Development of a Website-Based Sexual Violence Management Information System in Higher Education

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To cite this article:

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Article Info

Abstract

This study aims to (1) comprehensively describe the design of web-based sexual violence information systems (SIM) in universities, (2) Describe sexual violence efforts in (3) Explore and explain the role of web-based Management Information Systems (SIM) in efforts to prevent sexual violence in Higher Education. This research was designed with the type of Research and Development research. This type is directed to show facts or events systematically and accurately regarding certain conditions as the focus of the study. The data collection method is carried out in three ways, including: (1) observation, (2) interview, (3) questionnaire, (4) documentation. All four are carried out in a planned manner to obtain complete and relevant data. The collected data are then analyzed using induction techniques, namely by drawing conclusions ranging from specific statements or facts to conclusions of a general nature. Research reports are presented in the form of detailed descriptive descriptions, equipped with product prototypes, images and tables as the scope of discussion. The findings of this study show that (1) the sexual violence management information system in higher education is a form of service that manages data into information with the support of website facilities as a medium of interaction, (2) efforts to prevent sexual violence in universities include task force making activities, training and workshops on sexual violence assistance, and (3) the role of web-based management information systems in preventing sexual violence in universities as a form of university commitment to make decisions / policies in developing educational institutions, and also helping service users (stakeholders) to channel their aspire for the development of institutions.

Introduction

Information and communication technology has developed very rapidly, so the interaction and delivery of information will take place quickly. Broadly speaking, information technology can be grouped into two parts: software and hardware. Hardware concerns equipment of a physical nature, such as memory, printers, and keyboards. As for the software related to the instructions for arranging the hardware to work according to the purpose of the instruction information. Smartphones play a very important role in internet use by 52% beating the

use of computer or laptop devices. The percentage of ownership of devices both using computers or laptops is 25.72% and the percentage of ownership of smartphone or tablet devices is 50.08% in Indonesia currently. Therefore, access to information technology currently is more likely to use a smartphone or tablet because it is easy to carry everywhere in activities (Paudel, 2021).

Sexual violence on several campuses in Indonesia continues to emerge. Let's look at the previous few years, there were cases of being sexually harassed by their co-workers while doing KKN (real work lectures) in 2017. The victim had to swallow the harsh reality because the campus called the case a misdemeanor, so the perpetrator could not be expelled. Then in 2019, Tirto.id released news of sexual violence committed by UIN lecturer Maliki Malang. The news spread massively through the WhatsApp groups of lecturers and students. However, unfortunately some lecturers even banned the spread of the report with the message, "Don't spread the disgrace of others." Several other messages were also sent by other lecturers indicating a defense of the perpetrator, without trying to understand the psychological condition of the victim. This shows if the academic community does not have a view that favors the victim.

At the end of 2021, several students at Jakarta State University were sexually harassed by lecturers with the initials DA by sending perverted chats. Other cases also afflict University students. The case is simply an iceberg phenomenon, the number of which may be many times more than has been reported to this day. As evidenced by the findings of YLBHI (Indonesian Legal Aid Foundation) in 2020, it was found that most victims of sexual violence entered the student age group. YLBHI also found that 40% of cases of sexual violence in the campus environment turned out to be carried out by people who passed the Strata 2 (S-2) Education level. This fact is certainly quite sad.

The campus as the center of civilization should show its role. Unfortunately, this is even considered a disgrace and can damage the good image of the campus. This makes the campus / college confused, even seems to ignore the victim's report. There are not a few reports of peaceful ends. Not a few reports were processed for months but did not find any bright spots for the benefit of victims. Even the perpetrator can still live a normal life, without feeling any reward for his depraved deeds. The presence of PERMENDIKBUDRISTEK No. 30 of 2021 concerning the Prevention and Handling of Sexual Violence should be a breath of fresh air for survivors/victims and all parties who are already furious with the insecurity of the campus as a place for educated people. This regulation is a step forward, so that university leaders can take decisive steps to respond to every report with a perspective on victim protection.

