

Article

User Interface Design of the JOFF Evaluation Application as a Derivative of DIVAYANA Evaluation Model

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Abstract: The user interface design of an application is not limited to applications in the field of informatics, but also applies to various fields that utilize information technology. This also applies to educational evaluation. A good evaluation application is the result of a good user interface design. The aim of this study is to demonstrate the user interface design of the JOFF (Justification–Observation–Finalization–Functionalization) evaluation application which is derived from the DIVAYANA (Description–Input–Verification–Action–Yack–Analysis–Nominate–Actualization) evaluation model. The improved version used is Borg and Gall with a focus on three stages, together with: layout development, preliminary trying out, and revision of the initial checking out effects. The number of respondents involved in conducting the initial testing of the user interface design of the JOFF evaluation application was 44 people. Four experts and 40 IT vocational school teachers at several IT vocational schools in Bali. The statistical series device in this study turned into a questionnaire. Questionnaires are used to obtain quantitative data from subjects (respondents) who have completed initial trials. Analysis techniques of quantitative records accumulated from the preliminary trials were then used to analyze the usage of quantitative descriptive strategies. The effects of the study confirmed the great person interface layout of the JOFF evaluation software, which is a derivative of the DIVAYANA evaluation model, is classified as superb with a pleasant percent of 87.81%. The impact of this research on the field of educational evaluation is the existence of new knowledge about the importance of good user interface design.

Keywords: User Interface Design; Evaluation Application; JOFF; Model Derivation; DIVAYANA

1. Introduction

Fliperentiation learning is a learning model that can be used in IT vocational schools to increase student engagement in learning. This model is implemented by combining online learning with face-to-face learning. The learning process is conducted freely, but still adapts to the needs/desires of students [1]. Even though *fliperentiation learning* in general, it can be implemented in all IT vocational schools, but specifically, there are still several IT vocational schools in Bali that have not been optimal in implementing it. This is caused by the main factor, namely the diverse abilities and characteristics of students in understanding operational matters. *Fliperentiation learning* and inadequate facilities to support the implementation *fliperentiation learning*. Primarily based on this, it's vital to conduct an evaluation to decide the priority components that decide the achievement of figuring out fliperentiation getting to know at IT vocational schools in Bali. Seeing those issues, innovation is needed inside the form

of an AI-based assessment utility which can examine the optimization of fliperentiation mastering at IT vocational colleges in Bali. One AI-based totally assessment software that may be advanced is the JOFF evaluation application, which is a by-product of the DIVAYANA evaluation model [2]. This evaluation utility is predicted to provide correct suggestions in the shape of precedence aspects that cause successful implementation of *fliperentiation learning* at IT vocational schools in Bali.

To achieve optimal evaluation applications, an appropriate user interface must be created from the outset to meet user needs. Moreover, a suitable consumer interface helps developers in creating the physical shape of the assessment software. primarily based on this, the study's problem is formulated as follows: "How should the user interface layout of the JOFF evaluation utility, which is derived from the DIVAYANA evaluation model?"

