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## Accounting Edutainment an Alternative Accounting Learning (Dictionary and Accounting terms)

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### ABSTRACT

In the world of accounting education, there is a perception that accounting subject is difficult to learn, in public high school, accounting subjects are categorized as difficult with presentations above 65 percent of students saying that accounting is a difficult subject to understand. To improve student motivation to get better learning material for this subject, parents and teacher must using effective, efficient, and interesting accounting learning yet also give motivation to the student. We can do that by using edutainment. It is intended that edutainment in accounting learning can later be used as a new, more interesting learning material, the material chosen in this study is about accounting terms which can be used as a basis for future accounting learning. The conclusion is that the Accounting Edutainment Dictionary and Accounting terms can work well by providing accounting terms to users, by using blackbox testing it can be proven that the Accounting Edutainment Dictionary and Accounting terms can be run without significant problems. Then the test was carried out on 413 respondents using ISO 25010 to produce a value from the functionality aspect with very good results, namely with a presentation of 82.2%, from the efficiency aspect with very good results, namely with a presentation of 84.3%, from the usability aspect with very good results, namely with a presentation by 80.6%. Then from the results of the PIECES analysis, it can be concluded that the scenes in edutainment can provide easy information to its users.

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#### **Keyword:**

Accounting  
Dictionary  
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Study  
Website

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### 1. INTRODUCING

Accounting can be used to generate information that needed by management to plan, execute plans and control business operational activities. Accounting can also be used to present economic information from an economic entity to interested parties. In fact, we can see that economic information produced by accounting can actually be useful for groups within the company itself and can also be connected to groups outside the company [1]. One of that example that prove accounting are needed can be seen through the Ministry of Education. In study area, accounting are divides by financial expertise that takes part in school and university, consisting of Accounting expertise competencies, Banking expertise competencies and Islamic Banking expertise competencies, with education and training programs directed by the Ministry of Education and Culture, namely Financial Accounting, Cost Accounting, Tax Administration, Computers Accounting, School

Financial Administration, Computer Accounting, Curriculum Development and Accounting Teaching Materials [2]. With the learning contained in high school with the field of social sciences, accounting becomes an important subject. Because as we can read before, accounting not only needed at the education level but also needed in the real world [3], [4].

In the world of accounting education, there is a perception that accounting subject is difficult to learn, in public high school, accounting subjects are categorized as difficult with presentations above 65 percent of students saying that accounting is a difficult subject to understand [5]. After further study, it was found that students' interest in accounting subjects was also considered low, causing students who wanted to study accounting to be reluctant to learn [6]. But of course, this can be solved by teacher, parents and student guardians that always provide good accounting learning motivation and support, so that the desire to learn accounting can grow and sustainable [7]. To improve motivation, parents and teacher must always improve teaching material so it can be using effective, efficient, and interesting accounting learning yet also give motivation to the student [8]. However, effective innovation is needed by adjusting the generation that you want to teach, because different generations may have different ways of studying, and that can become a problem. The current rapid development of technology allows us to create a learning innovation that can touch the Z generation, we can do that by using edutainment [9]. It is intended that edutainment in accounting learning can later be used as a new, more interesting learning material [10], the material chosen in this study is about accounting terms which can be used as a basis for future accounting learning [11]–[13].

## 2. RESEARCH METHODS

The method used in this research is arranged systematically, namely concept, design, material collecting, assembly, testing and distribution which are the stages in MDLC [14][15]. The first stage is the concept which is carried out by collecting ideas and ideas related to the research being carried out. In the concept stage it was found that there were still students who found it difficult to learn accounting subject. Based on these problems, it is determined that this research will focus on edutainment in the form of a dictionary of accounting terms that can make it easier for students to find information related to accounting subject. The next stage is the design which is made with an explanation through the navigation structure, storyboard, and flowchart view.

