Validation of AUM software: a counselor tool for analyse human problems on counseling and educational practice

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Abstract. Analysis processes the assessment on counseling in educational setting very less quality. Majority Counselor used the manual procedure for it, after the develop of inventory Problem Checklist (AUM), the counselor still used manual analyzed procedure and this condition makes the assessment processing analysis not optimal. Therefore, we are developed the AUM Software. AUM this software is developed in several platforms; Microsoft Access, Visual Basic, Java, Android and based website. In this, manuscript will be described the development of AUM Software used visual basic. The research findings show that AUM Software Based of Visual Basic is quite well by software and counseling experts, and feasible to be developed and can be utilized by teacher or counselor to simplify counseling program planning. However, modify the software is needed. For the next stage, author decided to refine and revise the prototype of it.

1. Introduction

Guidance and counseling programs is always concerned with the analysis of need assessment [1], [2]. The various needs and problems of client can be measured using an counseling instrument [3], [4]. Instruments used in research to collect data [5], to make work easier [6], results better [7], and easier to process [8]. Instruments collect data using systematic procedures by following predefined rules [9], [10]. An instrument can be used to measure an object or collect data about research variables [11], [12].

AUM is one of the most used instruments by guidance and counselling teachers or counselors in Indonesia [13]–[15]. AUM is an inventory developed by Prayitno [16], [17] that can be used to find out common client problems [18]. AUM is often given to students, they have many problems up to academic stress [19] but have not been able to tell their problems to teachers or counselors.AUM is an established instrument standard for understanding and predicting problems based on areas that clients may encounter. AUM used to estimate the problem thoroughly and uncover issues in the general field. AUM results analysis can be processed in two ways: manual and using computer-based software[20]–[22].

AUM processing the data results using software because it is more practical, easier and faster [21]. However, some users complain about the performance of software that is considered slow down the computer, data security is doubtful and hard to learn for beginners [21]. Associated with this, we have been developed a software processing AUM called "SP-AUM 1" which is an upgraded version of the preceding. This software is built using visual basic 6.0. Compared to previous versions (Microsoft

access), this software is better quality, less memory, high data security, easy to use even by beginner etc. This software has been developed and ready to be circulated in Indonesia. This study aims to validate the software SP-AUM version 1 with the evaluation of expert counseling and software development.

2. Methods

This research is R&D (research & development) method by adapted Rapid Application Development (RAD) model. RAD is a life-cycle strategy aimed at providing a much faster development and better quality results than the results achieved through traditional cycle's [23]–[31]. RAD is a combination of a variety of structured techniques with prototyping techniques [32] and joint application development techniques to accelerate the development of systems / applications [29], [33], [34].

Application development using RAD method can be done in a relatively faster time [35], [36]. RAD is an approach to building computer systems that incorporate Computer Assisted Software Engineering (CASE) tools and techniques, user driven prototyping. RAD improves system quality drastically and reduces the time it takes to build the system.

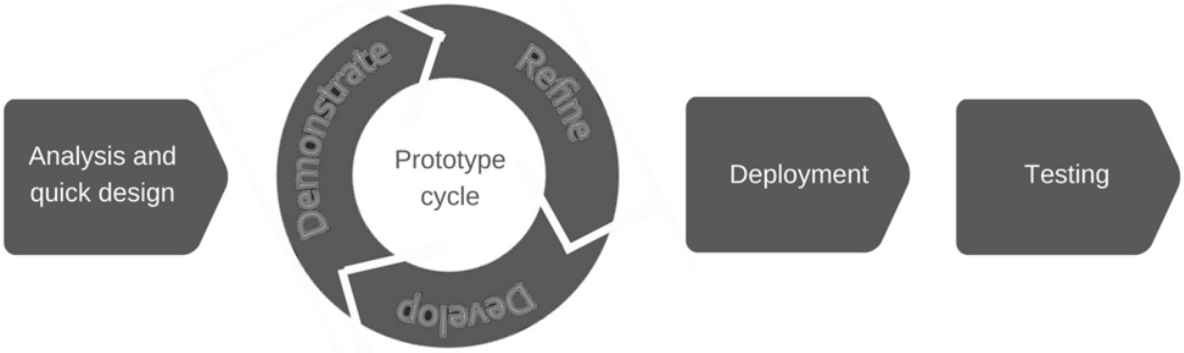

Figure 1. Rapid Application Development (RAD) model

At the product functional inspections stage, AUM software component is evaluated by two counseling experts, two software developers. There are 5 aspects to be evaluated; suitability of design with target population, design, ease of use, ease of processing data and contribution to counseling services. The highest score that can be obtained is 25. Suitability tested using non-parametric test analysis Kendall.

3. Result and Discussion

3.1 Product evaluation from counseling experts

The result of Counseling expert's evaluation is obtained that the software AUM (SP-AUM Version 1) is feasible to be used and operated by teacher/counselor. As a follow-up of the result of need assessment aimed to easy access the application program as the basis of service planning according to client requirement.

Table 1. Product evaluation from Counseling experts

Respondent (Expert)	Amount	Mean	%
1	24	4.8	96
2	19	4.8	76
3	22	4.4	88
		Overall Percentage	86.67

Based on the Table 1, the percentage obtained from the three experts for this software is 86.67% high. This indicates that this software is feasible to be used and exploited by counselors. This figure also shows this software much better than before.

3.1.1 Counseling expert's compatibility with AUM Software

Table 2. Counseling expert's software compatibility test

Test Statistics	
N	5
Kendall's W[a]	,662
Chi-Square	6,615
df	2
Asymp. Sig.	0,037

Based on Table 2, it appears that the probability value is 0.037, then (0.037> 0.05). This means that there is suitability by counseling experts to AUM software.

3.2 Product evaluation from software developers.

Product evaluation results from software developers are presented in table 3 below:

Table 3. Product evaluation from software developers.

Respondent (Expert)	Amount	Mean	%
1	31	4.43	88.57
2	34	4.86	97.14
3	30	4.29	85.71
		Overall Percentage	90.48

Based on expert evaluation, AUM software has an average feasibility of 90.48% which means experts give a positive response to AUM software programming. AUM software (SP-AUM Version 1) has excellent builder components and trusted data equations and attractive content designs.

3.2.1 software developer's compatibility with AUM Software

Table 4. Software developer's software compatibility test

Test Statistics	
N	7
Kendall's W[a]	,464
Chi-Square	6,500
df	2
Asymp. Sig.	0,039

Based on the above data, it is seen that the probability value is 0.039, then (0.039> 0.05). This means that there is an appropriate answer between each software programming experts.

4. Conclusion

SP-AUM version 1 has better features than the previous one. This software is considered capable of facilitating the user in processing AUM results and minimizes the shortcomings that have been complained about. The results of this study indicate that this software is valid and reliable and ready to be disseminated. This software can continue to be utilized by the user for the advancement of the counselling world in Indonesia.

Acknowledgments
We are very grateful to Dean Faculty of Education, and the Head of Unit Research University Negeri Padang, which give the finance for developing this software and to do validation research of the software. And then, lecturer in Guidance and Counseling Department, all staff of Indonesian Institute for Counseling Education and Therapy (IICET) in Padang for technical support and collected the data set in this research.

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