Based on PERMENDIKBUDRISTEK No. 30 of 2021 concerning prevention and handling of sexual violence, first, campuses must study the Sexual Violence Prevention module, especially those issued by the ministry, in order to know and understand the flow of pre- and post-learning tests on students, educators, and education staff. This module also contains an explanation of educational philosophy and appropriate ways to prevent and deal with cases of sexual violence on campus. The second mandatory thing that college leaders must do is to form a special task force that is non-ad hoc in nature. Those who can join the special task force are from the elements of educators, education staff, and students. Those who will join this task force must be ensured that they have never

committed or allowed sexual violence to occur. A special non-ad hoc task force is also present to ensure victims receive assistance, protection, and recovery based on the victim's consent. The task force on campus must provide an empathetic response to the victim's report, and not make the victim must tell the incident repeatedly because it will cause its own psychological burden on the victim.

Third, there is a warning sign that the campus has absolutely no tolerance for acts of sexual violence. Fourth, campuses must also meet the needs of persons with disabilities in socialization related to sexual violence. Finally, the campus must strengthen community culture for students, educators, and education staff in the form of providing education on the prevention and handling of sexual violence when introducing campus life to new students.

It is important to prevent and handle sexual violence on campus. Students should find out and discuss more about issues related to power relations and gender-based violence. In addition, students must be empowered in all conditions. Lecturers and education staff should be routinely involved in student activities, especially in the form of discussions on related issues, increasing socialization on campus related to anti-sexual violence measures, and seeking the formation of services intended to prevent and handle cases of sexual violence on campus.

University administrators must certainly follow the principles of preventing sexual violence on campus by providing adequate facilities and infrastructure, providing complaint, and reporting mechanisms, and providing warning signs "areas free from sexual violence" on campus. Collaboration is the key to successful implementation of this regulation. All parties must participate in creating an academic culture that is free from sexual violence and discrimination against certain genders on campus so that the campus becomes a safe place from sexual violence.

Method

Research conducted by researchers is a type of development research or Research and Development (R&D). According to Borg and Gall (Sugiyono, 2016), the R&D research method is a research method used to produce a particular product and test the effectiveness of the product. According to Syaodih (2014), defining R&D research is a process or steps to develop a new product or perfect an existing product, which can be accounted for.

This research uses a development model developed by Borg & Gall. The stages of research and development according to Borg and Gall (1989) consist of ten stages (see Figure 1). The development steps chosen by the researcher consist of five steps but still refer to the ten steps of implementing the research and development strategy according to Borg and Gall (Syaodih, 2009).

The development steps carried out by the researcher are five steps, namely the analysis of the needs, design, application, evaluation, and benefits of the management information system but the researcher still refers to the ten steps of the Borg and gall model in development. This research and development use several methods in collecting data, namely questionnaires, observations, and interviews.
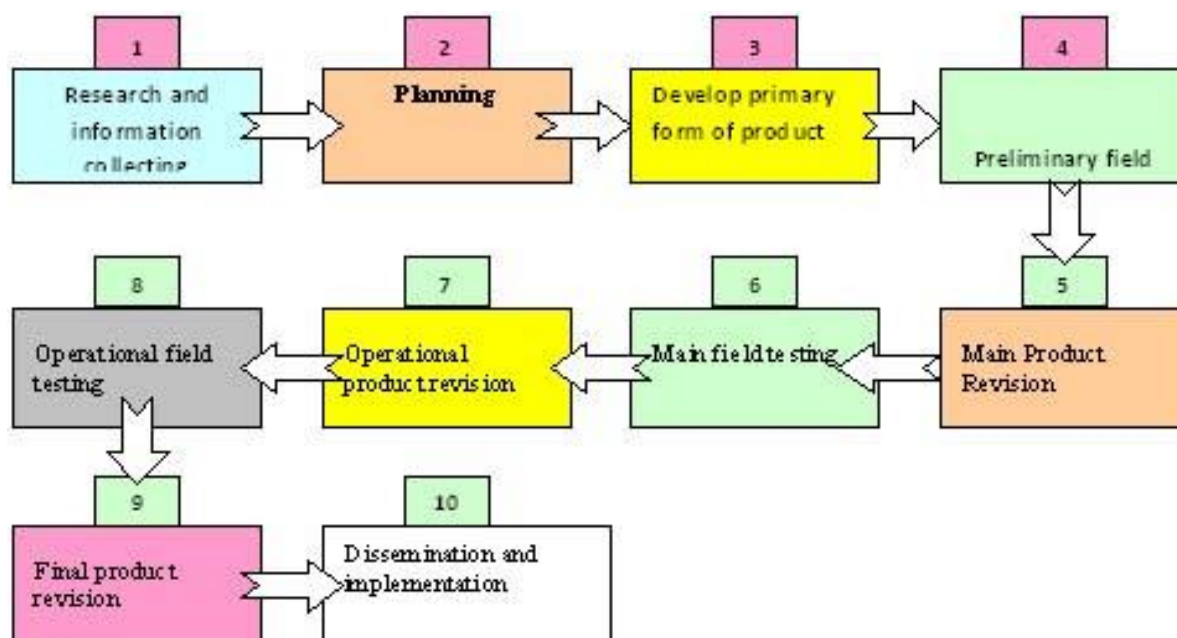
Figure 1. Stages of Research and Development

