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Research Article

Development Of A Website-Based Child Nutritional Status Assessment Application To Detect Stunted Children In The Coastal Area

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ABSTRACT

Stunting is a severe problem that affects children's development and can cause permanent cognitive, motoric, and intellectual damage. This condition reflects a child's inadequate growth and is a national issue. The purpose of this study was to develop a website-based tool to help health cadres detect stunted children in the Coastal Region of Kendari City. The research used a Research and Development (R&D) method, with a product development and validation approach, and involved a usage trial on 30 cadres using the System Usability Scale (SUS) instrument. The study developed a website-based child nutritional status assessment application called Child Nutritional Status. The website application was found to be acceptable with a score of 87.42%. The trial use of the website by cadres, who served as respondents, was also acceptable, with a score of 88.5%, meaning the usability of the website was acceptable. The Child Nutritional Status application is now suitable for identifying stunting in children and is recommended for an easy, effective, and efficient evaluation of stunting in children.

Keywords: Child, Stunting, Nutritional Status, Web-based Application, Website.

BACKGROUND

Nutrition is one of the important factors that contribute to improving the health status of the Indonesian people. Nutritional status will affect the quality of human resources that will build the nation in the future. The emergence of nutritional problems will cause social health problems, including problems in the health sector such as increased morbidity, mortality, and disability and a decline in the quality of human resources. The long-term impact will cause disruption to the stability and continuity of life in the nation.

The age group most vulnerable to nutritional issues comprises children (Tiara Carolin et al., 2020). Children's nutritional status is one of the health indicators that need attention. Currently, malnutrition at this age is still a problem, as evidenced by the high prevalence of stunting in Indonesia. Stunting is a condition that reflects the suboptimal growth of a child (Sefrina & Elvandari, 2020). The problem of stunting has now become a global problem, where there are 165 million toddlers in the world in a short condition (stunting). 80% of stunted toddlers are distributed in 14 countries in the world, including Indonesia. Indonesia is ranked 5th among countries that have the highest incidence of stunting with the largest number of stunted children. In Indonesia, the prevalence of stunting increased significantly from 35.6% in 2010 to 37.2% in 2013, then decreased to 30.8% in 2018 (Nugroho et al., 2021a).

The prevalence of cases of nutritional status imbalances that occur in children needs to be given serious treatment because it can have an impact on the inhibition of physical growth, mental development, and health status in children. Based on several research results, nutritional status imbalances in children will affect the cognitive quality of children and reduce children's achievement. Weak cognitive abilities are one of the factors predisposing children to grow up to be unhealthy adults and vulnerable to poverty. In addition, the imbalance of nutritional status in children also affects immunity, resulting in an increase in children's vulnerability to various diseases, both infectious and non-communicable diseases (Nugroho et al., 2021).

The World Health Organization (WHO) has set a target of a 40% reduction in the prevalence of undernutrition in children under five years of age worldwide by 2025. In order to achieve this goal, the first action taken is to improve the identification, measurement, and knowledge of nutritional status (Sefrina & Elvandari, 2020). To

be able to support this goal, it is necessary to periodically identify the nutritional status of children which can be carried out by health cadres who live side by side with families. It is necessary to develop a method of assessing the nutritional status of children that can be easily accessed, efficient use and provides convenience in documenting data to make it more organized and secure. Regular and organized monitoring of nutritional status is one of the efforts that can be done to prevent the occurrence of nutritional problems in children.
There is no application or simulation has been introduced to the cadres in our area. This is one of the reasons to conduct this research in the coastal area of Kendari.

METHODOLOGY

The method used in this research is Research and Development (R&D). This research method is a research method used to develop, and validate products and the effectiveness of the application of the products produced. The population in this study were health cadres in the Nambo Health Center Working Area of Kendari City by taking a sample, namely total sampling, which in this case was all cadres who had 30 Android phones in the Nambo Health Center Working Area. The entire working area of the Nambo Health Center is located in the coastal area of Kendari City. The sample in this study were all health cadres in the Nambo Health Center Working Area of Kendari City who had 30 Android phones. The sampling used in this study is the total sampling technique, which is a sampling technique where the number of samples is equal to the population (Sonbait et al., 2013). This research was conducted in the Nambo Health Center Working Area of Kendari City from July to September 2023.
In this preliminary stage, 2 things are done, namely a literature study and a field study. Literature study is done by reviewing journals related to research to find concepts or theoretical foundations. Meanwhile, field studies were conducted to assess the needs in the field for the products developed. Field studies were conducted through interviews or interviews directly with research subjects. At this stage, the researcher collaborates with the application developer in the process of design and preparation of the application. This stage begins with the formulation of determining the nutritional status of toddlers using 2020 anthropometric standards.
The formulation to determine the nutritional status of toddlers uses the anthropometric method using measurements of body dimensions, namely: body weight, body length or height, and age. Anthropometric methods have advantages in use in the community because they are easy to do with simple procedures, the results are objective, practical, and economical, do not need experts, can be done by ordinary people, and the results are clear. Anthropometric measurements that are often used are body weight according to age (BB/U), body length according to age (PB/U) or height according to age (TB/U), body weight according to height (BB/TB) and body mass index according to age (IMT/U) for children aged 0-60 months.
The variables used in accordance with the 2020 Anthropometry Decree book are age (month), weight (kg), and height (cm) can be seen in Table 8 of the child's nutritional status threshold category. At this stage, researchers conducted website socialization and trials on subjects, which in this case were respondents. This is done to determine the feasibility of using the application.
The trial use of the website application uses the System Usability Scale (SUS) instrument. The instrument uses a questionnaire and then tests the System Usability Scale (SUS) which was developed using a measurement scale, namely the Likert Scale which contains 15 statements and 5 alternative answers, namely: Strongly Agree (SS), Agree (S), Agree (KS), Disagree (TS), and Strongly Disagree (STS). Then the total answers are weighted and scored and then the percentage. Then to find out the percentage the formula is used:

$$Percentage\ (\%)\ of\ Trial\ =\ (Total\ Score\ \text{x}\ 100\%)\ /\ Maximum\ Score$$

The percentage results obtained are then converted into a qualitative scale so that the feasibility of using the website can be known.

RESULTS

The development of a website-based child nutritional status assessment application for health cadres in the Kendari City Nambo Health Center Working Area, as an effort to develop the determination of the classification of children's nutritional status by involving IT experts and posyandu toddler cadres as users. The main function of this website is to facilitate the identification of nutritional status in toddlers and children. The following is an overview of the use of the website-based nutritional status assessment application:

a. Application Design (Website Design)

The application design begins by creating a design whose specifications are as follows:

i) The system to be built is the determination of the classification of children's nutritional status.
ii) The ability of this application is to make it easier to determine the nutritional status of toddlers and children so that it is easier to find out the nutritional status and detect children who are stunted through the website.
iii) This website is expected to quickly and practically determine the nutritional status of toddlers and children so that it can save time for toddler posyandu cadres to independently and easily obtain information about

the nutritional status of children and detect children who suffer from stunting in their work area.

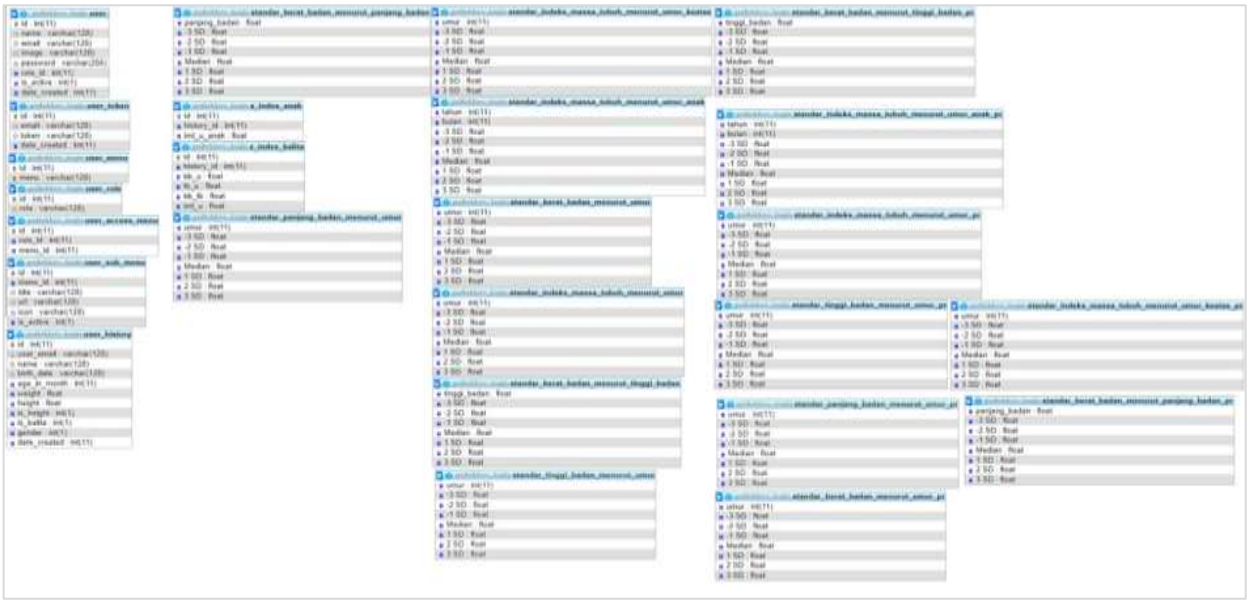
iv) Application users are posyandu Toddler cadres in the Nambo Health Center Working Area of Kendari City who are registered in the database with user identity and password as access rights.

v) In order to access the system, each user must fill in the login form by entering their email, user ID, and password.

vi) For users who have access rights, the main menu will appear.

b. Database Design

The Database design (basic data) which is made before the application design so that it can be clearly seen when the process is running, contains data about toddlers (age 0 to 59 months) and children (age 5 to 18 years) for male and female gender with standard index weight according to age (BB/U), weight according to body length (BB/PB), weight according to height (BB/TB), body length according to age (PB/U) or height according to age (TB/U), and body mass index according to age (IMT/U) with a display given below (see Figure 1):