First, we will describe the navigation structure which functions to provide a rough idea regarding the direction of each scene, to be able to see an image of the navigation structure can be seen in Figure 1 below:

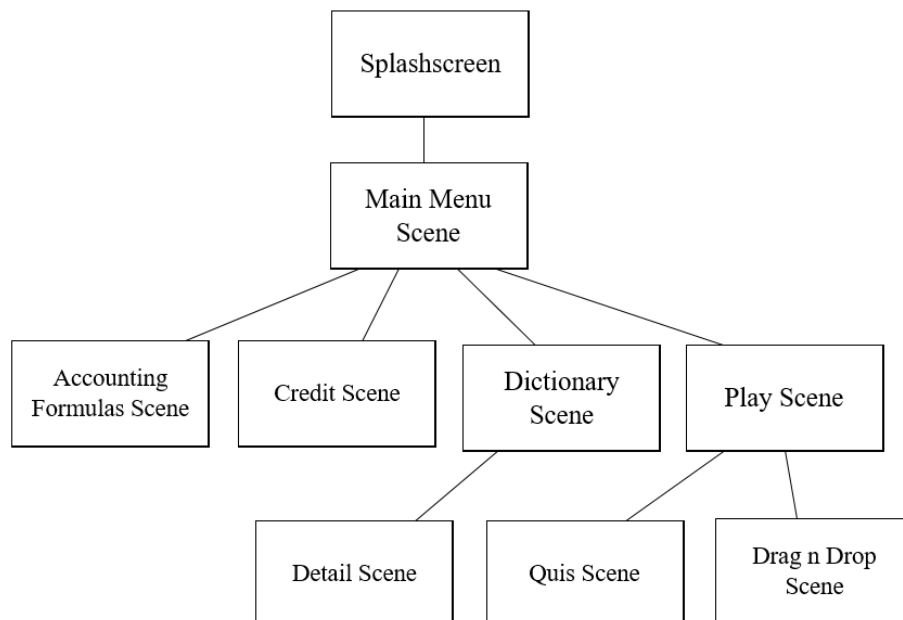



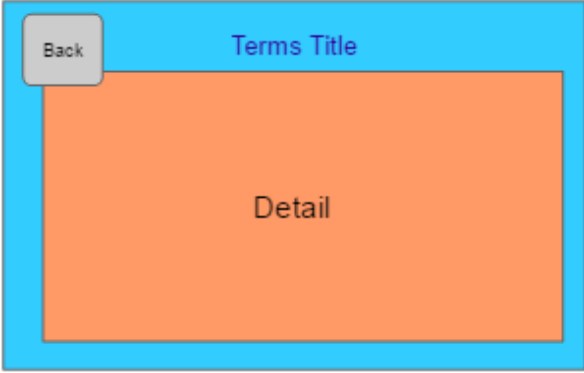

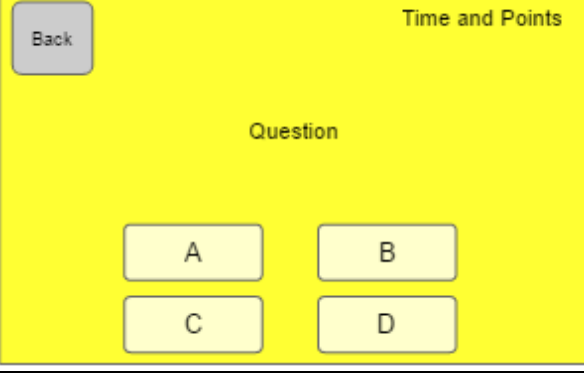
Figure 1. Navigation Structure

In Figure 1, when the application runs for the first time, the system will open the splash screen, in this scene the process of retrieving data from memory will be carried out and forming variables for each word contained in the dictionary, this is done to lighten the system's work and processes when edutainment is used. After finishing loading the data, system will go to the Main Menu Scene, in this menu, there are four buttons

that can be used to go to another scenes, it can be seen that the accounting formula scene button and the credit scene button only lead to one place, the dictionary scene button directs users to the next scene namely the Dictionary Scene which will display data on accounting terms, after the word is found and choosed it will be directed to the detail scene as a scene to explain the accounting term from that word. Next is the Play Scene, here there are two buttons, the quiz scene and the game drag n drop scene. To see more details of the existing design can be seen through the storyboard in Table 1.