This research is motivated by several previous studies. Schuessler et al.'s research shows the development of e-learning for organic chemistry courses in higher education [3]. Similarly, their research also suggests the use of an electronic layout evaluation tool within the shape of e-evaluation to assess the effectiveness of the implementation of e-learning knowledge. The problem of Schuessler et al.'s research is that they've not proven the user interface layout of the advanced e-assessment. Ningsih's research [4] shows the usage of e-evaluation in evaluating the educational fulfillment of students in the Islamic religious training study software. The limitation of Ningsih's studies is that they have not proven the bodily form or as a minimum the user interface layout of the e-assessment used for the evaluation. Bahattab et al.'s study [5] indicates the framework form of an e-learning evaluation tool for global fitness schooling and Public fitness. The limitation of Bahattab et al.'s research is that they have now not proven the consumer interface design of the e-learning evaluation device. Wulandari's research [6] shows an assessment device for an application the use of the consumer reveals in a questionnaire. The quandary of Wulandari's research is that it has not but proven an AI-based totally evaluation device used to evaluate the effectiveness of a software. Shapiro and Lam's [7] study demonstrates the application of synthetic intelligence in a software used to assess software. However, the limitation is that it has not proven the physical form or consumer interface design of the synthetic intelligence-primarily based application. Musdi et al.'s [8] research demonstrates the use of assessment tools used to assess students' communication behavior in Mathematics learning. However, the limitation is that it has not used AI-based assessment tools and is limited to manual assessment instruments. Mawardi and Rustandi's [9] research demonstrates the use of the Kahoot application to determine the results of formative evaluations of students' ability to write narrative texts in online classes. The hassle of Mawardi and Rustandi's research is that it has not shown in detail the user interface layout of the Kahoot software that focuses on formative assessment. Nasrah et al.'s [10] research demonstrates the effectiveness of using the Google form software as an evaluation tool for Islamic religious education gaining knowledge of, however the software's user interface design has not been completely demonstrated. Castillo-Manzano et al.'s [11] research demonstrates the consequences of an evaluation of the layout of virtual gear as a transition to a shape of non-stop evaluation in digital-formatted better schooling. However, the limitation in their studies is that they've now not proven in detail the person interface design of the digital evaluation tool they developed. Kurniawan et al.'s research [12] suggests using Android in understanding a pupil self-evaluation application for simple *pencak silat* strategies. The predicament of Kurniawan et al.'s studies is that they have not shown in full the consumer interface design of the application, specifically in the maximum priority indicators determining the effectiveness of student mastery in primary *pencak silat* strategies. Chang's study [13] shows an evaluation application for civics learning based on the fuzzy critic algorithm. But, the obstacle is that they've not proven the complete consumer interface layout of the assessment utility.

2. Method

2.1. Research Approach

This study makes use of improvement approach. The improved version for this study became Borg & Gall which makes a speciality of three levels. The tiers meant 1) design improvement; 2) preliminary trials; and 3) revision of the results of preliminary trials [14–17].

2.2. Research Subjects

The subjects in this study used a purposive sampling approach. The parties involved in the research had been determined from the outset and were directly associated with the JOFF evaluation application, which is a spinoff

of the DIVAYANA evaluation model and is used to evaluate implementation *fliporientation learning* at an IT Vocational school in Bali. Based on the purposive sampling technique, 44 subjects participated in the initial trial of this 2025 study. These included two informatics experts, two education experts, and 40 IT vocational school teachers from several IT vocational schools in Bali who determined the user interface layout of the JOFF evaluation which is derived from the DIVAYANA model.

2.3. Object and Location of Research

The research object is the principal subject matter that should be studied and solved through research implementation. The object in this research is the user interface design of the JOFF evaluation software that’s a by-product of the DIVAYANA evaluation model. The region of this research is at IT Vocational excessive faculties unfold across six regencies in Bali: Gianyar, Buleleng, Tabanan, Badung, Klungkung, and Denpasar.

2.4. Data Collection Instruments

A questionnaire was used as a records collection instrument in this examine. The questionnaire was used to obtain quantitative statistics from subjects who had finished the preliminary trial. These quantitative records changed into used as a basis for figuring out the level of first-rate. User interface design of the JOFF evaluation application that’s a spinoff of the DIVAYANA evaluation version. The wide variety of questions inside the questionnaire used for the initial trial of the user interface design of the JOFF evaluation utility is derived from the DIVAYANA evaluation version with 21 items.

2.5. Data Analysis Techniques

The quantitative facts amassed from the preliminary trials had been then analyzed the usage of quantitative descriptive strategies. This method uses descriptive percent calculations. The results of those descriptive percentage calculations are used as a reference in deciphering the extent of first-rate of the consumer interface design of the assessment utility that has been tested initially. The system for calculating those descriptive percentages can be visible in Equation (1) [18–21].

$$P = (f/N) \times 100\% \tag{1}$$

Notes:

P = Percentage of user interface design quality level;

f = Total acquisition value;

N = maximum total value.

The effects of the proportion success of the user interface design nice level received from the method are then transformed into **Table 1**. **Table 1** indicates the best requirements for the consumer interface layout of the evaluation software which refers to the 11 scale categorization. The complete info of **Table 1** can be seen as follows [22,23].

Table 1. Quality standards for user interface design for evaluation applications that refer to the eleventh scale categorization.

