

RESEARCH ARTICLE

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Elevating Standards: SIMAKLIK - Pioneering Web-Based Accreditation and Document Management for Primary Care Clinics

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ABSTRACT The preparation of primary care clinic accreditation in Indonesia still uses a manual system, causing unpreparedness and slowing down the performance of officers in preparing for accreditation. Other inhibiting factors are workload and adjustments to the latest accreditation standards. Accreditation is an important point in maintaining the quality of health care facilities. The fact that clinic accreditation in Indonesia is still quite low, only 1.7% of private clinics have been accredited out of 10,380. Driven by technological developments, it is necessary to develop a system that helps facilitate the documentation management and self-assessment. The research aims to design a system from problem analysis, system architecture to functionality. Based on the literature review, the difference between previous research lies in the product system built for accreditation focusing on the independent clinic accreditation management system. In this case, this research also uses a design thinking method that focuses on problems and a human center approach. This research method using design thinking involves potential users at the Permata Keluarga Clinic and the design refers to the Clinic accreditation standards by the Ministry of Indonesian through H.K.01.07/MENKES/1983/2022. SIMAKLIK can be used by five main roles consisting of clinic leaders, clinic quality team members, accreditation liaison officers and surveyors and administrators. Features of this system prototype include: systematic documentation in accordance with the accreditation standard, self-assessment report features, dashboard, notes and recommendations features. This prototype has been successfully tested to users with SUS Score results of 81.78. The SUS Score results are categorized as grade B or very good, which indicates that the system's acceptability and usability are good. SIMAKLIK has contributed to the development of a document management system as an innovative product in health care facilities, especially clinics. In the future, that prototype can be followed up through development by the engineer team.

INDEX TERMS self-assessment, accreditation, document management, clinic, web-based system

I. INTRODUCTION

Accreditation is an important part of the healthcare business. With accreditation, health facilities can demonstrate commitment to quality, patient safety standards and serve as a benchmark. However, accreditation is also a driver for improvement activities from all aspects ranging from structure, process and outcomes[1]. Health facilities around the world consider accreditation as a key approach to achieve the goal of improving the quality of health services[2]. In Indonesia, the government established the Minister of Health Regulation No. 27 of 2019 requiring every health care facility to carry out accreditation in order to control the quality of

health service quality. Thus, private clinics as first-level health facilities are required to carry out accreditation which is also a further requirement in order to establish an extension of cooperation with BPJS Health to run the JKN-KIS program [3]. The National Health Insurance Program or JKN is a guarantee in the form of health protection, so that JKN participants get protection benefits in meeting basic health needs and are given to those who have paid contributions or their contributions have been paid by the Government[4]. This refers to the clinic being able to provide health services to all members of the community, including patients of the JKN-KIS program. Based on data in 2022, the coverage of

community participation in the JKN-KIS program reached 84% or around 226 million people in Indonesia [5]. Therefore, accreditation is an important point for clinics to be able to provide maximum health services for the community. In preparing for accreditation, private clinics must refer to existing accreditation standards [6]. The Indonesian government officially issued new rules related to clinic accreditation standards through KMK No. HK.01.07/MENKES/1983/2022.

Based on data in 2022, the coverage of community participation in the JKN-KIS program reached 84% or around 226 million people in Indonesia[7]. Therefore, accreditation is an important point for clinics to be able to provide maximum health services for the community. In preparing for accreditation, private clinics must refer to existing accreditation standards [8]. The Indonesian government officially issued new regulations related to clinic accreditation standards through KMK No HK.01.07/MENKES/1983/2022.

Based on data at the end of 2020, the fact is that only 40% of government primary health care facilities in Indonesia have been accredited. Meanwhile, there are only 1.7% of private primary care clinics that have been accredited out of a total of 10,238 clinics. The data shows that it is still far from the target set by the Ministry of Health of the Republic of Indonesia to achieve 100% accreditation by the end of 2024. The data was analyzed where the inhibiting factors for first-level health facilities to carry out accreditation included internal staff factors, clinical factors, and owner and staff commitment factors [9]. There is a relationship between the readiness of accreditation documents in the administration and management group on the results of accreditation of health care facilities where health care facilities are more focused on health services while the availability of documents needed to meet accreditation standards has not been maximized [8]. A special quality team was formed to prepare and manage documents including identifying the completeness of accreditation supporting documents in accordance with established standards[10]. The clinic develops and reviews its own accreditation standards in coordination with the clinic owner as an aspect of preparing accreditation documents. Accreditation preparation can describe the condition of patient care and healthcare operational systems for use in improvement and decision-making. This preparation will also lead to greater consideration of patient satisfaction survey results, structured and written procedures, and opportunities for public health quality improvement programs. In this case, accreditation preparation will result in less than optimal survey results and may decrease patient confidence in a health care facility[11].