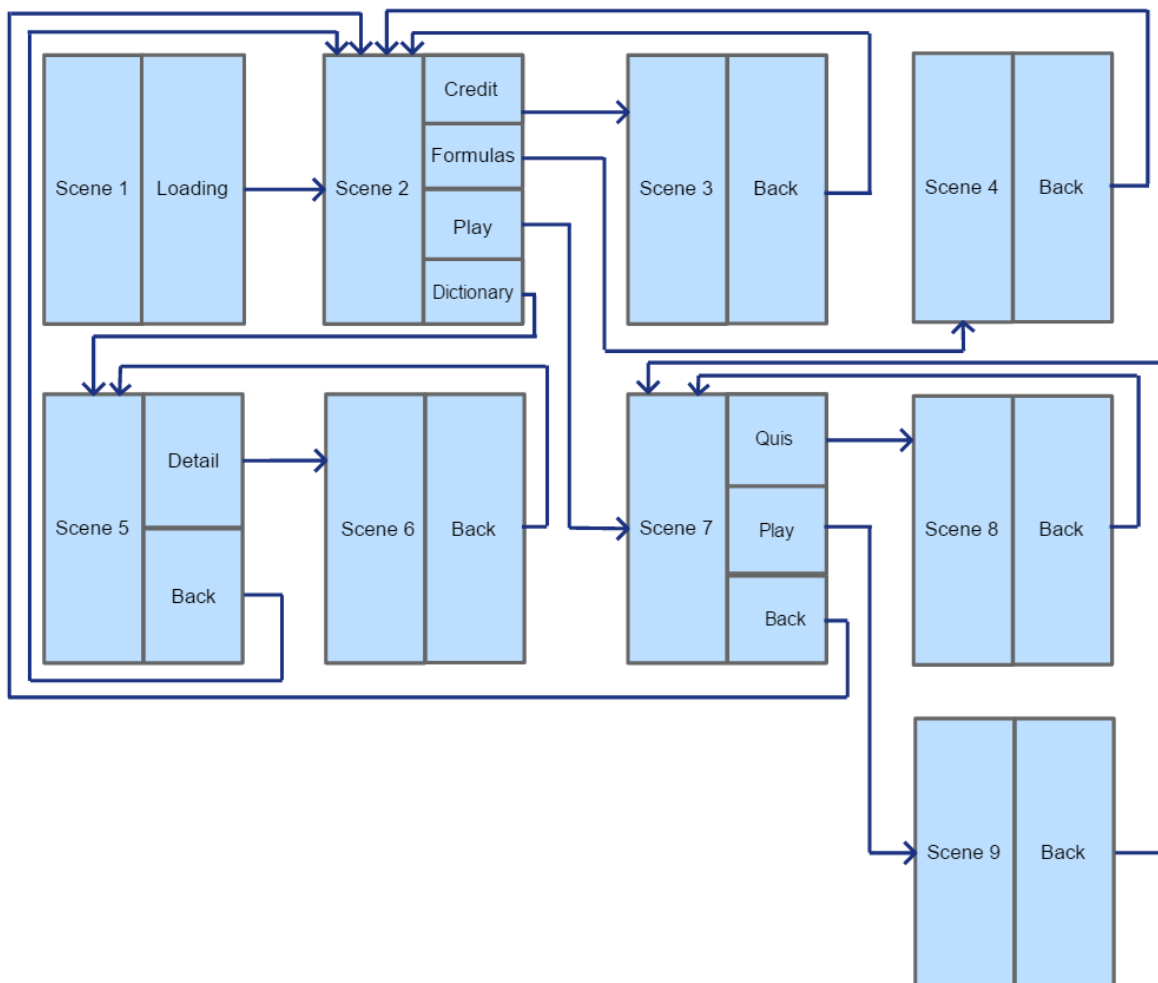
**Table 1.** Storyboard

Scene	Storyboard	Information
1		Name: Splash screen Scene Function: loading data and progress to next scene
2		Name: Main Menu Scene Function: Have four buttons, Formula, Play, Dictionary and Credit.
3		Name: Accounting Formulas Scene Function: Show formula and detail formula, we can choose another formula by touching next and prev button, Back button will return user to main menu scene.
4		Name: Credit Scene Function: Show the developer of this edutainment and other detail information.