Percentage of Quality	Quality Category	Recommendations
95–100	Special	Not revised
85–94	Very good	Not revised
75–84	Good	Not revised
65–74	More than enough	Not revised
55–64	Enough	Revised
45–54	Almost enough	Revised
35–44	Not enough	Revised
25–34	Very less	Revised
15–24	Bad	Revised
5–14	Very bad	Revised
0–4	Extremely bad	Revised

3. Results and Discussion

3.1. Results

Based on the research executed in 2025, several outcomes have been received based on the improvement levels of Borg and Gall. There are four results from the improvement stages of Borg and Gall. The results in query consist of: 1) the preliminary form of the person interface design of the JOFF evaluation software, 2) the effects of the preliminary trial, 3) hints for development, and 4) the shape of the results of the upgrades to the person interface design of the JOFF evaluation utility. The preliminary shape of the user interface layout of the JOFF evaluation application was acquired from the design development level. The form of the results of the upgrades to the user interface layout of the JOFF evaluation utility turned into acquired from the revision stage of the initial trial results.

3.1.1. Design Development

At this stage, the preliminary user interface design for the JOFF evaluation application become created. This design was created the use of the Balsamiq Mockup utility. A complete view of the initial user interface design for the JOFF evaluation application can be seen in **Figures 1-7**.

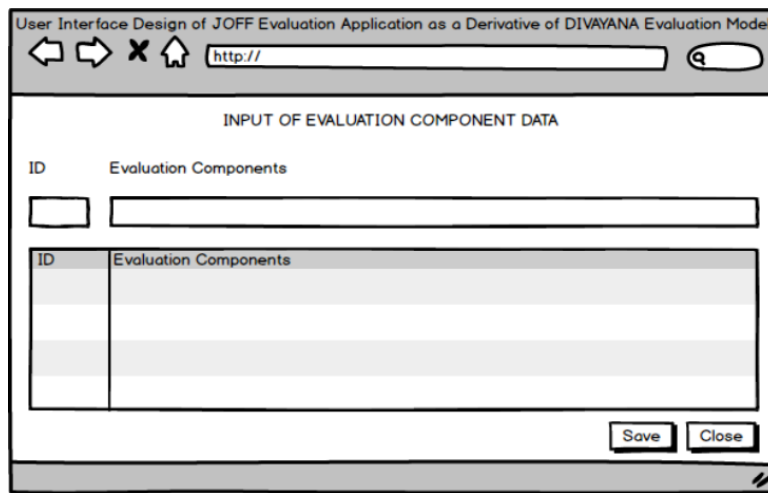


Figure 1. Design for inputting data for evaluation components.

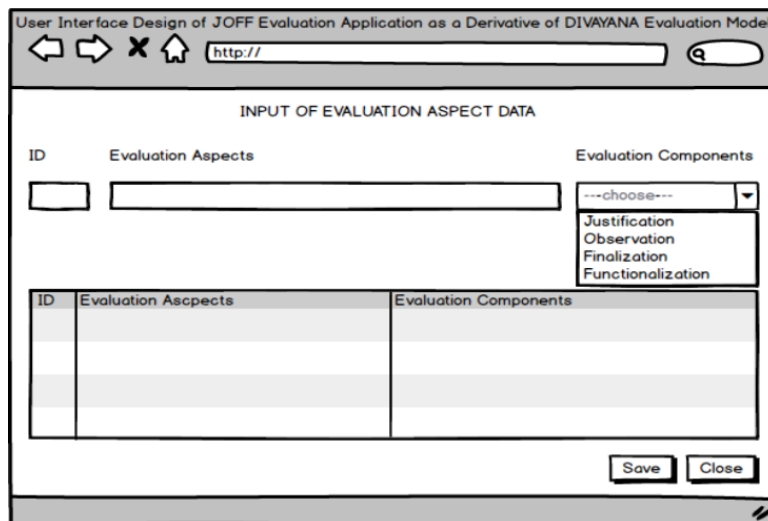


Figure 2. Design for inputting evaluation aspects data.

Figure 3. Design for inputting respondents' perception scores for each aspect of the evaluation.

Figure 4. Design for inputting expert weight scores and calculating weight improvements.