Results

This research is a research and development (R&D) that produces a management information system in the form of a product. The development model used as a reference in this study is the Borg & Gall model which has been detailed by Sukmadinata (2019). The results of each such stage are as follows:

Management Information System Needs Analysis

Needs analysis is carried out by observation, survey, interview, and documentation. From the results of the survey, observations and surveys, the researcher concluded that it is necessary to develop a product-based management information system to overcome the difficulties of all units, lecturers, and students in managing sexual violence in higher education.
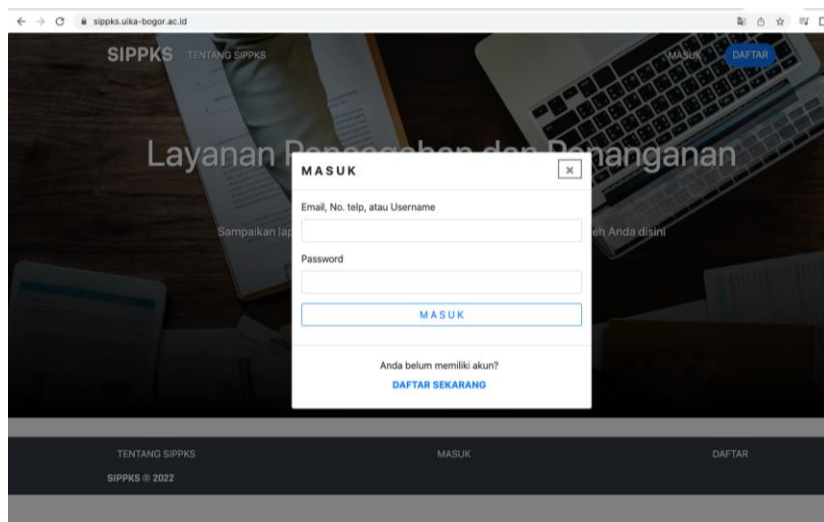
Management Information System Design

The results of the system design are carried out by making product designs in the form of flowcharts and designs. The appearance of the flowchart and the design of this sexual violence management information system can be seen in the following picture (see Picture 1-3).

This sexual violence management information system can run when the user enters using a username and password, the system will identify whether the username and password entered are correct, if they are correct then the user will enter the system page, otherwise the user will be asked to return to the initial page to enter the username and password of the information system. Furthermore, Picture 2 shows the design of the sexual violence management information system.