Based on preliminary studies at the Permata Keluarga Clinic, accreditation documentation was previously manual with paper and partially stored in folders on google drive. In order to adjust to the latest standards, the weaknesses faced were many duplications of new folders because it was still a surgical process to compare the old standard documents with

the latest standards. In addition, on the storage drive display when clicked back officers often forget to be confused and forget the standard or the one that has just been completed. Clinic staff tend to get confused during the document management process. Although the clinic has used a health service system, such as the Clinic Management Information System. The implementation of document archives, the majority of which have not utilized information systems as a support for document management so that the effectiveness and efficiency of work is disrupted[12].

In the health sector, the application of digitalization, including the use of systems that have the advantage of being able to assist medical tasks, is considered to improve the quality of public health services[13]. The development of technological advances in healthcare has contributed to an increase in healthcare demand and costs, especially the implementation of innovative healthcare services[14]. Innovative health services are an effort by health providers to increase patient satisfaction, work effectiveness and improve service quality. In this case, medical recorders and health information will play an important role in health data and information management so as to produce quality information so that health services and management become accurate, timely and relevant. In relation to data and information management in facilitating the clinical accreditation process, one technology that can be developed is an electronic document management system. Document management systems are usually used to manage the documents of an organization[15]. Several document management information systems have been developed by previous researchers, such as the Accreditation Document Management Information System (SISMADAK) and similar document management systems used to search accreditation documents. The information system is provided for hospitals while clinics have not yet implemented a system in managing their documents. In addition, the assessment standards applied to clinics as first-level health facilities and hospitals have different accreditation standards. In order to be a solution to these problems, the accreditation management system comes as an innovative health service to provide solutions for managing clinic accreditation documents that are systemized in the clinic information system so that they can support services and accreditation preparation documents. Users only need to type in the document name for the search process. With a document management system, security settings can be applied through setting the access rights of each user as stated in the SOP document [16].

The accreditation management information system was designed using the design thinking method approach. The design thinking method is an innovative approach that is human-centered or in system design centered on solving problems for system users [17]. The use of the design thinking method is related to the participation of users to collaborate with researchers in formulating problem points and testing solution ideas[18]. Therefore, the accreditation management

information system at primary care clinics needs to be developed according to user needs which hopefully can support private clinics in managing accreditation documents and assessing the level of completeness of documents and making it easier to carry out accreditation self-assessment in accordance with clinical accreditation standards in KMK No. H.K.01.07/MENKES/1983/2022.

II. MATERIAL AND METHODS

This study was conducted at the Permata Keluarga Clinic located at Raya Kadisoka Street, Purwomartani, Depok, Perum Purwomartani Baru Blok 1 No. 1, Sleman, Yogyakarta Special Region, 55281. The research timeframe was conducted at the end of March - July 2023. This type of

research is qualitative research with a design thinking method approach. Design Thinking is a thinking method used in problem formation, problem design and problem solving. This method not only focuses on solving a problem but also designing a problem. In this study, the main problem raised is that the accreditation preparation process at the clinic is still manual and unstructured and there is no knowledge in conducting self-assessment so that the accreditation process is slow and not optimal. The process this method is centered and aimed at humans [19]. There are 5 steps in design thinking including: empathize, define, 8+DZideate, and test [20]. In the last stage, prototype trial data collection is included in descriptive quantitative research using the SUS Score method. The process design step is described in [TABLE 1](#)

TABLE 1
PROTOTYPE DESIGN PROCESS

Step	Activity	Objective	Participant	Data
Empathize	In-depth interview and observation	To get an overview of the process and flow of accreditation preparation at the clinic and the problems of staff in preparing accreditation documents.	4 informants who are members of the clinic quality team, consists of 1 doctor, 1 nurse, 1 midwife, and a pharmacist.	Interview results and observation report
Define	Analyze data collection results	To define the problem into bullet points	Researcher	User pain point
Ideate	Idea analysis UML Basis data	To get solution ideas from user pain points To design the user workflow and interaction in the accreditation module in the system To group the data items needed in the design of the accreditation module	Researcher	Solution Idea Use Case, Activity Diagram ERD and Relationship Table UI Design
Prototype	Application Design	To create an interface design for the accreditation module		
Test	test with SUS score	To test as a form of user feedback regarding the development of new modules and system performance.	7 clinic officer informants including the quality team, consists of 2 doctors, 1 nurse, 2 midwives, and 2 pharmacists.	Analysis of SUS results

III. RESULT

A. EMPHATIZE

The initial stage in designing an accreditation management information system is to explore problems related to accreditation preparation experienced by users through in-depth interviews and observations. Data collection through observation was carried out by seeing and checking the completeness of evidence documents at the Permata Keluarga Clinic. Observations showed that the process of preparing for clinical accreditation was in accordance with operating standards. However, the storage and management of documents still uses a manual paper system and is stored in google drives so that there are no integration efforts in the document. This is what causes loss of documents and scattered documents. There is also no checklist to support the completeness of documents that are adjusted to the latest standards. On the other hand, the division of teams in the

accreditation preparation process has been carried out. The following are the results of the observations that have been made displayed in [TABLE 2](#).