Figure 5. Design for calculating normalized score.

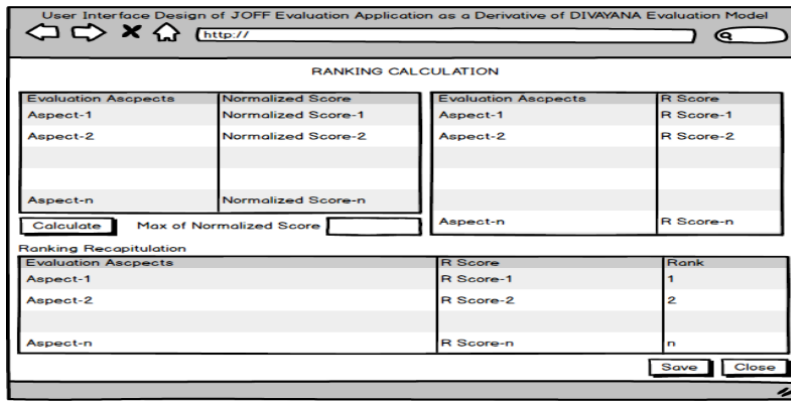


Figure 6. Design for ranking process.

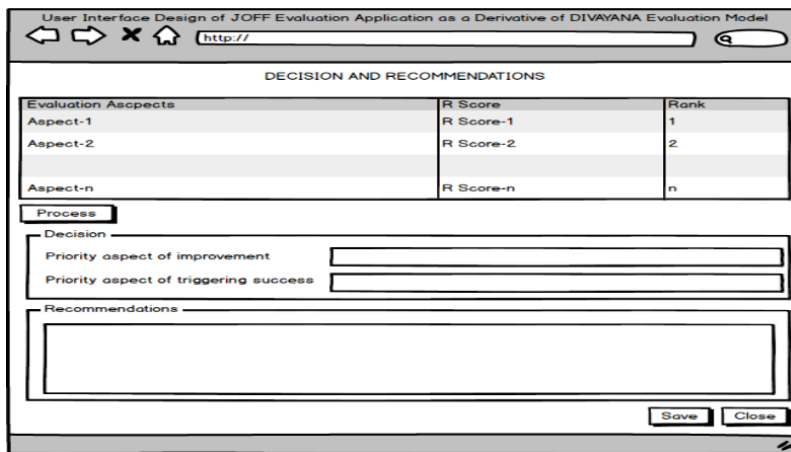


Figure 7. Design for decision making and recommendation process.

3.1.2. Initial Trial

After the user interface design for the JOFF evaluation application was finalized, an initial trial was conducted. The initial trial involved 44 respondents: two education experts, two informatics experts, and 40 IT vocational school teachers from several IT vocational schools in Bali. The results of the initial trials can be seen in **Table 2**.

Table 2. Result of initial trials to design user interface of JOFF evaluation application which is derived from DIVAYANA evaluation model.