Scene	Storyboard	Information
5		<p>Name: Dictionary Scene  Function: Show list of terms about accounting. User can choose and it will go to next scene.</p>
6		<p>Name: Detail Scene  Function: Show detail information about the term that user choose</p>
7		<p>Name: Play Scene  Function: Show two botton, quis and drag n drop game.</p>
8		<p>Name: Quis Scene  Function: User can use this scene to answer the question, time will go down and if correct, point will add up. Quis will be over if time is over.</p>

Scene	Storyboard	Information
9		<p>Name: Drag n Drop Scene                      Function: Show a simple drag n drop game, user will be shown about accounting formula and must bring the correct formula to the center of the screen. time will go down and if correct, point will add up. Game will be over if time is over.</p>



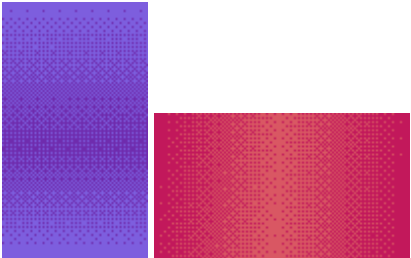

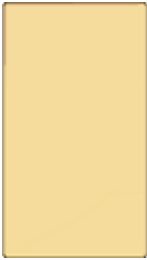


In Table 1, the left column indicates the scene, the middle column contains the display, and the right column contains information related to the displayed image. In scene 1 (splash screen scene), the initial data is entered into a variable, this is done so that the data contained in the term dictionary can be used without hindrance when needed later. After loading the data is complete, it will enter Scene 2 (main menu scene). In this scene, users will be able to select four buttons that will lead to other scenes. Scene 3 contains accounting formulas, scene 4 contains developer biodata, scene 5 contains a list of accounting terms which, if selected, will lead to scene 6, details of these accounting terms. Scene 7 contains two buttons, for playing quizzes in scene 8 and a button to play the drag n drop game in scene 9. Next is mapping the buttons in a flowchart view, this is done so that the flow of the buttons can be seen in more detail, Figure 2 below is a picture of the flow chart view:



**Figure 2.** Flowchart View

Figure 2 illustrates the flow of buttons that connect one to another, it can be seen that scene 1 which is a splash screen only requires loading to move to the next scene, namely the main menu, on the main menu there are four buttons which each will direct to a different scene, then if you see a scene that has a back button, the back button functions to send you to the previous menu. Another button will lead to another scene as you can see in Figure 2. The next stage of this research is material collecting which is carried out by collecting data in the form of accounting terms and images that will be used in edutainment, information from image data collected at the material collecting stage can be seen in Table 2.

**Table 2.** Image Data

No.	Image	Info
1		Background Menu Images
2		Loading Logo
3		Background Platform Images
4		Fonts
5		Background Text Images
6		Next and Prev Button
7		Back Button

No.	Image	Info
8		Credit Button
9		Scene button

### 3. RESULT AND DISCUSSIONS

From collecting collecting material, the next step is assembly which will be carried out by developing an edutainment application based on the previous concept, design and collecting material. The following is the result of the assembly stage which becomes an operational accounting edutainment. The first figure in this stage is the splash screen which can be seen in Figure 3 below:



Figure 3. Splash screen

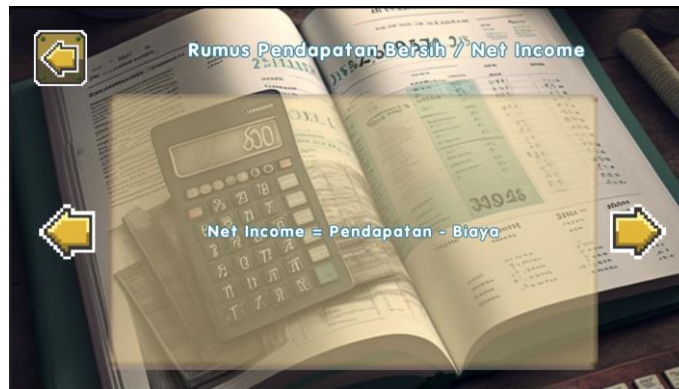
Figure 3 contains the loading logo. Users must wait until the data loading process is complete. After that, from this splash screen, users will be directed to the main menu which can be seen in Figure 4.



