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Applications Introduction of Gondang Manis Guava on Android

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ABSTRACT
Gondang Manis guava is located in Bandarkedungmulyo District, Jombang Regency. This guava is one of the superior varieties of Guava. This fruit is a national superior fruit row. Therefore, an information system related to Gondang Gondang Manis is needed to provide information to the public starting from general information about Guava Gondang Manis, cultivation, and processed products of Guava Gondang Manis. By utilizing Android development, the public will easily access information about Guava Gondang Manis. The research location was conducted in the village of Gondang Manis, Bandarkedungmulyo district, Jombang regency. Primary data is data taken directly from the research location in Gondang Manis village, through direct observation at the location, interviews with the government, and community shops, and filling out questionnaires. The respondents who were selected were 15 people to fill out the research questionnaire as follows: Government (2 people), namely the village head and apparatus, Jombang Agricultural Service Employees (1 person), Community Shop (2 people), and the main actors (10 people). Secondary data is data obtained through agencies related to this research, both tabulated and descriptive. This application analysis method uses the Waterfall method. The Waterfall method is a device development step that uses sequential stages, with the process of completing its manufacture from top to bottom and flowing (like a waterfall) by going through the requirements, design, implementation, and maintenance phases. This application is made using Framwork7 and compiled using Cordova. This application has been tested on the community and got a score of 3,42 categorized as good.

***Keywords**: Application; Andrroid; Gondang Manis Guava.*

INTRODUCTION
The development of the times in this world provides an opportunity for the presence of very rapid information technology so that everyone will find it easier to access information either through cellphones, television, and the internet. This can encourage the use of information technology in agriculture, namely the introduction of digital-based types of guava. Technology is needed to support the development of information technology in agriculture. Like guava. The type of water guava that is famous in the Jombang Regency area, precisely in the District of Bandarkedungmulyo there is a type of guava Bol. Guava Bol which is famous in Jombang Regency is Guava Gondang Manis.

This prompted me to develop an information system about Guava Gondang Manis. Therefore, I intend to make an android-based information system application to provide information to the public about Gondang Sweet Guava starting from general information, culture, and products related to Guava Gondang Manis.

Gondang Manis guava is one of the leading varieties of Guava bol because it has high potential economic value and attractive fruit color (blackish purple), medium uniform shape and size of fruit, fresh fruit taste, clean white flesh color and texture in the fruit. soft like covered in cotton and fragrant and the ability to grow and thrive in lowland dry climates. This fruit is already in the national superior fruit line and has been released by the Ministry of Agriculture (Ministry of Agriculture, 2006).

Currently, the Gondang Manis guava plant is still being developed in the yard and is located in Gondang Manis Village, Bandarkedungmulyo District, Jombang Regency, with a total plant of about 600 trees with an age range of 10 to 30 years. In East Java, Gondang Manis Guava is planted in one village and has been cultivated to market opportunities to supermarkets, only Gondang Manis Guava (Baraswasiati et al. 2009).

METHOD

This study uses a descriptive qualitative approach. That jam, using the Waterfall Method. The Waterfall method is a device development step that uses sequential stages, with the complete process of making it flow from top to bottom (like a waterfall) which passes through the following phases:

- **Requirements (Needs Analysis)**

This step has the aim of analyzing system requirements and determining materials, data, and others. At this stage in conducting research, data collection is obtained using interviews or literature studies to meet the needs in making applications.

- **Design (Design or Design)**

The design stage is the second stage, which is used in the waterfall method, at this stage the architecture, style, appearance, user interface, and description of the material requirements and materials are to be made.

- **Implementation**

The implementation stage is the stage of making menus from applications that will be combined later. This stage is also the stage of testing by developers to find out the Smartphone application criteria, whether they have been met or not.

- **Verification (Integration and Testing)**

The application work is said to have been completed at this stage because at this stage the applications already installed on the Android Smartphone can be run, then this is where application testing is carried out by the developer whether the application is young, feasible, and useful to use.

RESULT AND DISCUSSION

The implementation of the application that will be presented is on the display or interface of the application from the " Applications Introduction of Gondang Manis Guava on Android ". Here are the results of the application implementation

Result

- Main Menu

The Main Menu is the initial view of the opened application

Figure 1. Main Menu

- General Information Menu

This menu displays general information about Guava Gondang Manis. The following is the content of general information about Guava Gondang Sweet

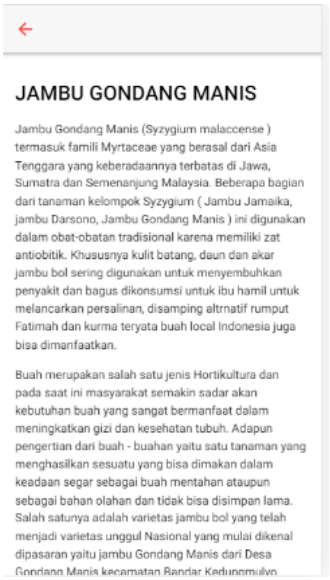

Figure 2. General Information Menu

- Cultivation Menu

This menu displays the process of cultivating Gondang Sweet Guava. In the cultivation menu section, there are 3 sub-menus consisting of planting, maintenance, and harvesting as shown below.