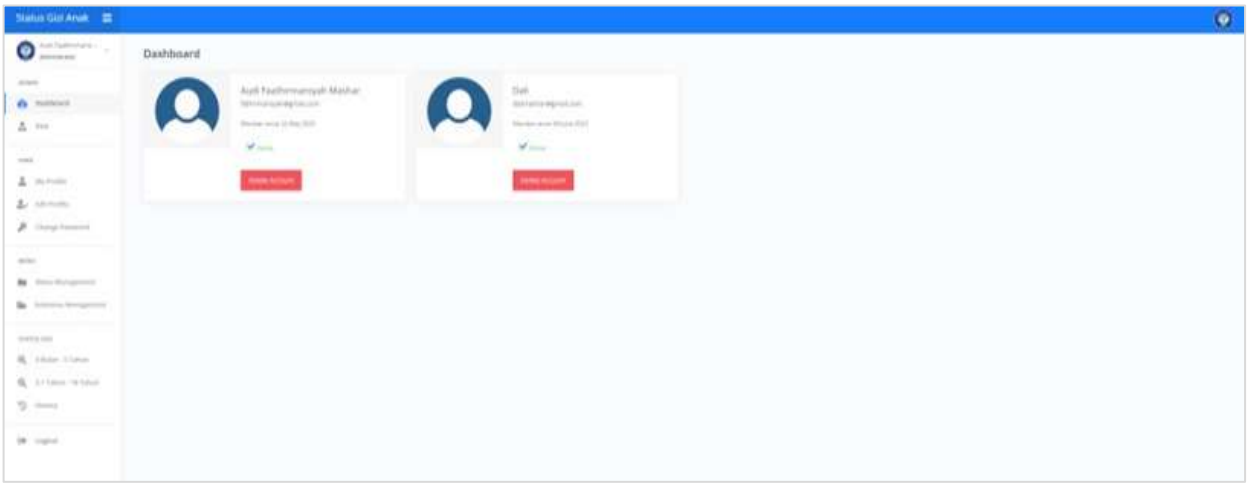
c. Implementation of Design Result

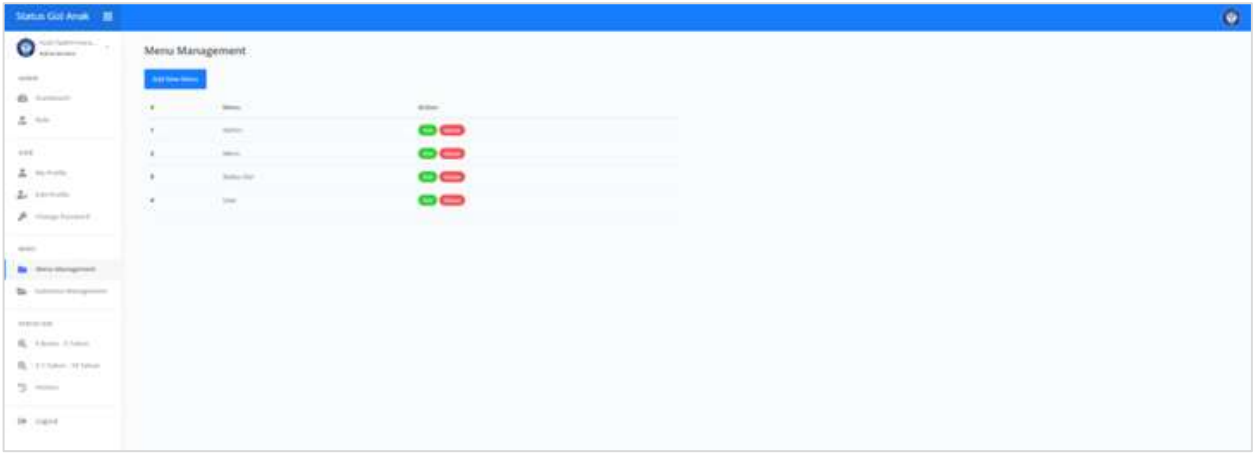
The results of this assessment website design are named child nutritional status with a website display, namely: https://statusgizianak.com

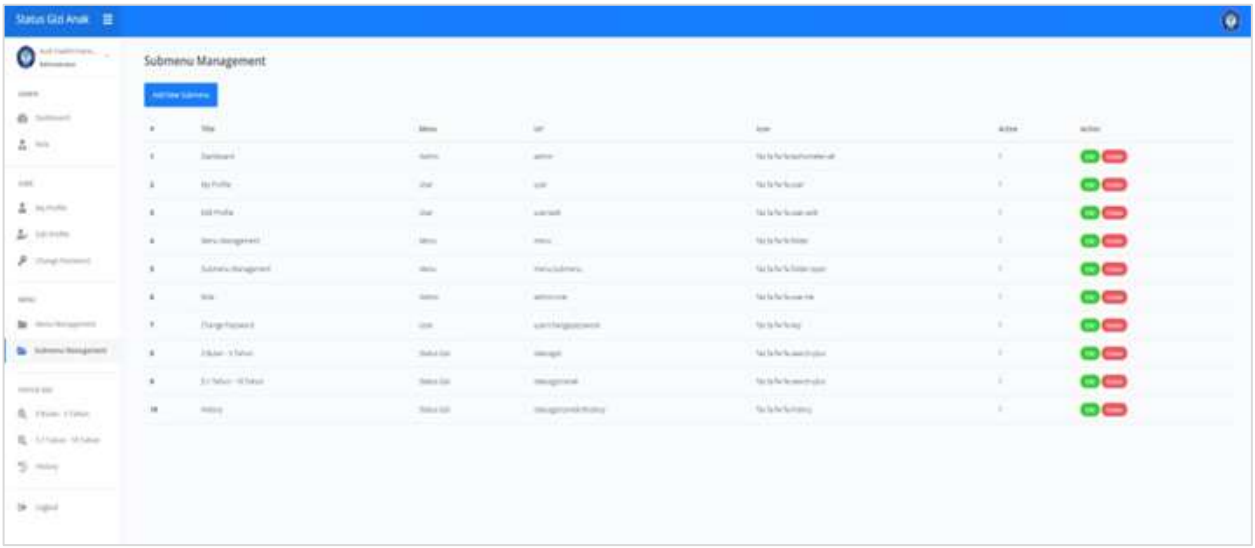
d. Application Design and Implementation