Picture 1. The Sexual Prevention and Treatment Management Information Systems

Picture 2. The Login Page of the Sexual Violence Prevention and Handling Service
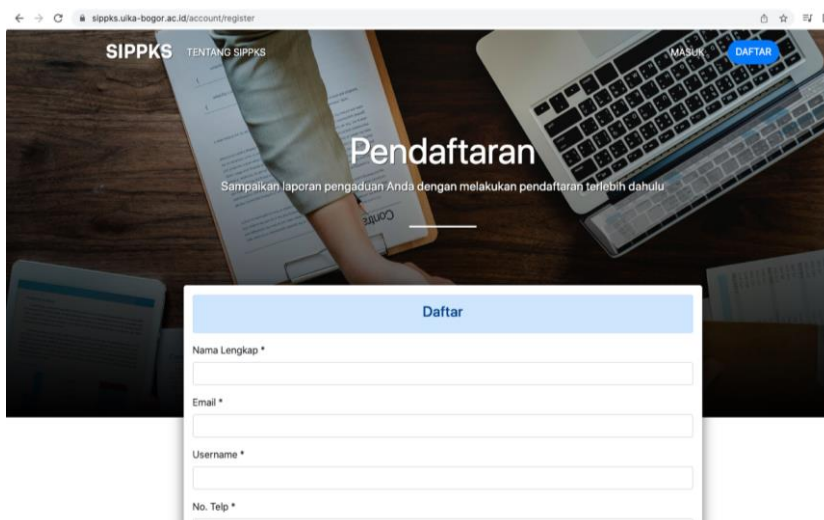
Picture 3. The Registration Page of the Sexual Violence Prevention and Handling Service

Management Information System Application

The results of the research on the application steps of the sexual violence management information system are divided into two stages, namely as follows:

Small Scale Applications

The small-scale applications in this study involved were 40 users in the 20th batchof 20 Faculty of Islamic Religion class FAI1 and FAI2. With a total of 40 students, it consists of 15 students with low academic ability, 15 people with secondary academic ability, and 10 people with high academic ability.

The scores obtained are converted into quality categories based on the conversion table contained in Table 1.

Table 1. Results of Small-scale Applications

No.	Aspects	Number of Users	Average Score	Max Score	Category
1.	Interface	40	22	25	Excellent
2.	Usability		42	50	Good
Total			**64**	**75**	**Good**

The quality of the sexual violence management information system product developed obtained a score of 64 out of a maximum score of 75. This score indicates that the product is in a good quality category.

The advice obtained on these small-scale applications is used as a consideration for product revision. Some of the suggestions and responses obtained in this trial include the following.

1. System information cannot be used on Android devices version 6 and below. The creation of a sexual violence management information system needs to be improved so that it can be used on android devices below it.
2. The information system cannot be used on IOS devices version 6 and below. The creation of a management information system needs to be improved so that it can be used on the iOS device version below it.
3. Unresponsive information systems are used in website-based access. The creation of a sexual violence management information system needs to be improved so that it can be used properly.
4. the content is quite interesting, but some images are not responsive, so they need to be fixed again.
5. Font size is too large on some parts

Large Scale Applications

At this stage of large-scale application, the assessment is given by 140 users with diverse academic abilities. An assessment is carried out on the content and appropriate products of the revised management information system based on suggestions and responses from users at the small-scale application stage. The scores obtained are

converted into quality categories based on the conversion table contained in attached.

Table 2. Results of Large-scale Applications

No.	Aspects	Number of Users	Average Score	Max Score	Category
1.	Interface		23.30	25	Excellent
2.	Usability	140	42.15	50	Good
Total			**65.45**	**75**	**Good**

The quality of the sexual violence management information system product developed obtained a score of 66.45 out of a maximum score of 75 This score indicates that the product is in a good quality category.

The advice obtained on this large-scale application is used as a consideration for product revision. Some of the suggestions and responses obtained in this trial include the following.

1. The sexual violence management information system looks more attractive and not boring to users so that users feel curious about the features in it.
2. Letters and numbers in the management information system need to be adjusted to the size of the device.
3. It is necessary to have assistance facilities in the developed management information system.
4. Icons and logos on product-based management information systems should be made even more attractive.
5. The letters on the information system section are too tight. Letters need to be made more responsive so that they are more comfortable to read.
6. There needs to be a simulation page for management information systems.

System Validation

Validation of sexual violence management information systems is carried out by experts in the field of management system development. The aspects assessed by information system experts are the display, programming, and installation aspects (plug and play). The validation results from the system expert are shown in the table below:

Table 3. Validation Results of Management Information Systems Experts

No.	Aspects	Average score	Max Score	Category
1.	Display	22	30	Good
2	Programming	37	50	Good
3	Installation	18	20	Excellent
Total		**77**	**100**	**Good**

The developed sexual violence management information system was declared valid by management information system development experts with some improvements to coding bugs and application usage information. The assessment category is excellent with a score of 77 out of a maximum score of 100.