B. DEFINE

At this stage the researcher defines the problem based on data collection obtained during the interview. Where, researchers collect user points of view in accordance with the statements given by users, then grouped using affinity diagrams by grouping similarities in viewpoints, insights and user outpourings. There are 9 main problem points that can be described as follows.

1. The repetition of the same accreditation standard points during the evaluation so that the preparation progress is hampered;
2. There is no checklist / special form to review the completeness of documents so that officers cannot see the

- extent to which documents have been fulfilled; Difficulty in fulfilling the last three months update before accreditation;
3. Accreditation documentation is still not organized due to adjustments to the latest standards;
 4. The understanding and courage of the staff also hindered the accreditation process so that it became an obstacle in the process of completing documents
 5. Changes in formation and lack of human resources constrained accreditation preparation tasks;
 6. Lack of knowledge of the accreditation assessment system;
 7. There is no audit planning and assessing the completeness of accreditation documents;
 8. The team leader has a lot of work to do so he has not had time to coordinate meetings

TABLE 2

Observation Result

No	Objects observed	Observation Results	
		Yes	No
1.	Available files and documentation of letter of decision and Standard operating procedures accreditation	✓	
2.	Checklist and checklist form as per accreditation standards		✓
3.	There is a division of the person in charge of accreditation standards	✓	

Observation Results
Description

There are old drafts stored in folders, the latest is being collected in the media google drive
None, checklist for internal audit only
There is a quality management team. Each officer has structural and functional duties

C. IDEATE

Based on the user problem points and the transfer of solution ideas using "How Might We" that have been described, the solution ideas that can be designed in the accreditation management information system are as follows.

1. ASSESSMENT DOCUMENT MENU

The Assessment Documents menu can be used by users in reviewing the completeness of documents for each chapter and assessment element completed by uploading documents. In addition, in this feature, users can view the document completeness checklist in accordance with the accreditation assessment. In addition, if there is a change in human resources (HR) or recording, it can adjust the documentation accreditation feature to be structured and systematic. This menu can be a solution to user problems in difficulty assessing the completeness of documents, the need to update documents for the last 3 months, changes in human resources are not an obstacle because they have been well documented, plus information on assessment elements that are fulfilled according to the latest accreditation standards.

2. SELF-ASSESSMENT

This menu is designed to be the main solution whose function can provide convenience for officers in conducting accreditation self-assessment in accordance with PMK No HK.01.07/MENKES/1983/2022 standards. In this menu there are features that can display a recapitulation of the accreditation assessment report and predictions of accreditation status determination. This menu can be a solution to user problems in understanding the assessment aspects of accreditation and the need for practical self-assessment.

3. DOCUMENT COMPLETENESS ACTIVITY CHART FEATURE

The document completeness activity graph feature and the number of document trends are used to monitor team activities for team leaders in carrying out their duties as a quality team so that team leaders can see team productivity in completing accreditation documents. This feature is a solution to the problem of repetition in one of the assessment elements only so that with this document completeness activity graph feature the quality team can increase productivity in accordance with the accreditation implementation timeline can be in accordance with the expected target time.

4. NOTES AND RECOMMENDATION FEATURE

The document completeness activity graph feature and the number of document trends are used to monitor team activities for team leaders in carrying out their duties as a quality team so that team leaders can see the team's productivity in completing accreditation documents.

This feature is a solution to the problem of repetition in one of the assessment elements only so that with this document completeness activity graph feature, the quality team can increase productivity in accordance with the accreditation implementation timeline in accordance with the expected target time.

In creating a system design, a Use Case diagram is used to describe the interaction between actors in a system. Where the actors in the accreditation module use case diagram consist of 5 users, namely the chairman, accreditation team members, accompanying officers and surveyors. The SIMAKLIK use case diagram can be seen in [FIGURE 3](#).