Respondents	Items																					Σ	Percentage of Quality (%)	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Educational Expert-1	4	4	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	4	5	4	4	89	84.76	
Educational Expert-2	4	4	4	5	4	4	5	4	5	5	5	5	5	5	4	4	5	4	5	4	5	5	96	91.43
Informatics Expert-1	4	4	5	4	5	4	4	5	5	5	5	4	4	5	4	4	4	4	5	5	5	93	88.57	
Informatics Expert-2	4	4	4	5	4	4	5	4	4	4	4	5	5	5	4	4	5	4	4	4	4	90	85.71	
Teacher-1	4	5	4	4	4	5	5	5	4	4	4	5	4	4	4	5	4	5	5	4	4	92	87.62	
Teacher-2	4	4	4	5	4	5	4	4	4	4	4	5	5	4	4	5	4	4	5	5	5	91	86.67	
Teacher-3	5	4	4	5	4	5	5	5	4	4	5	5	4	5	4	5	4	5	4	4	5	95	90.48	
Teacher-4	4	5	4	4	4	5	5	4	5	4	4	4	4	5	4	5	4	5	4	4	4	95	85.71	
Teacher-5	5	4	4	5	4	4	5	4	4	5	4	4	5	4	5	4	5	4	5	5	5	95	90.48	
Teacher-6	4	4	5	5	5	4	4	4	5	5	5	4	4	5	4	5	4	4	5	5	4	93	88.57	
Teacher-7	5	4	5	4	4	4	5	5	4	4	5	4	5	4	5	4	5	5	4	4	4	93	88.57	
Teacher-8	5	4	4	5	4	5	5	5	4	5	4	4	4	4	5	4	5	5	4	4	4	92	88.57	
Teacher-9	4	5	4	4	4	5	4	4	5	4	5	5	5	4	4	4	4	4	4	4	5	92	87.62	
Teacher-10	5	4	4	5	4	4	5	4	4	4	5	5	4	5	4	5	4	5	4	5	5	94	89.52	
Teacher-11	4	4	5	5	5	4	4	4	4	4	4	4	5	4	5	4	4	4	5	5	5	93	88.57	
Teacher-12	5	4	5	4	4	4	4	5	5	5	4	4	4	4	5	4	4	5	4	4	4	91	86.67	
Teacher-13	4	5	4	4	4	5	4	5	4	4	4	4	4	5	4	4	4	5	4	5	5	92	87.62	
Teacher-14	5	4	4	5	4	4	4	4	5	4	4	4	4	5	4	4	4	4	5	5	5	92	87.62	
Teacher-15	4	4	5	5	5	4	5	4	4	5	5	4	4	5	4	4	5	4	4	4	4	92	87.62	
Teacher-16	5	4	5	4	4	4	4	4	5	5	4	4	4	4	4	5	5	4	4	4	4	91	86.67	
Teacher-17	4	5	4	4	5	4	5	5	5	4	5	4	4	5	4	5	4	4	4	4	4	92	87.62	
Teacher-18	5	4	5	4	4	4	5	5	5	4	4	4	4	4	5	4	5	5	4	4	5	94	89.52	
Teacher-19	4	5	4	4	5	4	4	4	4	4	5	4	4	4	4	5	5	4	5	4	4	90	85.71	
Teacher-20	4	4	4	5	5	5	4	4	4	4	5	4	4	5	4	4	4	5	4	4	5	91	86.67	

Table 2. Cont.

Respondents	Items																					Σ	Percentage of Quality (%)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Teacher-21	4	5	4	5	4	4	4	4	4	4	4	4	5	5	5	4	4	4	4	5	5	91	86.67
Teacher-22	4	5	4	5	5	5	4	4	5	4	5	5	5	4	4	4	4	5	5	4	4	94	89.52
Teacher-23	4	4	4	5	5	4	5	4	4	5	5	5	4	5	4	5	5	4	5	4	5	95	90.48
Teacher-24	4	5	4	4	4	5	4	4	5	5	4	4	4	4	5	4	4	5	4	5	4	91	86.67
Teacher-25	5	5	5	4	4	4	4	4	4	4	4	5	5	4	4	4	4	4	5	5	4	91	86.67
Teacher-26	5	4	4	5	4	4	5	4	4	5	5	5	4	5	4	4	5	4	4	4	5	93	88.57
Teacher-27	4	5	4	4	5	4	4	4	4	5	4	4	5	4	5	5	5	5	4	4	4	92	87.62
Teacher-28	4	4	4	4	4	4	5	4	4	4	5	4	4	4	5	5	4	4	4	4	5	89	84.76
Teacher-29	4	5	4	4	4	5	5	5	4	4	4	4	5	4	4	4	5	4	5	5	5	94	89.52
Teacher-30	5	5	5	5	4	5	4	4	4	4	5	5	5	5	4	4	4	4	5	4	4	93	88.57
Teacher-31	5	4	4	4	4	4	5	4	4	5	4	5	4	4	5	4	4	5	4	5	4	91	86.67
Teacher-32	5	4	4	4	5	4	4	4	4	4	4	5	4	4	4	5	4	4	4	4	4	88	83.81
Teacher-33	5	5	4	4	4	4	5	5	5	5	4	5	4	4	5	5	4	5	5	5	5	96	91.43
Teacher-34	4	4	4	4	5	5	5	4	4	4	4	5	5	4	4	4	5	5	4	4	5	92	87.62
Teacher-35	5	4	5	4	5	5	5	4	5	4	5	5	5	4	5	5	4	4	4	5	4	96	91.43
Teacher-36	4	4	5	4	4	4	4	4	4	5	5	5	5	4	4	5	5	4	4	4	5	91	86.67
Teacher-37	5	4	4	5	4	4	4	4	5	4	4	4	4	4	5	4	4	4	4	4	5	89	84.76
Teacher-38	5	5	4	4	4	5	4	5	5	5	4	4	4	4	5	5	5	4	4	5	4	94	89.52
Teacher-39	4	4	4	4	5	5	5	5	4	4	4	4	4	4	4	4	4	5	4	4	4	89	84.76
Teacher-40	4	4	5	4	5	4	4	5	5	5	4	4	5	4	5	5	5	4	4	5	4	94	89.52
																						Average	87.81