1) Administrator

Admins can enter the page, namely the login form to fill in their email, and password, and press login so they can manage data. Admins can view, delete, and activate or deactivate users whose appearance is as follows:





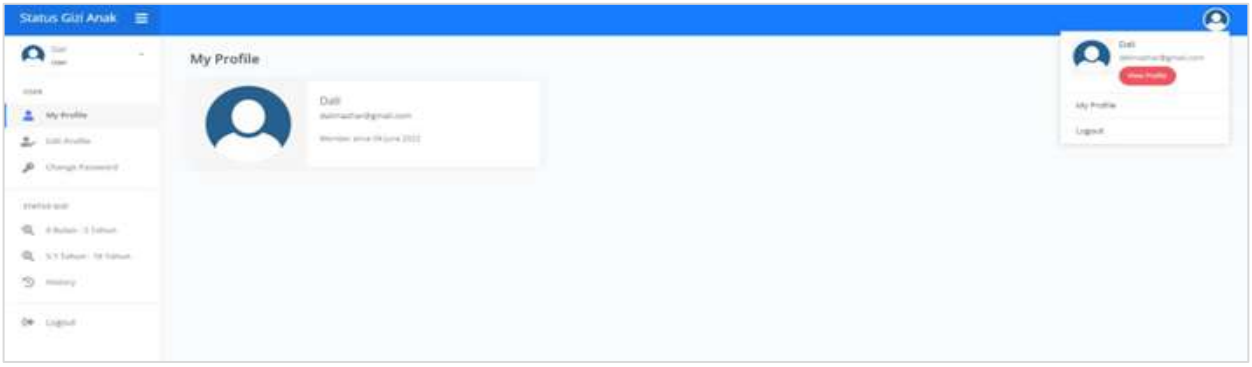


2) User

Users are posyandu toddler cadres who have Android phones. User login to the application can be done through the following steps:

To be able to use this application, users, when first running are required to fill in user registration data, namely: name, email, and password with a login display to the application as follows:

If the email, username, and password are correct, the system will display the main page as follows:

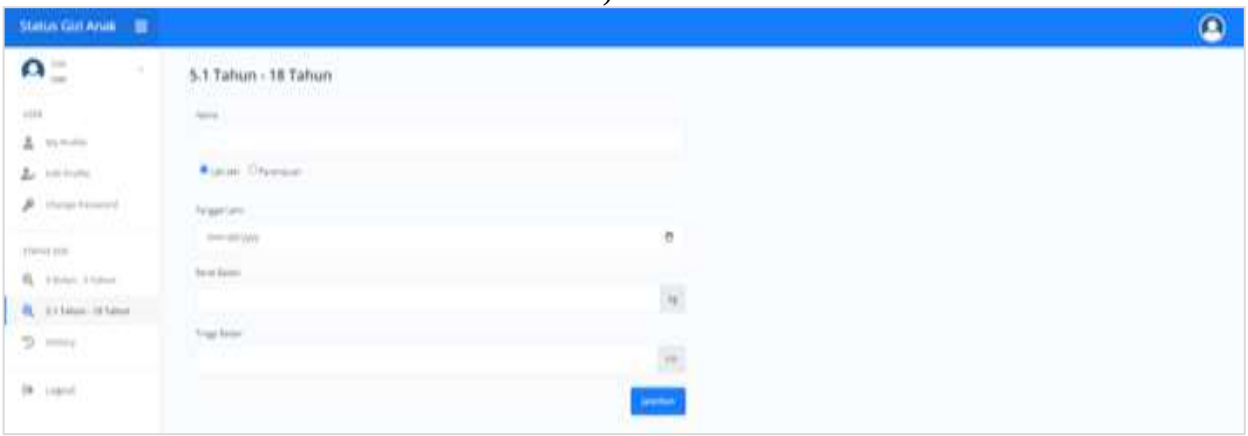


The display options for user age consist of:

i) The 0-5 years old display menu then click and fill in the data, as shown below:

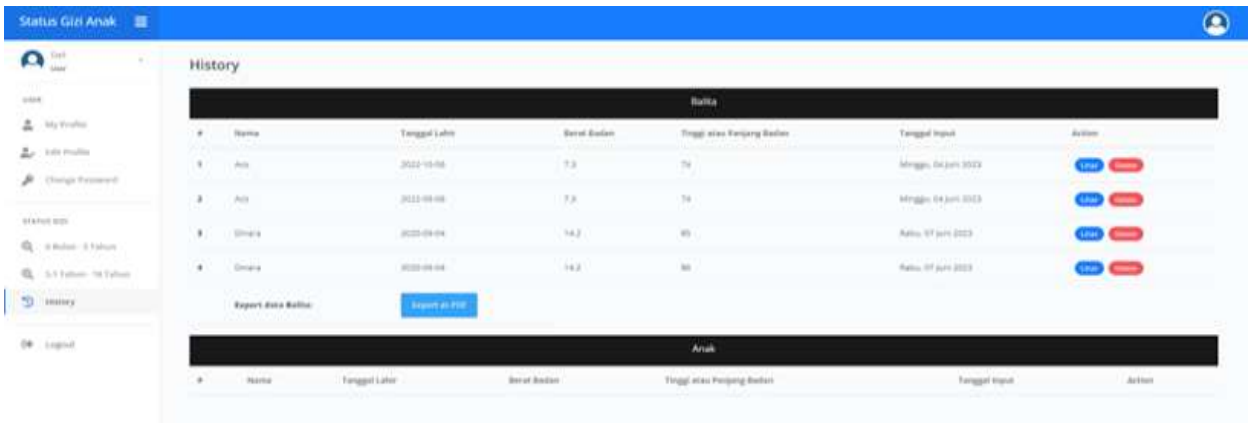
ii) The 5.1 years -18 years age display menu clicks and fills in the data, as shown below:

iii)



I.Inputting Data

The menu contains the stages of using the toddler and child nutritional status website which consists of: The stage for inputting data about toddlers consists of name, gender, date of birth, body weight (BB), body length (PB) or height (TB) so that it will appear as shown below:



Testing

a) Functionality Testing

Functionality Testing serves to test whether the function is successful and as expected.

Table 1. Login Table

No.	Scenario	Case	Hope	Results	Valid
1	Fill in the correct *email* and incorrect *Password* and press the login button.	*Email*: Correct *Password*: False	*Password alert* appears *is wrong!*	As per	Yes
2	*Email* is incorrect and *password is* correct	*Email*: False *Password*: Correct	*Email not found alert* appears.	As per	Yes
3	*Email* and *Password* are empty	*Email:* Blank *Password:* Empty	*The Email field is required* and *The Password field is required alerts* appear.	As per	Yes

Table 2. Register

No.	Scenario	Case	Hope	Results	Valid
1	Empty *Full name, Email, Password* and *Confirm Password fields*	*Full name*: Blank *Email*: Blank *Password*: Empty *Confirm Password*: Empty	Appears *alert The Name field is required, The Email field is required, The Password field is required.*	As per	Yes
2	Fill in the registered *Email* address	*Email:* Correct	Appears *alert This email has been used*	As per	Yes
3	Fill in *Password* and *Confirm Password*	*Password:* Correct *Confirm Password:* False	*Password does not match alert* appears	As per	Yes
4	Filling in *Email* with the wrong format	*Email:* Wrong	Appears *alert The Email field must contain a valid email address.*	As per	Yes

Table 3. Forgot Password

No.	Scenario	Case	Hope	Results	Valid
1	Empty *Email Field*	*Email:* Blank	Appears *alert The Email field is required.*	As per	Yes
2	*Email* in the correct format but not registered	*Email:* Correct	*Email alert* appears *is not registered or activated.*	As per	Yes
3	Filling in *Email* with the wrong format.	*Email:* False	Appears *alert The Email field must contain a valid email address.*	As per	Yes
4	Fill in the *Email* with the correct format and registered, and *Email* sent	*Email:* Correct	*An alert* appears *Please check your email to reset your password!* And the *email is* sent	As per	Yes

b) Edit Profile

Table 4. Edit Profile

No.	Scenario	Case	Hope	Results	Valid
1	Fill in the *Full name* and *Picture fields*	*Full name:* True *Picture:* Right	Appears *alert Your profile has been changed.*	As per	Yes
2	Leave the *Full name field* empty	*Full name:* Blank	Appears *alert The Full Name field is required.*	As per	Yes

3	Fill *Picture* with a size larger than 2mb	*Picture:* False	Appears *alert The file you are attempting to upload is larger than the permitted size.*	As per	Yes
4	Fill *Picture* with formats other than JPG and PNG	*Picture:* False	Appears *alert The filetype you are attempting to upload is not allowed.*	As per	Yes

Table 5. Change Password

No.	Scenario	Case	Hope	Results	Valid
1	Clear *Current Password, New Password* and *Repeat Password*	*Current Password:* Empty *New Password:* Empty *Repeat Password:* Empty	Appears *alert The Current Password field is required., The New Password field is required., The Repeat Password field is required.*	As per	Yes
2	Fill in *Current Password* Incorrectly.	*Current Password:* False	*Your Current Password is wrong alert* appears!	As per	Yes
3	Fill in *New Password* and *Repeat Password* Differently	*New Password:* Correct *Repeat Password:* False	*The New Password field does not match the Repeat Password field, The Repeat Password field does not match the New Password field.*	As per	Yes

Table 6. Toddler Data

No.	Scenario	Case	Hope	Results	Valid
1	Leave the *fields* Name, Date of Birth, Weight, Height or Length blank.	Name: Blank Date of Birth: Blank Weight: Empty Height or Length: Blank	Display *alert The Name field is required., The Birth Date field is required., The Weight field is required., The Height field is required.*	As per	Yes