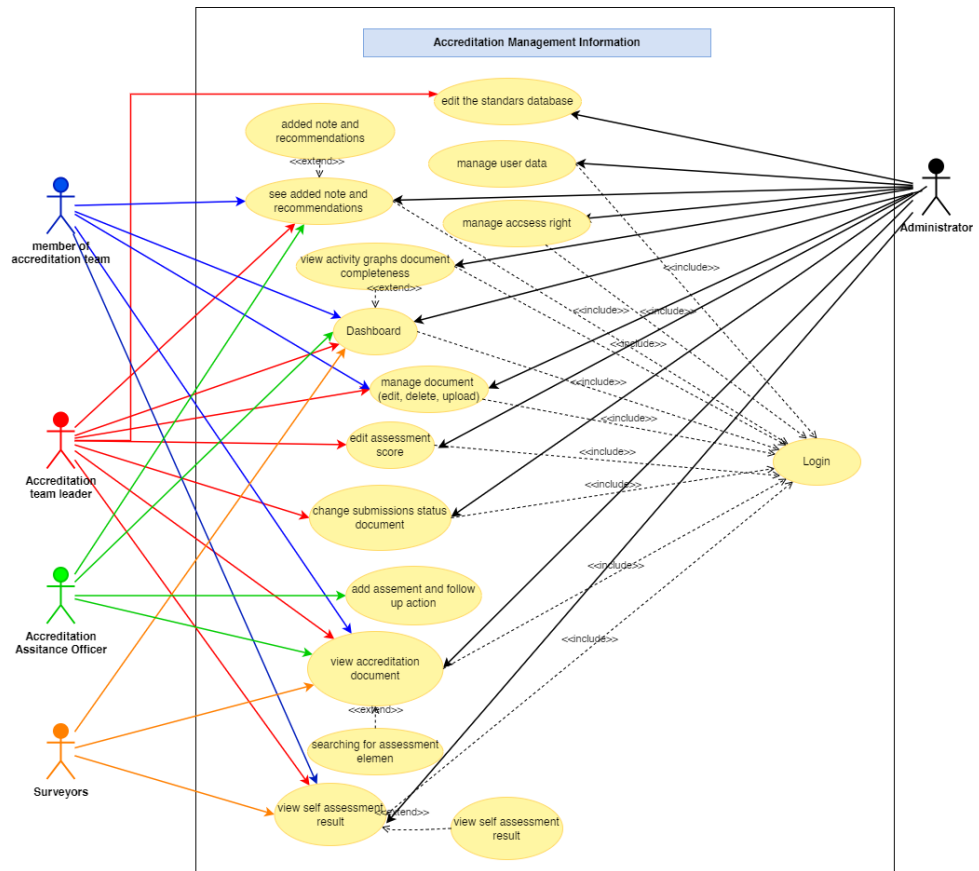


FIGURE 1. The Use Case Diagram of SIMAKLIK.

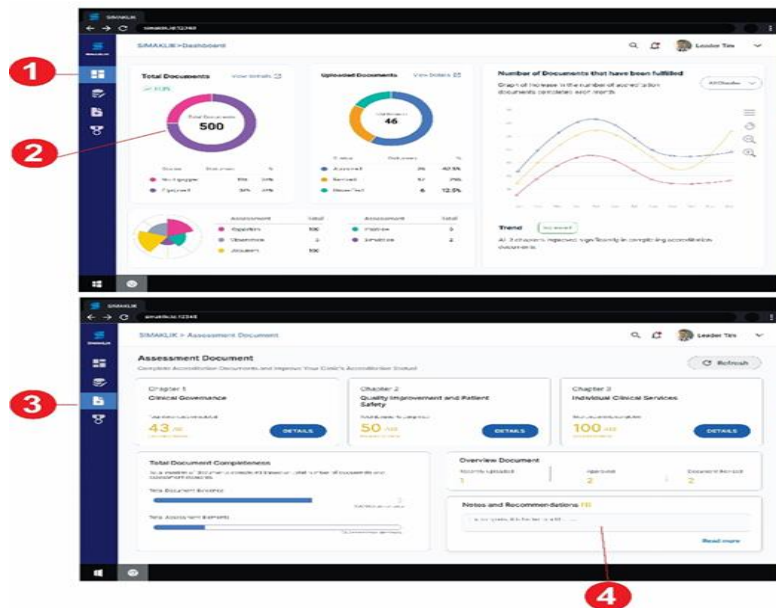


FIGURE 2. The user interface of SIMAKLIK. Note that “Fig. 2” 1. Dashboard. 2. document completeness chart. 3. Assessment document menu, users can see the completeness of the document and edit and upload documents. 4. notes and recommendations feature Use Case Diagram of SIMAKLIK

