do the survey to villager. This approach aiming which kind of family medicinal plants should be included in mobile application data.

On the other hand, observation also do sightsee what is the most important information needed by villager. It also identified what kind of information and user interface would be created for mobile application, thus it can easily educate them. It means that mobile application really adapts user requirement from real observation and survey.

Mobile Application Development

First step in mobile application development is analyzing which already done in observation and survey activity. Then, the next step is designing its user interface as simple as it can be, since that the user is villager from Petung Sewu village. Villager of Petung Sewu, according to the data from village office, mostly dominated from high school education, thus it is suggested that all of user interface using Bahasa Indonesia and also simple navigation.

The third step is implementing the data into pages which will be main screen in mobile application. This data is collected by community service team and adapted from previous step which filtered into at least 50 family medicinal plants that commonly found in Petung Sewu village. This data is being represented for its description and usage, also displaying its scientific research evidence.

Fourth step is implementing them all into a mobile application for android platform. Main reason of android platform choosing is because of from previous observation, most of villager own android mobile phone rather than another platform. Thus, it become obvious that mobile application must be built for this platform.

Next step is publishing mobile application into play store, thus it can be evaluated by whole community service team before it is launched into villager. This publication process collaborating with another publisher which named *Seribu Bintang*. This collaboration merely under consideration that mobile application should be published quickly. The link for its download is at <http://bit.ly/togaumc>

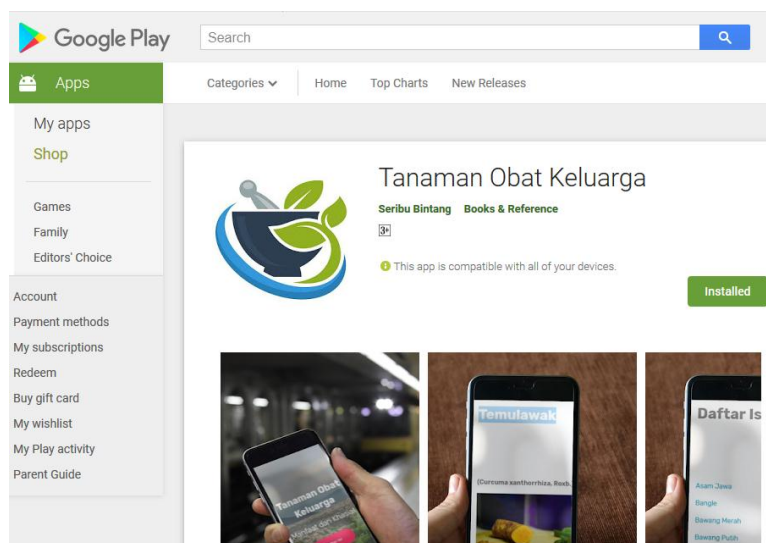


Figure 2. Mobile Application Published at Play Store

After internal evaluation is done, next step is revising the mobile application into more proper interface and fixing its data flaws. This evaluation process should minimize the error of application. Because when a mobile application is published into play store, it means user are coming not only

from villager of Petung Sewu, but it also comes from other user who has access to it. Thus, it should be important to maintain its quality. All those steps are described clearly as workflow in figure 3.