Figure 4. Main Menu

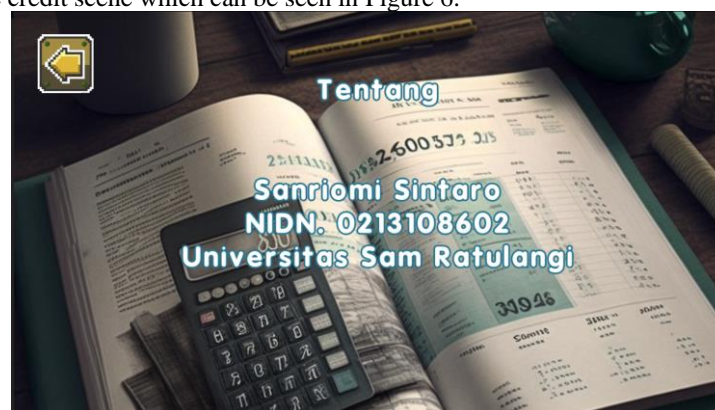


Figure 4 contains four buttons that will direct users to another scene, at the top right there is a credit button that will direct users to the Credit Scene, then the Accounting Formula button on the lower left that will take users to the accounting formula scene, then there is a Play button on the middle part which will take users to Quiz or Drag n Drop selection, finally at the bottom right is the Dictionary button which will take users to a list of accounting terms. The next scene to be discussed is the formula accounting scene which can be seen in Figure 5.



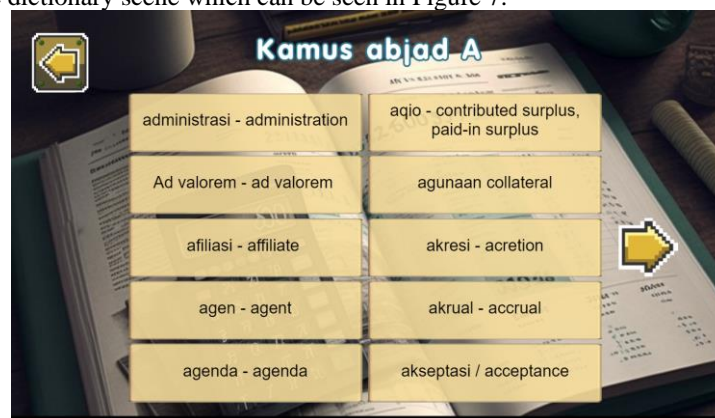
**Figure 5.** Accounting Formulas

Figure 5 describes accounting formulas, there is formula information in the middle of the screen and the formula name is at the top, the back button is on the upper left to return users to the Main Menu, on the right and left are the Next and Previous buttons which can be used to see other formulas. The next scene to be discussed is the credit scene which can be seen in Figure 6.



**Figure 6.** Credits

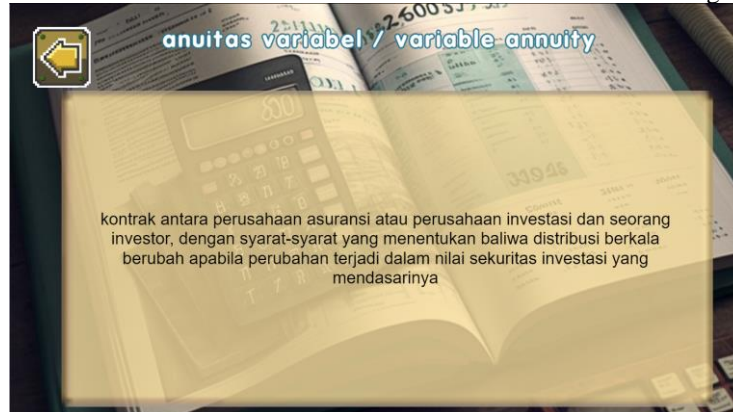
Figure 6 contains the researcher's data including name, NIDN and affiliation. There is one button on the top left, namely the back button which when used will return users to the Main Menu. The next scene to be discussed is the dictionary scene which can be seen in Figure 7.