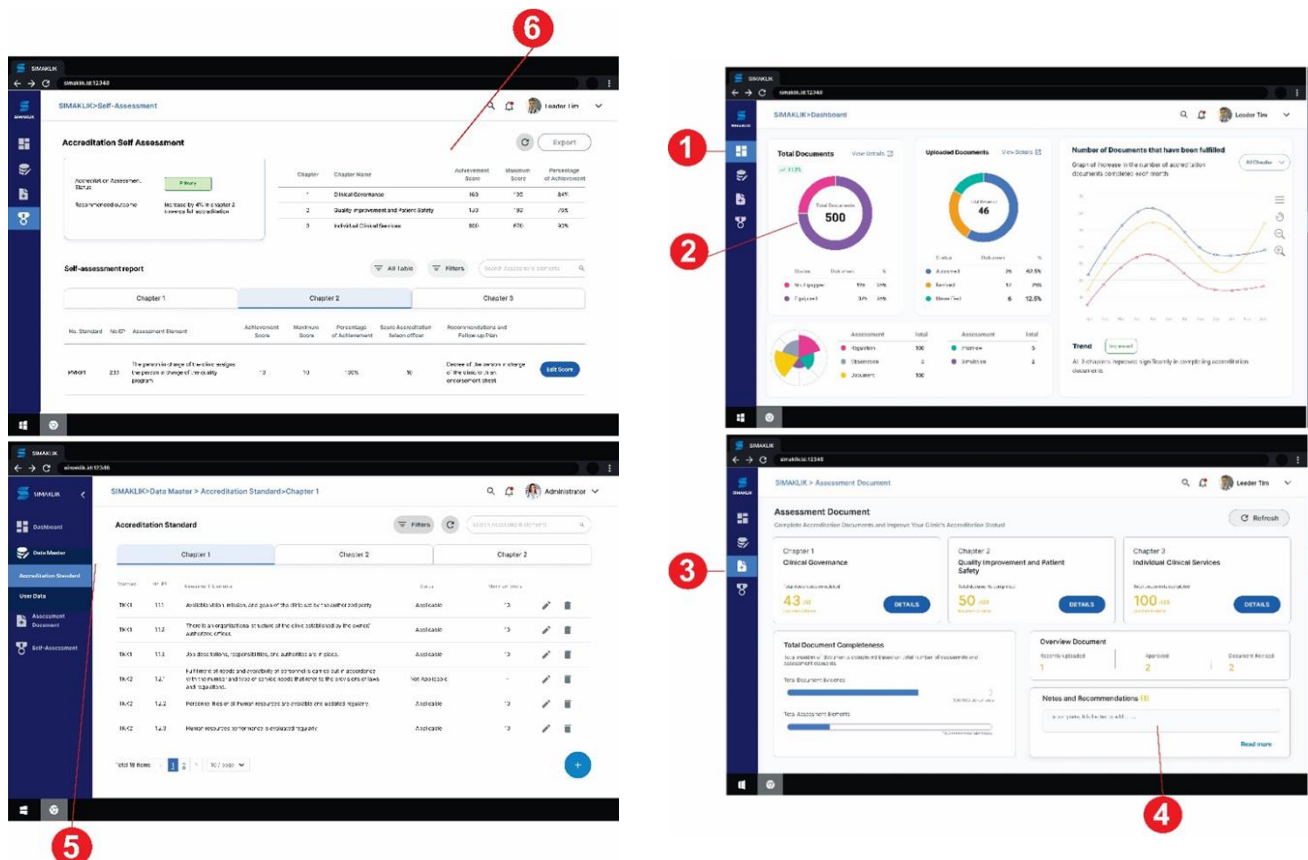


FIGURE 3. The User Interface Of SIMAKLIK. Note That “Fig. 3” 5. Master Data Menu, To Edit Accreditation Standard Data. 6. Recapitulation Results And Determination Of Accreditation Status On The Self-Assessment Menu.

Based on the results of the literature study analysis and the analysis of solution ideas above, from the use case, five users are obtained who can access the accreditation management information system consisting of among others:

1) ACCREDITATION TEAM LEADER

The head of the clinic accreditation team is the leader of the quality management team in the accreditation process and can access all features in the accreditation. In addition, it can also make changes to the accreditation self-assessment process according to the conditions of clinic readiness if needed. This feature is provided for the team leader as the final validator to maximize the self-assessment process in real conditions, which requires the role of users to validate data on the system. The Accreditation Team Leader is usually the main person in charge such as a doctor, the function of the chairman as the main coordinator in the preparation of documents in accreditation, in the system as a role to validate and verify documents.

2) CLINIC ACCREDITATION MEMBERS

The clinical accreditation team is the member in charge of the accreditation process, where team members can access all

features in the accreditation module. However, they cannot validate the self-assessment on the self-assessment menu.

3) ACCREDITATION ASSISTANCE OFFICER

The clinic assistant officer is a person who assists in the fulfillment of accreditation documents and elements for the clinic quality management team. Where the accompanying officer who facilitates the fulfillment of accreditation documents, has access rights, in the assessment document feature only as viewer access, self-assessment and evaluation notes.

4) SURVEYOR

Surveyors are people who assess the completeness of clinical accreditation in accordance with accreditation assessment standards. Where, the surveyor sees the assessment element document attached to the National Information System for Accreditation of Health Service Facilities (SINAF) so that the surveyor can see the documentation of the assessment element document on the accreditation management information system.

5) ADMINISTRATOR

Admin is a user who has all full access rights to data management, accounts, and the Accreditation Management Information System. At the ideation stage, several features that

have been defined to be the idea solution of the problem will be selected for the design of the system prototype.