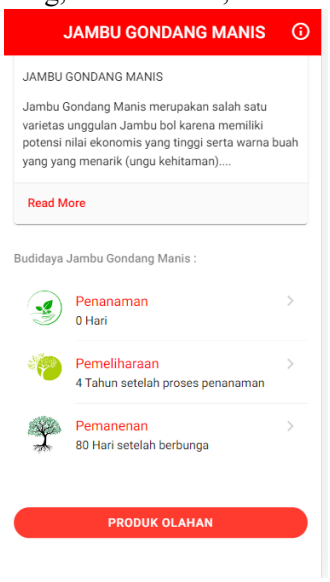

Figure 3. Cultivation Menu

- Planting sub menu

Contains the correct way to plant Gondang Manis Guava. The following are the contents of the Sub-menu Planting:

Figure 4. Planting sub menu

- Maintenance sub menu

Contains the process of maintaining the Gondang Manis Guava tree starting from fertilization, care, and also handling of pests on guava trees. Here are the contents of the Maintenance sub-menu:

Figure 5. Maintenance sub menu

- Harvesting sub menu

Contains the process of Harvesting Gondang Sweet Guava. The following are the contents of the Harvesting sub-menu:

Figure 6. Harvesting sub menu

- Processed Products Menu

This menu displays processed products from the cultivation of Gondang Sweet Guava.

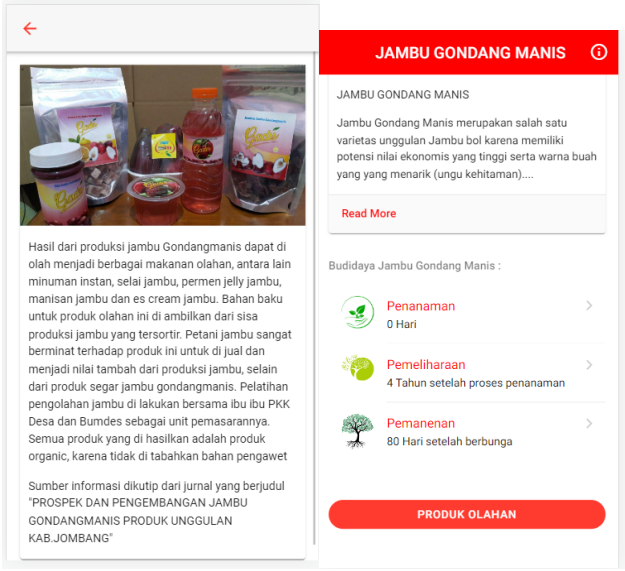

Figure 7. Processed Products Menu

Discussion

The application of this application is carried out online, so that users can run applications individually. The researcher uses a google form to fill out the questionnaire, before starting to fill out the questionnaire, the researcher includes a google drive link to download this application in the google form, then the user installs the application on their respective smartphones. After that the user is asked to start using and trying the given application, then students are asked to fill out a respondent's questionnaire to provide responses to the application that the researcher has made.

Application Eligibility Questionnaire. This questionnaire aims to test the feasibility of the application and also includes the Verification stage (Integration and Testing). The purpose of this phase is to generate and validate the selected learning resources (Bouchrika, 2020).

The data analysis technique used to calculate the score from the questionnaire uses a Likert scale technique with 4 answer choices. Furthermore, the score obtained is converted into a value with a Likert scale as shown in the table below:

Table 1 Likert Scale

Meaning of Score	Score
Very Good	4
Good	3
Low	2
Very Low	1

The collected data is then analyzed by looking for the average score or mean as follows:

$$xi = \frac{\sum x}{N}$$

Description:
xi = Average Score
x = Total Score
N = Number of Questions

The details of the data collected are as follows:

Table 2 Scores from the Community

Question	Earned Score											Total
1	4	4	4	3	4	3	3	3	4	4	4	40
2	3	4	3	4	3	4	4	4	3	4	3	39
3	4	3	4	3	3	2	2	1	2	3	4	31
4	3	3	4	4	3	3	3	2	4	4	3	36
5	4	4	3	4	3	4	4	4	3	2	3	38
6	4	4	4	4	4	2	3	4	4	4	4	41
7	3	4	3	3	3	3	4	3	3	3	4	36
8	4	3	4	4	4	4	3	3	4	4	3	40
9	3	4	4	4	4	3	4	4	3	2	3	38
10	4	4	3	3	4	3	2	4	4	4	3	38
Participants	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
Total												**377**

Based on the results of the response assessment of 11 participants, a total score of 377 was obtained, the total score was then calculated using the previously described formula to determine the feasibility of the application. The calculation is as follows:

$$\textit{Average Score:} \quad \frac{\textit{Total Score}}{\textit{Participants}} : \frac{\mathbf{377}}{\mathbf{11}}$$

The average score obtained from participant responses is 34.2, then the data is recalculated with the following formula:

$$\textit{Average Score:} \quad \frac{\textit{Total Score}}{\textit{Question}} : \frac{\mathbf{34,2}}{\mathbf{10}}$$

So that the result of due diligence from material experts is 3.42 which is included in the good category, and is suitable for use. Included in the good category can see Table 1: Previous Likert Scale.

CONCLUSION

From the explanation that has been presented, it can be concluded several conclusions as follows:

- The Android developer used for making this application is framework7, while the compilation uses Cordova
- Based on data in the field, Gondang Manis guava plants in plantations have an average age of 18 years with an average tree height of 6.5 meters; the average stem diameter is 34.9 cm and the average fruit production is 27.6 kg/tree. The age of the plant affects plant production because the plant grows, which physically increases the height and diameter of the stem so that it can support the process of photosynthesis and another metabolism to increase plant production. By the results of the research Ikwan (2009)
- Based on the application feasibility questionnaire, the results of the due diligence got a score of 3.42 which is included in the good category and is suitable for use.

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