Table 7. Child Data

No.	Scenario	Case	Hope	Results	Valid
1	Leave the *fields* Name, Date of Birth, Weight, Height or Length blank.	Name: Blank Date of Birth: Blank Weight: Empty Height or Length: Blank	Display *alert The Name field is required., The Birth Date field is required., The Weight field is required., The Height field is required.*	As per	Yes

II.Toddler Data and Measurement Display

Data and measurement results of toddlers can be seen in Table 8 below:

Table 8. Display of Toddler Measurement Data and Results

No.	Name	Gender		Date of Birth	Age	High or Body Length		Input Date	Nutrition Status Category			
		Male	Female			High	Long		BW/U	PB/U or TB/U	BW/BW or BW/TB	BMI/U
1	Rizki Saputra	Male		2019-11-16	45 Months	93 cm		Friday, 25th August 2023	Under weight	Short	Good nutrition	Good nutrition
2	Muh. Azwar	Male		2020-07-02	37 Months	87 cm		Friday, 25th August 2023	Normal weight	Short	Good nutrition	Good nutrition
3	Aira Salsabila		Female	2021-06-21	26 Months	79 cm		Friday, 25th August 2023	Normal weight	Short	Good nutrition	Good nutrition
4	Nurafida		Female	2021-09-09	23 Months		79 cm	Friday, 25th August 2023	Normal weight	Short	Good nutrition	Good nutrition
5	Kevin	Male		2021-09-26	22 Months		76 cm	Friday, 25th August 2023	Normal weight	Highly short	Good nutrition	At risk of overnutrition
6	Ozan	Male		2022-10-07	10 Months		67 cm	Friday, 25th August 2023	Normal weight	Short	Good nutrition	Good nutrition

7	Haidar	Male		2023-01-04	7 Months		63 cm	Friday, 25th August 2023	Under weight	Short	Good nutrition	Good nutrition
8	Kesya		Female	2022-09-03	11 Months		66 cm	Friday, 25th August 2023	Normal weight	Short	At risk of overnutrition	At risk of overnutrition
9	Arkana Alfa.	Male		2022-07-18	13 Months		64 cm	Friday, 25th August 2023	Under weight	Highly short	Good nutrition	Good nutrition
10	Afiza Gani a		Female	2023-01-15	7 Months		61 cm	Friday, 25th August 2023	Normal weight	Short	Good nutrition	Good nutrition

e. Application Product Validation Results

Application product validation is carried out after application development is carried out. Validation was carried out by multimedia experts and practitioner experts.

1) Results of validation by multimedia experts

Multimedia experts validate 3 aspect components, namely display aspects, ease of use aspects, and implementation aspects using a validation questionnaire consisting of 10 total questions which can be seen in Table 9 below:

Table 9. Multimedia Expert Validation

Aspects	**Score (%)**	**Category**
View	85	Valid
User-friendliness	80	Valid
Linguistics	75	Fairly Valid
Applicability	80	Valid
Average	80	Valid

Table 9 above shows that the display aspect scored 85%, the user-friendliness aspect scored 80%, the language aspect scored 75% and the implementation aspect scored 80%. Based on the scores of the four aspects, the average score is 80% so this website-based child nutritional status application meets the valid category.

2) Results of validation by expert practitioners

Practitioner experts validate 6 aspect components, namely appearance aspects, application menu aspects, content aspects, user-friendliness aspects, usefulness aspects, and implementation aspects using a validation questionnaire consisting of 10 total questions which can be seen in Table 10 below:

Table 10. Practitioner Expert Validation Analysis

Aspects	Score (%)	Category
View	90	Valid
Application Menu	85	Valid
Content	90,5	Valid
User-friendliness	87	Valid
Expediency	90	Valid
Applicability	82	Valid
Average	87,42	Valid

Table 10 above shows that the display aspect scored 90%, the application menu aspect scored 85%, the content aspect scored 90.5%, the user-friendliness aspect 87%, the usefulness aspect 90%, and the implementation aspect scored 82%. Based on the scores of the six aspects, the average score is 87.42% so this website-based child nutritional status assessment application meets the category worth using.

f. Description and Analysis of Application Usage Trial by Toddler Posyandu Cadres

Product testing is carried out to determine the feasibility and effectiveness of products that have been developed by researchers. The product trial was carried out on respondents consisting of posyandu cadres for toddlers in the Nambo Health Center Working Area of Kendari City, totaling 30 people. The description of the results of the use trial analysis is described as follows:

g. Respondent Characteristics

The characteristics of the respondents consist of:

1) Gender, education, age, and length of service

The gender, education, age, and length of service of respondents can be described in Table 11 below:

Table 11. Frequency Distribution of Respondents Based on Gender and Education

Characteristics	**f**	**%**
a. Gender:		
Male	0	0
Female	30	100
b. Education:		
SMP	13	43
HIGH SCHOOL	17	57

2) Age and Length of Service

The gender, education, age, and length of service of respondents can be described in Table 12 below:

Table 12. Frequency Distribution of Respondents Based on Age and Length of Service

Characteristics	**Mean**	**Minimum**	**Maximum**
Age (Years)	31	24	38
Length of Service (Years)	7	1	13