D. PROTOTYPE

Prototypes are made using the Figma application based on the results of data collection from the solution ideas found. The following is a look at the clinic accreditation management information system

Before entering the system, users are required to log in using the username and password provided by the administrator.. The initial display after the user logs in is the dashboard. Dashboard is a landing page display after successful login. The dashboard page is divided into two views, namely users in the clinic, namely team members, team leaders and administrators and users from outside, namely surveyors and accompanying officers. The quality team officer dashboard view contains data related to team activity charts, document trends and document overviews. Then, the assessment document menu is a feature used to display the improvement of accreditation documents in each of the respective chapters in accordance with accreditation standards. The following are some of the features on the Assessment Document Menu that function to select the intended element, can review the completeness of the document, check the list and upload the document and lock the element to finalize the document on the completed assessment element. The Document Upload feature contains a data table of documents that have been uploaded in order to complete a number of certain elements. Users can upload accreditation documents by selecting the assessment elements to be fulfilled.

Meanwhile, number four is the Self-Assessment Menu, a display used to display the overall results of the self-

assessment of the results of accreditation documentation in the assessment document feature. Then there is also, Accreditation Master Data Menu is a display that stores the entire database related to accreditation. This master data can only be accessed by administrators. Consists of 2 main master data, namely, user data and accreditation standards. Accreditation standard master data is a display used to store all data related to accreditation from chapters, standards, assessment elements, overall scores and completeness of documentary evidence based on regulatory assessment, documentation, interviews, observation and simulation (RDOWS). This master data is provided by the IT development team. However, the Administrator can also be edited according to the needs of the clinic and if there are changes to the accreditation standard regulations in the future. User master data is a feature used to store accreditation-specific user data. Administrators can add user accounts according to the access rights level according to the role in the accreditation process. Administrators can add users if needed in the quality team there are additional personnel who participate in the process of accreditation (TABLE 3).

E. TEST

The designer conducted a prototype trial using the System Usability Scale (SUS) method to 7 informants consisting of the head and members of the quality team and staff who were involved in preparing for accreditation at the First Family Clinic. informants consisting of the head and members of the quality team and staff who are getting involved in preparing for accreditation at the First Family Clinic.

TABLE 3
SUS Score Calculation Score

Informan	Skor Perhitungan SUS										Total	Score
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		
A	4	3	3	3	3	3	4	3	4	3	33	82.5
B	4	3	3	3	3	3	4	4	4	3	34	85
C	3	3	4	3	4	3	4	3	4	4	35	87.5
D	4	3	3	4	3	3	4	4	4	2	34	85
E	4	3	3	2	3	4	4	4	4	4	35	87.5
F	3	3	3	2	2	3	3	3	3	2	27	67.5
G	3	3	3	3	3	2	4	3	4	3	31	77.5
Average Score SUS												81.78

Based on the calculation of the SUS assessment score, the final score of the prototype assessment of the Clinical Accreditation Management Information System (SIMAKLIK) is 81.78. The average score of products or systems from various studies is set at 68. SUS scores that are above the value of 68 mean that a product is above average or has proper usability, while scores below 68 mean that the product is still considered below average and needs to be re-evaluated [21]. The SUS value of 81.78 is above the average value that has been set, namely, 68 so it can be concluded that the designed module is considered

to be sufficiently considered to provide usability and convenience for users.

IV. DISCUSSION

Researchers collected information through observation and interviews with users at the Permata Keluarga Clinic. The interviews were conducted through an empathy dimension approach in order to understand the problems experienced from the user's perspective [22]. Each designer uses different empathy in the design process. Empathy is used to change

emotional feelings in a particular character[23]. As for empathizing, it can be used to gain insight into user needs that can be transformed into a solution idea[24].

In the process of defining problems from the results of interviews by categorizing into several points of view and grouping them based on documentation, managerial, knowledge, information systems and coordination during the accreditation process using affinity diagrams. The scope of user problems relevant to the focus of the topic can be shown using affinity diagrams, where the diagram can interpret user points of view into groups of problems and common themes that can be raised [25]. Problem Points or also called user pain points are used to define the user problems of a system, problems usually arise through 3 levels: interface problems or system usability, system usage flow to achieve goals and user experience levels[26]. In this case, the focus is on identifying problems related to the preparation of clinical accreditation.

A special quality team was formed to prepare and manage documents including identifying the completeness of accreditation supporting documents in accordance with established standards[10]. The clinical quality team's accreditation preparation process still uses paper manual documents and documentation is still adjusting and studying the latest accreditation standards. Manual documentation causes various problems such as, searching for documents that are difficult and time consuming so that it is considered less effective. On the other hand, documentation using Google Drive has weaknesses because documents are easily duplicated and create a relatively large folder space so that it is prone to mixing one document file with another document. In addition, it is prone to duplication of documents with almost the same name[27].