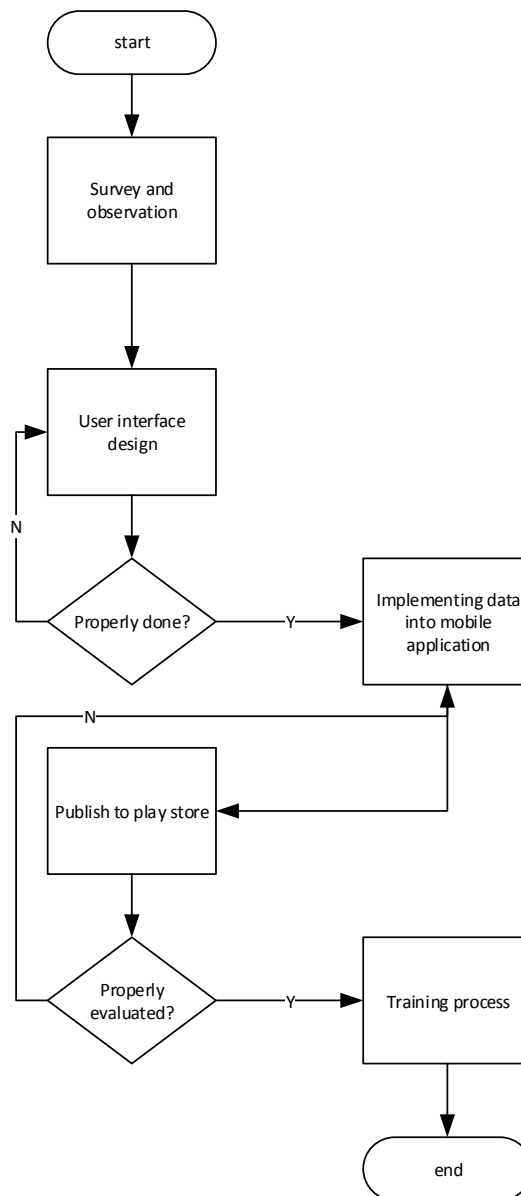


Figure 3. Mobile Application Development Workflow

The last step from this activity is to disseminate the mobile application into villager. This step took at least two kinds of different approaches. First dissemination is done by short class tutorial to PKK (Persatuan Keluarga) as representation of motherhood in village. Second approach is doing banner promotion in village office, thus each villager who come to village office can see the link how to download mobile application and get short message from village officer.

RESULT AND DISCUSSION

After all the steps are done, mobile application for family medicinal plants is ready to launch as public application. Based upon the analysis process, observation and survey, the simplicity of application become main power for its usage. On its first screen, the application merely displaying the title and also two buttons, which heading to table of content, and the other one is heading to application short explanation.

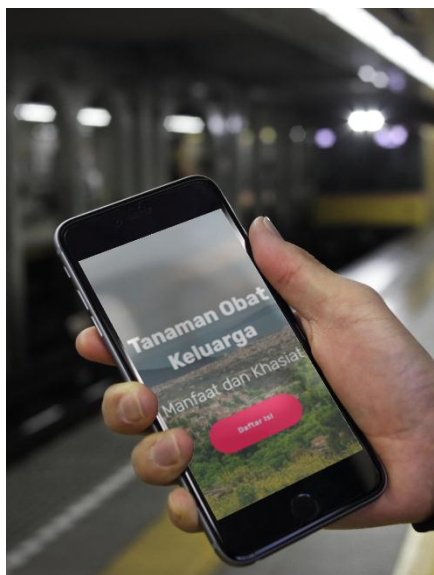


Figure 4. First Screen of Mobile Application

Because the navigation is should be simple then the application merely display table of content which contain all of the family medicinal plants data. This navigation does not use fancy button in it, instead it only uses simple text with blue color as hyperlink. This preference based upon evaluation from the team while the villager also accept the navigation.

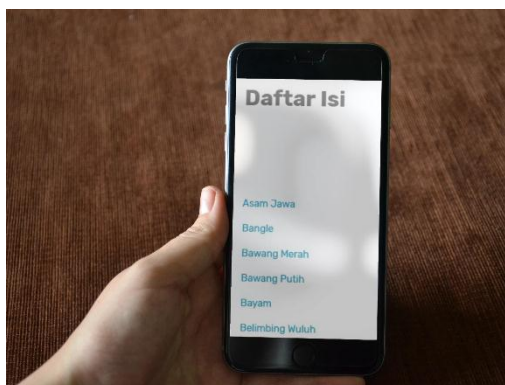


Figure 5. Table of Content Navigation

Content of family medicinal plants are contained of sample picture and also its short description. Then it followed by the usage based upon scientific research, also its composition in order to strengthen its reason for healing. All of the screen background is in white color for its simplicity and its clear concise text. Therefore, user will not be distracted while reading the content.

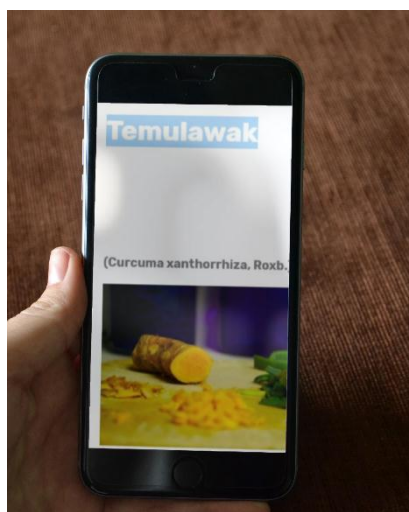


Figure 6. Sample of Family Medicinal Plants Data

CONCLUSION

Afterward, this activity of community service comes to some conclusions to be made. First of all, this activity can really help villager in utilizing family medicinal plants properly and scientifically rather than their heredity habits. Therefore, it should safer for them to use it and also easier for them to choose which plants should be seed as their home plants.

Second conclusion is that mobile application really being such effective media in education villager in this context. This should become big consideration in future activity for villager, not just in Petung Sewu village, but also for another villager. Mobile phone is dominating many aspects of daily life; thus, it should be used more often for education, not just for entertainment.

Last conclusion is family medicinal plants data should be upgraded in the future, since that its data are very abundant. There are hundreds of family medicinal plants in Indonesia that should be added. However, not all of them are found in Petung Sewu village, so it is impossible to input them all into mobile application.

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