Table 12 above shows that the average age of respondents is 31 years with a minimum age of 24 years and a maximum of 38 years. The average length of service of respondents is 7 years, the minimum length of service is 1 year and the maximum is 13 years.

h. Feasibility Test of Application Use

The feasibility test for the use of web applications using the System Usability Scale (SUS) instrument was carried out on 30 toddler posyandu cadres who had Android handphones. The System Usability Scale (SUS) testing instrument was developed using a measurement scale, namely the Likert Scale. The distribution of respondents' answers can be seen in Table 13 below:

Table 13. Distribution of System Usability Scale (SUS) Tests

No.	**Question**	**SS**	**S**	**RR**	**TS**	**STS**
1	I find this app easy to use	18	11	1	0	0
2	I find this app simple and good-looking	20	10	0	0	0
3	I feel helpful and satisfied using this app	23	7	0	0	0
4	The app is consistent in displaying data	27	3	0	0	0
5	This app is fun to use	15	15	0	0	0
6	I found this system very easy to learn	19	7	4	0	0
7	I feel that the system is not complicated to use.	25	5	0	0	0
8	I don't feel the need for technical assistance to use this system.	16	8	6	0	0
9	I feel that this system has features that display clear information	20	6	4	0	0
10	The app is well-organized	13	10	7	0	0
11	I feel confident using this system	12	11	7	0	0
12	I feel that this system takes a short time to master.	15	8	4	3	0
13	I can find out the results quickly by using this app.	24	6	0	0	0
14	This system produces the same results as the graph displayed according to the Anthropometry table?	19	8	3	0	0
15	I feel no obstacles in using this application	5	8	3	9	5
	AMOUNT	**271**	**123**	**39**	**12**	**5**

Based on Table 13 above, the results of the Trial with System Usability Scale (SUS) are obtained with the following description:

Total Score = (SS x weight) + (S x weight) + (RR x weight) + (TS x weight) + (STS x weight)
= (271x5) + (123x4) + (39x3) + (12x2) + (5x1)
= 1993
Maximum Score = 30 x 15 x 5 = 2250

Percentage (%) of Trial = (Total Score x 100) / Maximum Score
= (1993 x 100) / 2250
= 88.5

In the result, the Percentage of Trial using the *System Usability Scale* (SUS) is 88.5%. This result shows the value is very high so that it fulfills the *Usability* aspect, meaning the *Acceptable* category (can be used) after being converted into a qualitative scale.

DISCUSSION

1. Developing Website Applications

The development of this website is one of the demands of life today, where more and more technological advances including digital technology. So along with this, the determination of nutritional status has also undergone development and one of them is the development of website-based applications. This research was conducted to develop a website-based child nutritional status assessment application to make it easier for toddler posyandu cadres and mothers of toddlers to find out the nutritional status of their children so that they can take quick and appropriate steps for further handling of the nutritional status of children, especially toddlers, is below normal standards.

This research was conducted to develop a website-based nutritional status assessment application to identify nutritional status in children with content in the form of login, main menu, filling out questionnaires, and interpreting results that will provide an overview of the user's nutritional status. This research consists of three stages, namely preparation, design stage, and product trial stage.

The website application in this study begins with determining the user or user. Users will be registered if they have logged in. Users in this application consist of administrators as the use of the application, in this case, the toddler posyandu cadres. Users have access to applications to facilitate data collection and determination of the nutritional status of toddlers so that they can help posyandu cadres in carrying out posyandu activities.

This website application is designed to display reports in a format that is helpful for toddler Posyandu cadres. It includes information on the nutritional status of toddlers, which helps to quickly detect stunting cases. Early detection is crucial to prevent stunting from leading to more serious health issues, even death. The application is based on research by Azhariyah et al., which found that the use of this website application by Posyandu cadres will make it easier to compile complete reports through an integrated nutrition information system owned by the Ministry of Health (Azhariyah et al., 2023).

Toddlers who are detected stunting can be diagnosed quickly through this toddler nutrition status website. This website provides information pages through internet lines that can be accessed around the world as long as they are connected to the internet network (Hairudin, 2017).

This website can also be useful for mothers of toddlers to find out early about the nutritional status of their toddlers without having to consult directly with experts or medical personnel because it can quickly provide information about the nutritional status of their toddlers so that mothers of toddlers can take action as early as possible before more severe damage to the toddler's body tissue occurs. The results of this study are supported by the results of research which suggest that the application of data collection on the nutritional status of toddlers can facilitate the data collection process from each posyandu which is integrated with existing applications by posyandu cadres and Puskesmas officers (Azhariyah et al., 2023).

2. Acceptability of Website Application

Based on the results of the validation of the use of the application carried out after the development of multimedia applications on 3 aspects, namely the appearance aspect, the ease-of-use aspect, and the implementation aspect using a validation questionnaire, it shows that the average score is 80%. Thus, this website-based child nutritional status application is declared to meet the valid category so that it is accepted for use. Similarly, the results of validation by expert practitioners who validated 6 components, namely: appearance aspect, application menu aspect, content aspect, ease of use aspect, usefulness aspect, and implementation aspect using a validation questionnaire consisting of 10 total questions and obtained an average score of 87.42%. Thus, this website-based child nutritional status assessment application meets the feasible category and is accepted for use.