In terms of user understanding regarding the fulfillment of accreditation standards listed in the Decree of the Minister of Health No.H.K.01.07/MENKES/1983/2022 concerning Clinical Accreditation Standards, it is still very lacking. The actors involved must have a good understanding of the policies implemented so that the implementation of these policies can run effectively and efficiently. The clinical quality team involved in accreditation must also be tasked with serving patients in the treatment process at a health care facility so that a tool is needed to be able to facilitate the accreditation documentation process that is easy to learn, structured and in accordance with the latest accreditation standards[28].

After the user's problem has been described into points. The next stage explores solution ideas using 'how might we'. By asking this question, it can frame the focal point of the problem to become a solution idea [29]. Brainstorming technique for collecting solution ideas using the "How Might We" Method. How Might We is used as a way of design thinking in exploring the possibilities of a solution idea for a problem point. The How Might We way of thinking consists of 'How' indicates the way to answer, 'Might' to explore all possible solutions, 'We' refers to the collaborative efforts of a team[30].

In the process of looking for problem solution ideas, it is necessary to collect supporting data in the form of documentation studies related to regulations that support the preparation process for clinical accreditation and documentation studies on the latest accreditation standards. According to the 2015 Guidelines for Accreditation Assistance for First Level Health Facilities (FKTP) in preparing for Primary Clinic accreditation, there are several stages that must be passed including (1) Participating in socialization, (2) Conducting accreditation assistance, (3) Conducting Self Assessment, (4) Making a Follow-up Plan for Accreditation Preparation, (5) Preparation of Accreditation Documents, (6) Manage the management system and clinical service system in accordance with the results of the Self Assessment, (7) Implement in accordance with the policies, guidelines, procedures and programs that have been planned within 3 - 4 months with four mentoring times, (8) Pre-certification assessment by the accreditation assistance team, (9) Propose ready to be accredited (Directorate General of Health Efforts, 2015). The implementation of accreditation, the role of the Health Office is considered important in assisting in each process of the accreditation stages[31].

This stage is intended to formulate solution ideas that are not only creative and innovative but can also have a big impact and become a solution to user problems. Brainstorming techniques will generate the possibility of many solution ideas [32]. The main solution ideas defined by the designer are the assessment document sub menu whose main function is to view and monitor the completeness of documents by uploading documents, the self-assessment sub menu whose main function is to view and generate self-assessments, the completeness graph sub menu to see the trend of document completeness activities and the accreditation master data sub menu to store the accreditation standards database.

Accreditation is usually carried out by a multidisciplinary team of health professionals and assessed against published standards for the environment in which clinical care is delivered [33]. User analysis by defining the actors involved in a system. Actors become a description of what should and should not be done by the system so that it has clear boundaries according to the level of access rights[34]. There are five users involved in the clinic accreditation module, namely the Clinic quality team, accompanying officers, surveyors and administrators. The quality team actor is divided into 2 roles as team leader and member to facilitate coordination of accreditation documentation. Users of this accreditation module are also provided for officers and surveyors. The accreditation preparation process, health facilities are accompanied by a team of assistants to help the accreditation preparation process. Assistance by officers is intended to facilitate clinics to achieve good accreditation standards so that accompanying officers need to access documentation from the clinic quality team[35]. Meanwhile, surveyors are people who will conduct accreditation assessments. Surveyors

will assess documents and regulations in health care facilities in accordance with the quality standards set by the Ministry of Health[36]. The literature shows that using UML can effectively simulate whether the software system is correct. By modeling the system, errors can be corrected in time, so that the system works in a certain way[37]. UML use case views describe the specific needs of users to a certain extent. Modeling the use case view needs to consider the system requirements of external actors, and pay attention to the relationship between actors as a communication model[37].The designer creates use cases to describe the functional requirements of the system and actor relationships. Based on the role in clinic accreditation, clinic staff who are members of the quality team are the main subjects, namely the head and team members in carrying out accreditation preparation documentation. Then, other additional actors, namely accompanying officers who provide assistance to the entire accreditation preparation process, are expected to be able to access the accreditation module. In addition, surveyors can access the documentation to assess the documents that have been prepared by the clinic for the implementation of accreditation. Activity diagrams are used to explain actor activities in use cases. Modeling the workflow and activities of a system with users can be described with an activity diagram [38]. Activities that can be carried out as a whole are accessing the accreditation module, viewing self-assessment results, editing scores and follow-up, editing scores, uploading documents, changing document status, and adding notes. The process of creating an interface design by collecting the results of identifying user needs.

From the results of identifying user needs, the design makes UI Design using figma. In making UI Design, there are several design components that are often used, including text fields, buttons, cards, icons, badges, pagination, radio buttons, dropdowns, text areas and data tables.

The resulting accreditation module display consists of an accreditation homepage, assessment document sub module, chapter detail display, check list display, document upload display, document detail display, self assessment sub module, completeness chart sub menu, accreditation standard master data sub menu, accreditation user master data sub menu.