There are 21 questions that ought to be spoke back by means of respondents as a basis for scoring the nice of the person interface design of the JOFF evaluation utility that’s a spinoff of the DIVAYANA evaluation version. Item-1 is set the suitability of the person interface design shape to enter statistics for assessment additives. Item-2 is set the suitability of the selection of houses used as a facility to enter records for assessment components in the user interface layout shown in **Figure 1**. Item-3 is about the suitability of the format/function of properties within the consumer interface design shown in **Figure 1**. Item-4 is set the suitability of the shape of the user interface design to input information for assessment components. Item-5 is about the suitability of the selection of properties used as a facility to enter information for assessment factors within the person interface design proven in **Figure 2**. Item-6 is set the suitability of the layout/role of homes within the consumer interface design proven in **Figure 2**.

Item-7 is about the suitability of the user interface design form to input the respondent’s perception score on each evaluation aspect. Item-8 is about the suitability of the property options used as a facility to input the respondent’s perception score on each evaluation aspect on the user interface design shown in **Figure 3**. Item-9 is about the suitability of the layout/position of properties on the user interface design shown in **Figure 3**. Item-10 is about the suitability of the user interface design form to input the expert’s weight score and calculate the weight improvement. Item-11 is about the suitability of the property options used as a facility to input the expert’s weight score and calculate the weight improvement on the user interface design shown in **Figure 4**. Item-12 is about the suitability of the layout/position of properties on the user interface design shown in **Figure 4**.

Item-13 is about the suitability of the user interface design form to calculate the normalization score. Item-14 is about the suitability of the choice of properties used as a facility to calculate the normalization score in the user interface design shown in **Figure 5**. Item-15 is about the suitability of the layout/position of properties in the user interface design shown in **Figure 5**. Item-16 is about the suitability of the form of the user interface design that shows the ranking process. Item-17 is about the suitability of the choice of properties used as a facility to show the ranking process in the user interface design shown in **Figure 6**. Item-18 is the suitability of the layout/position of properties in the user interface design shown in **Figure 6**. Item-19 is about the suitability of the form of the user interface design for the decision-making process and providing recommendations. Item-20 is about the suitability of the choice of properties used as a facility for the decision-making process and providing recommendations in the user interface design shown in **Figure 7**. Item-21 is about the suitability of the layout/position of properties in the user interface design shown in **Figure 7**.

In addition to providing quantitative assessment scores for regarding the user interface design of the JOFF evaluation application, respondents also provided suggestions for improvements to the design. Some of the suggestions provided by respondents can be seen in **Table 3**.

3.1.3. Revision of Initial Trial Results

Referring to **Table 3**, respondents provided several suggestions for improving the initial design. Revisions were made by six members of the research team. The complete results of these revisions to the initial design can be seen in **Figures 8–13**.

Table 3. Suggestions given during the initial trial to design the user interface of the JOFF evaluation application which is a derivative of the DIVAYANA evaluation model.