Furthermore, validation is carried out by management experts providing an assessment of the organizational aspects and usability of the management information system developed. The results of the assessment of the content of the management information system are displayed in the following table:

Table 4. Management Expert Validation Results

No.	Aspects	Average score	Max Score	Category
1.	Organization	22	25	Good
2	Usability	36	50	Good
Total		**53**	**75**	**Good**

Management experts state that the developed sexual violence management information system is declared valid in accordance with the assessment on organizational aspects and usability. Some improvements are made according to the assessment and advice given by management experts. Advice given by management experts regarding instructions for using the application that needs to be further clarified and the suitability of fonts in management information system applications because they are seen from some interfaces that are still too small so that they are difficult to use. The assessment category is good with a score of 53 out of a maximum score of 75.

In the final stage of validation is a Peer-Reviewed assessment of sexual violence management information system products that have been declared valid by system development experts and management experts are then assessed by five peer-reviewers. Assessments are given on aspects of appearance, programming, organization, and usability. The data from the peer reviewer assessment can be seen in full in the Appendix. The results of the assessment are briefly presented in the table below:

Table 5. Peer-reviewer Validation Results

No.	Aspects	Score					Average	Max Score	Category
		PR1	PR2	PR3	PR4	PR5			
1.	Display	23	24	23	24	23	23.40	25	Excellent
2.	Programming	42	40	37	40	38	39.40	45	Excellent
3.	Organization	50	47	51	48	47	48.60	55	Excellent
4.	Usability	22	21	24	23	23	22.60	25	Excellent
Total		137	132	135	135	131	**134.00**	**150**	**Excellent**

The quality of the sexual violence management information system product developed obtained a score of 134 out of a maximum score of 150 This score indicates that the product is in an excellent quality category.

Evaluation of Management Information Systems

The results of the evaluation of product-based management information systems in this study are divided into two parts. The sections are:

Small Scale Applications

Revision I done based on is Information system cannot be used on Android devices version 6 and below. The creation of a management information system needs to be improved so that it can be used on android devices below it. On IOS devices version 6 and below. The creation of a management information system needs to be improved so that it can be used on the IOS device version below it. Lack of responsiveness of the management information system used in website-based access. The creation of a management information system needs to be improved so that it can be used properly.

Large Scale Applications

The content is quite interesting, but some images are not responsive, so they need to be corrected again. The font size is too large on some parts. It is necessary to have assistance facilities in the developed management information system. The icons and logos on the product-based management information system should be made even more attractive, the letters in the information system section are too tight. Letters need to be made more responsive so that they are more comfortable to read, there needs to be a simulation page for the management information system.

Benefits of Management Information Systems

The results showed that the sexual violence management information system provides extraordinary benefits, especially to:
a. All units in the college environment, especially Ibn Khaldun University and partner universities, have used a management information system where the system can save time, effort and costs.
b. Lecturers in the university environment also feel a very extraordinary benefit where all activities now use information systems such as reporting sexual violence using applications, monitoring reports, action reports.
c. Students feel that the presence of this sexual violence management information system has a sense of security and comfort because of the openness of an activity that can be checked anytime and anywhere.

Discussion

The discussion of this research is a research and development that produces products in the form of information systems for the prevention and management of sexual violence. The development model used as a reference in this study is the Borg & Gall development model by grouping several stages as follows:

Analysis of Management Information System Needs

McNeil (Sanjaya, 2008) defines need assessment as the process of determining the priority of educational needs. In line with McNeil's opinion, Seel and Glasgow (Sanjaya, 2008) explain about the needs analysis that the need

is essentially a gap (discrepancies) between what has been available with what is readily available with what is expected, and need assessment is the process of gathering information about gaps and determining the priorities of gaps to solve. Roger Kaufman and Fenwick W. English (Warsita, 2011) defines needs analysis as a formal process of determining the distance or gap between output and apparent impact with output and impact desired, then put this series of gaps on the priority scale, and then choose the more important things to solve the problem. Then needs analysis is a tool or method to identify problems to determine the right action or solution. The needs analysis in the research on the development of a management system for the prevention and countermeasures of sexual violence was carried out by asking several needs questions to all units, lecturers, and students before creating and developing an existing information system. With the hope that the needs analysis can answer the wishes of all users involved in it.