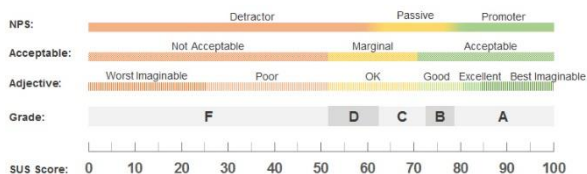


FIGURE 4. SUS Score Interpretation Scale

In designing UI design, the most important thing is what information and knowledge needs to be displayed to the user. It refers to the problem point that the user's understanding of

accreditation is still low. This is the point that the designer prioritizes to display a system that can complement the user's understanding of existing accreditation standards. Based on KMK H.K.01.07/MENKES/1983/2022, clinical accreditation standards include chapters, standard names, and groups of assessment elements. Information points that need to be displayed are more or less related to chapters, standards and groups of assessment elements. In addition, the designer reviews the clinical accreditation assessment document. The Accreditation Standard consists of 3 chapters, where the clinic to get full accreditation all chapters must get a minimum score of 80%, the main accreditation of chapter 1 and chapter 3 is at least 80% while chapter 2 is at least 60% so that the achievement of chapter 2 is very important, when chapter 2 is less than 80% then there is no hope of getting full accreditation [39]. The assessment elements will be assessed by means of RDOWS assessment, namely Regulation (R), Document (D), Observation (O), Interview) Simulation (S).

The designer adds a self-assessment menu by referring to the regulatory assessment that the designer has described. Self-assessment can be a benchmark for values and standards in order to encourage good and maximum management practices[40]. Test stage, testing is done using the System Usability Scale. Prototype testing is done by giving users an explanation of the work of a system. Then, users can try to interact with the system, what users find difficult in using this prototype or not. At this stage, it can also assess whether the solution design made must be improved or not, all depending on the ease experienced by users [41].

The SUS score results can provide a more complete picture of the user's attitude towards the system so that it can see how maximum the system is a solution to the problem points identified by the researcher [42].The trial was carried out by the researcher by explaining the prototype and workflow of the accreditation module that had been made at the prototyping stage. Then, the designer uses the SUS assessment questionnaire by giving ten statements to the user and giving the user the opportunity to ask questions about the explanation of the prototype that has not been understood.

Users are also given the opportunity to be able to interact in the system. In the final stage, users are asked to provide input and suggestions. The usability testing results obtained an average score of 81.78. The score is interpreted on a scale according to the SUS instrument as follows.

Based on the interpretation scale above, the score value of 81.78 is included in the adjective rating category in the clinical accreditation module in an excellent position. The category scale contains adjectives including "Good", "OK", and "Bad" indicating the usability of a system that users feel is good [21]. In addition, the SUS score results included in the user acceptance category are included in the acceptable category where the clinical accreditation module that has been designed can be well received by users. Then, the NPS category is included in the promoter. The promoter category allows users

to recommend the system to other users [21]. Then, input and suggestions from users on testing have not been input that needs significant improvement from the initial needs analysis that has been compiled. Users hope that the design of the accreditation module can facilitate the management of accreditation documents to be easier and more efficient in. In addition, the self-assessment sub menu was responded well because until now there has been no supporting document for making self-assessment. Then, the notes feature is considered to facilitate coordination between the quality team and the head of the clinic. Overall, this prototype can be used in the process of document management, as well as self-assessment in the context of the accreditation preparation process. The user hopes that this prototype can be further developed immediately by the engineer team. The design of the accreditation management information system at the Pratama clinic that has been designed is only limited to documenting documents and management for pre-accreditation preparation. the accreditation module cannot be designed thoroughly until the post-accreditation stage due to the limitations of researchers in collecting data. User Needs Analysis on surveyors and accompanying officers cannot be carried out because the clinic partners do not yet have accompanying officer partners so that the user needs analysis process is based on literature review only. In addition, this system was only tested limited to 1 clinic, therefore for further research it can be more widely applied throughout clinics in the territory of Indonesia. Then, in terms of features that can be further developed in the future by applying the concept of integration through the National Accreditation System which relates to the national accreditation registration process, the Application of Facilities, Infrastructure & Medical Devices in controlling clinic facilities and infrastructure and National Indicators of Quality of health services and One Health Data and of course in the integration process there needs to be cooperation between stakeholders and the government

V. CONCLUSION

This research describes the design, user analysis, prototype, a Clinic Information System, the name is SIMAKLIK for support document management and supporting self-assessment. This prototype is also used as a communication medium for clinics in the process of completing a document through the notes feature. In addition, it makes it easier for users to track and manage very complex accreditation documents. This prototype has been tested to users with an excellent SUS grade, this value shows that prototype is acceptable and has good usability for users. In the future, researchers hope that further system prototypes can be developed by a team of engineers so that they can be

accordance with existing standards. Officers can view and complete documents according to the assessment elements that are the responsibility of each to be a solution to the current storage with a full google drive and there are many duplication folder

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