**Figure 7.** Dictionary Accounting Terms



Figure 7 contains a list of accounting terms. There is a back button on the top left that can return users to the Main Menu, on the right there is a Next button, and, on the left, there is a Previous button which is useful for switching pages. In the middle there is a list of terms that can be selected by users. If one of these lists is selected it will take users to the detailed scene. Scene details can be seen in Figure 8.



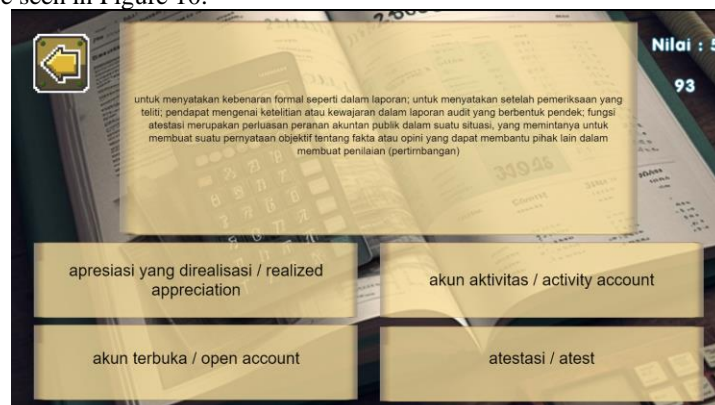
**Figure 8.** Accounting Terms Detail

Figure 8 contains information regarding the details of the selected accounting term, at the top left there is a back button that can return to the Main Menu, in the middle there is an explanation regarding the selected term and at the top there are accounting terms. The next scene is the Play Scene which can be seen in Figure 9.



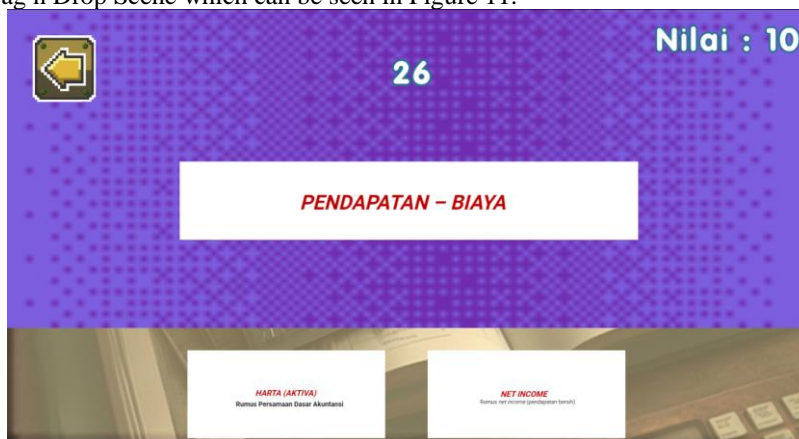
**Figure 9.** Play Scene

There are three buttons in Figure 9, the back button on the top right which will return users to the main menu, the Quiz button on the left and the Play button to play drag n drop. The next scene is the Quiz Scene which can be seen in Figure 10.



**Figure 10.** Play Scene

Figure 10 contains the questions and the several answer choices provided. This quiz will replace the questions if the questions have been answered even if the answers are right or wrong. The value will be increased by 10 if the answer is correct and reduced by 5 if the answer is wrong. Then at the top right there is also a time that goes backwards. Players are given 120 seconds to collect as much value as possible. The next scene is the Drag n Drop Scene which can be seen in Figure 11.



**Figure 11.** Drag n Drop Scene

Figure 11 contains a game that requires the user to Drag n Drop the answer at the bottom, we drag the answer to the formula question in the middle, if it is correct then the value will be increased by 10 and if it is wrong then the value will be reduced by 5. The game is over when the time is up.