No.	Respondents	Suggestions
1	Educational Expert-1	Please provide coloring to the user interface design so that the properties used to run business functions/processes in the application are clearly visible.
2	Educational Expert-2	Add facilities to be able to edit evaluation component data.
3	Informatics Expert-1	It would be better if the save and close buttons were given different colors, to make it easier for users to operate them.
4	Informatics Expert-2	It would be better if facilities were available to edit data on evaluation aspects.
5	Teacher-12	Different coloring is needed for the "average" textbox and the "W _{Yack} " textbox in the design shown in Figure 4 .
6	Teacher-22	It is necessary to add properties in the form of a datetimepicker "date" to the design shown in Figure 6 .
7	Teacher-37	It is necessary to add properties in the form of a datetimepicker "date" to the design shown in Figure 7 .
8	Teacher-39	The "Max of Normalized Score" textbox shown in Figure 6 needs to be given a different color for clarity.

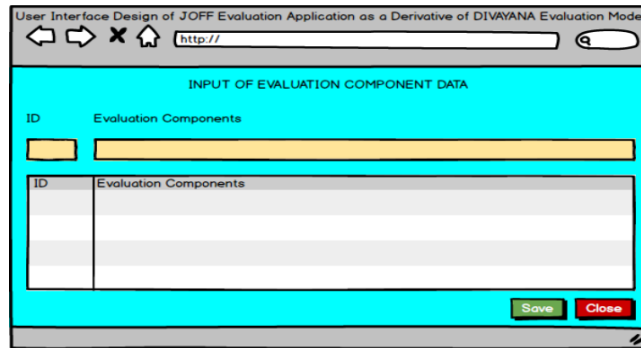


Figure 8. Revised design results based on suggestions from educational expert-1 & informatics expert-1.

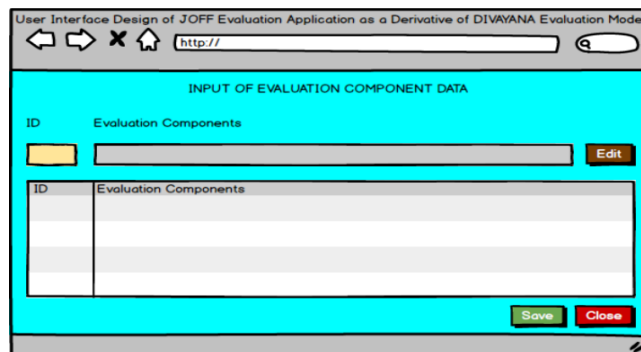


Figure 9. Revised design results based on suggestions from educational expert-2.

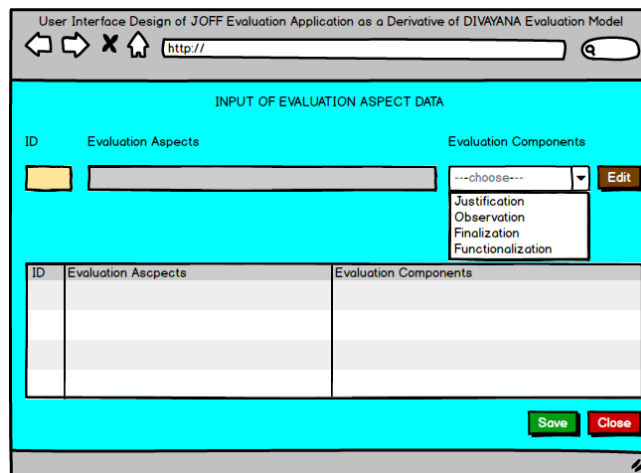


Figure 10. Revised design results based on suggestions from informatics expert-2.

Figure 11. Revised design results based on suggestions from teacher-12.

Figure 12. Revised design results based on suggestions from teacher-22 & teacher-39.

Figure 13. Revised design results based on suggestions from teacher-37.

3.2. Discussion

The main findings of this study indicate that the user interface design of the JOFF evaluation application, derived from the DIVAYANA evaluation model, is of excellent quality, with a score of 87.81%. Based on the Eleventh Scale quality categorization standard, this result falls within the 85%–94% range, meaning the design is categorized as “Very Good” and requires no fundamental revisions. A significant contribution of this study is its success in overcoming the limitations of various previous studies that did not present the physical form or detailed interface design of the developed evaluation tool.

Furthermore, this study provides novelty through the visualization of application features and properties, which demonstrates concrete evidence of the combination of artificial intelligence (AI) methods and educational evaluation models. These findings confirm that the use of AI in the JOFF application plays a crucial role in determining the priority aspects that determine the success of flipped learning, while the DIVAYANA educational model serves as the basis for measuring its effectiveness. Theoretically, the impact of this research is the creation of new knowledge regarding the urgency of appropriate interface design in producing high-quality educational evaluation applications. This research has a major strength in its ability to address various limitations found in previous studies.