The results of this study are in line with research on the design of an android-based toddler growth and development monitoring system that was tested on cadres and Puskesmas officers using a questionnaire method whose results were 80%, meaning that it was very satisfying, and the toddler's mother was obtained with a result of 86.85% also means that it is very satisfying (Hestiningsih et al., 2021).

3. Website User Feasibility

The use of the child's nutritional status assessment website is declared feasible after going through a trial use through the System Usability Scale (SUS). Based on the results of the System Usability Scale (SUS) test, a value of 88.5% was obtained and after being converted into a qualitative scale, it shows that the value obtained fulfills the Usability aspect, meaning that it is included in the Acceptable category (can be used).

This study shows that the use of a website-based nutritional status assessment application is a digital assessment application that is feasible to use which aims to identify the nutritional status of toddlers and

children who have an assessment function with content in the form of login, main menu, filling out questionnaires and interpreting the results of nutritional status of toddlers and children so that they can easily identify stunted children. The resulting nutritional status data both in the form of weight data based on age (BB / U) and weight nutritional status based on height or length (BB / PB) when matched with the 2020 Child Anthropometry Standard Book Number 2 the results are valid. This shows that the system is running well and the data issued is in accordance with the Regulation of the Minister of Health of the Republic of Indonesia in 2020 (Permenkes, 2020).

The results of this study are in line with the results of research by Kurniastuti and Kamil (2019) that the results of application testing show 100% compliance with the Infant Nutrition Status Measurement Standards from the Indonesian Ministry of Health (Kurniastuti & Kamil, 2019).

This research was conducted through three stages, namely preparation, design stage, and product trial stage so that the application products developed by researchers have several advantages and disadvantages. The advantages of using this application can facilitate posyandu cadres for toddlers or children to get nutritional status assessment results that are practical, easy, and efficient. In addition, it can assist nutrition officers in monitoring the nutritional status of children in each location of their respective areas of responsibility. The most important thing is that it can be used quickly, practically, and safely so that it will make it easier to monitor children who are stunted for further action as early as possible to prevent the increasing number of stunting cases in each Puskesmas area. As for the shortcomings of this application, because it is related to the Internet network, it can only be used or accessed if the Internet network is available. In certain areas that have not been reached by the internet network, it will be difficult to use this application. This is in accordance with the results of research on the design of a toddler nutrition recording information system with the forward chaining method where the results of his research found that the nutritional status assessment report is well organized and can be quickly displayed through the use of the Toddler Nutrition Recording Information System (Sari & Hayuningtyas, 2020).

This application is equipped with complete features installed in a smartphone so that it can be easily and quickly accessed anytime and anywhere as long as it has an internet connection to be able to access Android-based smartphone applications. The existence of this application is certainly very helpful for toddler posyandu cadres and Puskesmas officers in determining the nutritional status of toddlers. If a toddler is found with a stunting case, it can be quickly reported to the Puskesmas to be handled properly.

In general, toddler posyandu cadres still use manuals in the form of paper for collecting data, reporting, and determining the nutritional status of toddlers, so, of course, it takes a long time besides that data can be lost or damaged. The existence of this website application can ensure that its use is more practical, fast, and safe to store toddler data that can be accessed by users who need toddler data.

This web-based application is useful for posyandu cadres for toddlers to identify stunting experienced by toddlers, and it is important to identify regularly and as early as possible so that immediate handling can be given so that it does not have a major influence on the growth and development of toddlers, because it will certainly determine the quality of human resources in the future. Monitoring the growth and development of toddlers through data collection on the nutritional status of toddlers is part of the minimum service standards that must be carried out.

Basically, it is well known that various studies on determining the nutritional status of children have been carried out previously using manual questionnaire instruments. In this study, researchers tried to develop a website-based assessment instrument that is considered to have various advantages, when compared to the method using questionnaire documents. This website application is an application that has various conveniences with faster performance, is more visually appealing, easily accessible to users, and more effective and efficient. Therefore, the development of this website-based child nutritional status assessment application is a breakthrough in the field of health that is always updated following the development of science and technology.

The existence of an application that is always updated following the development of science and technology, the assessment of the nutritional status of children based on this website is expected to be used as a new study and breakthrough by anticipating earlier various stunting prevention efforts aimed at stakeholders in all relevant agencies to be inspired to launch various programs through cross-sectors to anticipate long before pregnancy occurs, especially women of childbearing age and premarital as an effort to prevent stunting.

Not fulfilling optimal nutritional status at childbearing age, and premarital period, even during pregnancy is closely related to the formation of fetal body tissue in pregnant women, cognitive development, low productivity, and the potential to give birth to babies with less weight and length and stunting at a later age of adulthood (Salimar et al., 2013).

Preparing health with nutritional status that is as optimal as possible, especially aimed at women of childbearing age, premarital, and pregnant women carried out in collaboration with cross-sectors, can prevent linear growth failure and will automatically prevent stunting as an effect of fulfilling nutritional fulfillment over a long period of time, so that by itself stunting can quickly decrease to the most minimal limit. Given that stunting is still a major problem in Indonesia today as indicated by the high prevalence (Daracantika et al., 2021).

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Conflict of Interest

There is no conflict of interest

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