Management Information System Design

According to Satzinger (2012) system design is a set of activities that describe in detail how the system will run. It aims to produce software products that suit the needs of users. b) According to Jane (2006) system design is the activity of designing and determining how to process a system information from the results of system analysis so that the system is in accordance with requirements c) According to Marakas (2009) system design is an activity of designing and determining how to process information system from the results of system analysis so that it can meet the needs of users including the design of user interfaces, data and process activities. The design of the management information system for the prevention and handling of sexual violence in this study was carried out through the stages of making a storyboard, making a management information system design on the front page and user page and then validation by several experts to produce the product desired by the user.

Management Information System Application

Wildavsky (Nurdin, 2002) posits that an application is the implementation of an expansion of mutually adjusting activities. The product-based management information system contained in this study applies the application in two stages, namely the small-scale application stage which is tested by units, lecturers and students with the number of 40 small scale and 140 large-scale respondents of users where in the application there are several inputs such as images and appearances that are less responsive and have been revised so as to produce the product desired by the user.

Evaluation of Management Information System

The discussion of the evaluation of the information system for the prevention and management of sexual violence is divided into two, namely small-scale applications and large-scale applications where in the small-scale application section there are several revisions such as products resulting from small-scale revisions of Android version 4 and below cannot be used, displays that are still less responsive in system development so that they need to be revised to get maximum results. The content generated from the product is quite interesting, but some images are not responsive, so they need to be corrected again. To get the desired results from large-scale revisions.

Benefits of Management Information Systems

A management information system for the prevention and control of sexual violence has a beneficial value that can be felt directly by all units, lecturers and students, related to these direct benefits are divided economically and non-economically.

Conclusion

Based on the discussion of the results of the research on the management information system for the prevention and management of sexual violence, the researcher made the following conclusions:

Analysis of Management Information System Needs

Each unit in the University including study programs, faculties, rectorate bureaus carry out the prevention and control of sexual violence properly but are still conventional, some of which have used information systems but have not been thoroughly integrated. This leads to less efficient information processing and decision-making processes in terms of time and management. These needs can be facilitated by the provision of an integrated management information system in each management unit.

Management Information System Design

The developed sexual violence prevention and countermeasures management information system is designed to suit the needs in higher education. The implementation of management is designed to be carried out by all units, namely students, lecturers, faculties, and the rectorate bureau in an integrated manner. Each user can log in to the system using an account through an integrated login system for all types of users, both admins, lecturers, and students.

Management Information System Application

The developed sexual violence prevention and countermeasures management information system has been applied on a small scale and on a wide scale. The initial product of the information management system prevention and countermeasures of sexual violence was validated by systems experts, management experts and peer-reviewers. The validation results show that the information system built has good quality and is feasible to be applied through trials.

A small-scale trial was conducted on 40 users. The results of the trial showed that the management information system products that had been successfully revived had good quality. Similarly, large-scale trials conducted on 140 users showed that the product of the information system for the prevention and countermeasures of sexual violence management was of good quality and suitable for use.

Evaluation of Management Information System

Evaluation of the information system for the management of prevention and countermeasures of sexual violence in higher education is carried out based on the implementation of product applications on a small scale and on a large scale. The results of the evaluation show that the information system product management prevention and counter measures of sexual violence can be applied well in higher education with some improvements that need to be made to the product. These improvements have been made, namely in the responsiveness of the appearance of the product website, the version of the use of the mobile version of the product smartphone platform, and several interfaces related to font and image sizes.

Benefits of Management Information Systems

The results showed that the management information system for the prevention and management of sexual violence provides extraordinary benefits, especially to: all units in the higher education environment have used a management information system where the system can save time, energy and costs. Lecturers in the higher education environment also feel a very extraordinary benefit. Students feel that the presence of this management information system provides extraordinary benefits, especially in terms of time, energy and cost efficiency and can be checked anytime and anywhere.

Acknowledgements

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