The results of this look at have been capable of solution the restrictions of Schuessler et al.’s studies [3], Ningsih’s studies [4], Bahattab et al.’s research [5], Shapiro and Lam’s research [7], Mawardi and Rustandi’s studies [9], Nasrah et al.’s studies [10], Castillo-Manzano et al.’s studies [11], Kurniawan et al.’s research [12], and Chang’s studies [13] with the aid of displaying the person interface design of an utility. The consequences of this observe have additionally been able to answer the restrictions of Wulandari’s studies [6], and Musdi et al.’s research [8] with the aid of displaying the user interface design of an AI-based totally assessment tool used in evaluating the effectiveness of an application.

Furthermore, another significant advantage lies in the use of artificial intelligence (AI)-based evaluation tools to measure the effectiveness of an application, a limitation previously encountered in Wulandari’s and Musdi et al.’s research, which still used manual instruments.

In precept, the person interface layout proven in this take a look at has conceptual similarities with several different research. research by Jafar et al. [24], studies by using Maringka and Lumingkewas [25], research by Cahyani et al. [26], Adiarta et al. [27], research by Liu [28], research by way of Wijaya et al. [29], research by way of Faudzi et al. [30], research with the aid of Stewart et al. [31], research by using Costa et al. [32], and research via Oliveri et al. [33], additionally have similarities with this observe when it comes to the usage of consumer interface design for an software. But, the novelty proven in this observe is more inclined in the direction of using user interface layout to reveal the capabilities and homes of the JOFF evaluation application. Utilization of interface design that is specifically able to describe the integration between AI methods to determine priority aspects and educational evaluation models as a basis for measuring the effectiveness of flip-reference learning.

Although it has the advantage of excessive novelty, this have a look at also has boundaries. The obstacle of this look at is that it has no longer proven in element this system coding used to comprehend the bodily shape of the JOFF evaluation application which is a spinoff of the DIVAYANA evaluation version. In addition, the development stages in this research are still limited to the three initial stages of the Borg and Gall model, including design development, initial trials, and revision of trial results.

4. Conclusion

This research has effectively established the satisfactory of the user interface layout of the JOFF evaluation application, which is derived from the DIVAYANA evaluation model. The best of the consumer interface layout has been categorized as excellent. Destiny work that desires to be performed to conquer the constraints of these studies is to create application coding for the JOFF evaluation packages. In addition, it is necessary to implement the program code and conduct testing on a wider scale to perfect the physical form of the application. The effect of this studies outcomes for the development of tutorial assessment science and records era is to provide a brand new perspective or know-how concerning the importance of consumer interface layout to explain from the beginning the form of the JOFF evaluation utility. The form of the JOFF evaluation application depiction using user interface design shows evidence of a combination of artificial intelligence methods and educational evaluation models. Arti-

cial intelligence in the JOFF application is used to determine priority aspects that lead to successful implementation of *flip differentiation learning* at IT vocational schools in Bali. The educational evaluation model is used as a basis for measuring the effectiveness of the implementation of *flip differentiation learning* at IT vocational schools in Bali based on components and evaluation aspects.

Author Contributions

Conceptualization, D.G.H.D., P.W.A.S., and I.P.W.A.; methodology, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; software, D.G.H.D., P.W.A.S., M.S.L.A., and A.A.; validation, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; formal analysis, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; investigation, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; resources, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; data curation, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S.; writing—original draft preparation, D.G.H.D.; writing—review and editing, D.G.H.D., P.W.A.S., and I.P.W.A.; visualization, D.G.H.D., P.W.A.S., M.S.L.A., and A.A.; supervision, D.G.H.D., P.W.A.S., and I.P.W.A.; project administration, D.G.H.D., P.W.A.S., M.S.L.A., A.A., I.P.W.A. and I.M.S. All authors have read and agreed to the published version of the manuscript.

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The data presented in this study are available in the article.

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Conflicts of Interest

The authors declare no conflict of interest.

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