After going through the previous stages, concept, design, material collecting and assembly. The next stage is testing, testing is carried out in Blackbox with the results that can be seen in Table 3.

Tabel 3. Blackbox Testing Results

No.	Scenario	Test Result		
		Observation	Result	Conclusion
1	Splashscreen works and can go to main menu	Data loading	Data load and go to Main Menu	Accepted
2	Main menu button works	Give one click for every button	Every scene can be open	Accepted
3	Accounting formulas button can go to formula scene	Check button in this menu	Button works	Accepted
4	Credits button at main menu can open credit scene	Check button in this menu	Button works	Accepted
5	Dictionary button at main menu can open dictionary scene	Check button in this menu	Button works	Accepted
6	Play button at main menu can open play scene	Check button in this menu	Button works	Accepted
7	Detail accounting terms can be opened when we choose one term	Check every button in this menu	Button works	Accepted
8	Quiz will be shown when we click at quiz button at main menu	Try every possibility like wrong answer or correct and wait the time to over, then check every button	Quis ended when time over, wrong answer will substract point and correct answer will sdd point	Accepted

No.	Scenario	Test Result		
		Observation	Result	Conclusion
9	Drag n drop game will be shown when we click at play button at main menu	Try every possibility and try drag and drop, wait the time to over, then check every button	Drag and Drop works normally, Game will end when time over, wrong answer will subtract point and correct answer will add point	Accepted

Table 3 shown above gives information about the use of each existing scene, in the Scenario section there are things that are done and in the test, results section are the results of the existing scenarios. Next is to take samples to be able to test the user. The sample to be used was obtained using the slovin method (1)[16]. The population for this study was taken from a total of 25,525 people, namely the total number of active students at UNSRAT (data taken from <https://dashboard.unsrat.ac.id/Akademik/mahasiswaAktif>), then using a predetermined sampling technique, the sample size was determined:

$$n = \frac{N}{(1+Ne^2)} \quad (1)$$

By calculating using the slovin formula of 25525 people with an error of 5 percent, the required sample is 400 people. Then a questionnaire was distributed to determine the feasibility of the edutainment that had been made. This test was carried out using ISO 25010 and PIECES analysis. Of the 413 respondents who completed the Accounting Edutainment Dictionary and Accounting terms test questionnaire, all respondents' quality was measured by the following formula:

$$\text{Responden} \frac{\text{actual score}}{\text{ideal score}} \times 100$$

The actual score is the response of all respondents to the questionnaire sent. The ideal score is the highest score for all respondents who must choose the answer with the highest score. Based on the results of respondents' responses to the functionality testing of the Accounting Edutainment Dictionary and Accounting terms, a percentage value of 82.2% was included and was considered very good. Based on the results of respondents' responses to the efficiency of the Accounting Edutainment Dictionary and Accounting terms, a percentage value of 84.3% is included and is very good. Based on the results of respondents' responses to the usability testing of the Accounting Edutainment Dictionary and Accounting terms, a percentage value of 80.6% is included and is considered very good. Then from the results of the PIECES analysis, it can be concluded that the menu structure contained in the Accounting Edutainment Dictionary and Accounting terms can provide convenience in its use.

#### 4. CONCLUSION

From the description that has been discussed previously, the conclusion is that the Accounting Edutainment Dictionary and Accounting terms can work well by providing accounting terms to users, by using blackbox testing it can be proven that the Accounting Edutainment Dictionary and Accounting terms can be run without significant problems. Then the test was carried out on 413 respondents using ISO 25010 to produce a value from the functionality aspect with very good results, namely with a presentation of 82.2%, from the efficiency aspect with very good results, namely with a presentation of 84.3%, from the usability aspect with very good results, namely with a presentation by 80.6%. Then from the results of the PIECES analysis, it can be concluded that the scenes in edutainment can provide easy information to its users.

From the test results, it was found that the usability aspect has the lowest value so that it becomes a deficiency in this study. The further works in this study is how to improve the use of Edutainment that makes it easy to operate and control.

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