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Digitization Trends: The Growing Demand for Smart Event Management Systems Among Small Entrepreneurs in Developing Regions

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ABSTRACT

Interaction problems often arise between event managers and participants in making an event a success. This is due to the use of WhatsApp and Telegram group applications which are no longer relevant to be used as the main medium in managing events especially among small entrepreneurs. Therefore, a smart event management system known as SmartEMS is introduced to offer a complete function in managing events and is more user-friendly. The method used in collecting data for this study to identify every problem that arises with the existing event management system is conducted through interview sessions and analysis of existing studies related to this issue. The collected data was analyzed thematically to obtain clear and accurate analysis results regarding the user's needs for the system. In conclusion, SmartEMS can be developed and used to meet the main needs of users, which is a complete function in managing events and is more user-friendly.

INTRODUCTION

Event Management System (EMS) is a web-based application that aims to facilitate the planning, management, and coordination of events by users. This system allows customers to manage all aspects of the event through a single platform, thus eliminating the need to move between different platforms and making the process easier and more efficient (Shah, Vasudavan, & Razali, 2023). The need for this system is seen to increase significantly along with the wave of digitization, including in developing areas such as the new city of Tanah Merah, Kelantan. Based on surveys and studies that have been conducted there, entrepreneurs and small traders such as restaurant traders are also found to be frequently involved in

organizing events physical or online for the purpose of marketing their products and premises. When questioned in depth, they were found to use applications such as WhatsApp and Telegram Group as the main medium to organize an event including management, promotion and communication with participants. This is seen as management that does not efficient and no longer relevant to be used in the long term. Therefore, looking at the advantages of a stable internet line in the area, a system which is a smart event management system or known as SmartEMS is proposed to be introduced in offering event management specifically by providing functions basic and complete including participant tracking in addition to being a medium to promote events to the public. The purpose of this system was introduced to meet the needs of users who may be less technologically literate, faced with financial constraints, and need a system that is easy to use.

METHODOLOGY

For methodology, an interview session was conducted involving 10 local residents of the new city of Tanah Merah including 5 small entrepreneurs from various sectors such as restaurants, grocery stores and Honda branches as well as 5 other people who have been involved in participating in events organized in the same area either physical or online. The question module used in this study to evaluate the performance of the existing system and the user's needs for the system is referred to from the study The DeLone and McLean Model of Information Systems Success: A Ten-Year Update (2003) by William H. Delone and Ephraim R. Mclean. The questions asked in the interview session included how satisfied are you with the system overall, what improvements would you recommend enhancing system functionality and does the system meet your expectations? The data collected from the interview session will be analyzed thematically to obtain clear and accurate results so that they can be implicated in the system developed to meet user needs.

FINDINGS

In finding, thematic analysis has been used to analyze the data collected through the interview sessions conducted. There are several main themes that have been identified in identifying problems and user needs for SmartEMS:

Transition from Physical Event to Online Event

This theme focuses on the transition driven by technological needs and adaptation to new norms, especially after the COVID-19 pandemic. The analysis shows that many small organizers who used to handle events physically had to move to online platforms. This creates the need for a management system that can efficiently manage virtual events. In addition, the study also shows that this shift is beneficial because of lower costs and wider reach of participants, but it also demands a good understanding of technology from the organizers and participants. Therefore, SmartEMS is required to provide user-friendly tools to organize online events and provide support for organizers who are less tech-savvy.

The irrelevance of using WhatsApp and Telegram

This theme focuses on the use of general communication applications such as WhatsApp and Telegram, which are the primary choice of local residents to manage events, are seen as no longer efficient. The analysis found that although these two applications are popular, they are not designed to manage events in detail as required by SmartEMS. Because of that, organizers face difficulties in tracking participant registration, payment, and clear communication as well as a disorganized process structure. Therefore, a more specific and complete SmartEMS is offered to replace WhatsApp and Telegram in managing events. This system is required to support automatic registration, scheduled notifications, as well as the ability to share event information more regularly.

Lack of Finance and Technology Expertise

Small organizers are often faced with financial and technical obstacles in using the existing event management system. Studies show that most event management system on the market today are often complicated to use and require high subscription costs. Therefore, small organizers in developing areas, especially those who cannot afford the cost of a complex system and do not have the expertise to use it, will turn to the use of WhatsApp and Telegram applications which are seen as easier to use but not systematic for event management. Therefore, SmartEMS is required to provide functions that are easier to use and cheaper, with a focus on basic features such as registration management, event promotion, and integration with social media. A "freemium" system is also considered where a service or product is offered for free to users with limited basic features, but there is an option to pay for additional or more advanced features that may be deemed appropriate to ensure that small organizers can afford to use this system.

Complexity of Existing Systems

This theme is more focused on existing event management systems that are often not user-friendly and have complicated processes. Analysis of user studies shows that existing event management systems are usually designed for large companies or large-scale events, which may not be suitable and relevant for small businesses that need a simple, complete and fast system. Therefore, SmartEMS is required to be more minimalist than in terms of functionality, but still provide basic needs such as participant management, payment, and schedule. This system also needs to provide a user interface (UI) that is easy to understand, and intuitive navigation needs to be prioritized so that users who are not familiar with the latest technology can also understand and use it optimally.

Difficulty in Event Promotion

This theme focuses on organizers who find it difficult to promote events they organize outside of their personal network because they are limited to contacts on WhatsApp and Telegram. Analysis of previous research shows that these social communication platforms do not provide a good mechanism for the promotion of events widely, which ultimately restricts access and the potential of the organized event. For that reason, the organizers had to promote their events manually including in other social media to reach the audience which was also seen as a burden on the organizers. Therefore, SmartEMS is required to have integrated promotional features such as access to social media and integration with digital marketing tools such as Facebook Ads or Google Ads. This can help organizers promote the event to a wider audience automatically.

IMPLEMENTATION AND TESTING

For the implementation and testing of the Smart event management system, the User-Centric Design (UCD) principle was used which is a design approach that puts the user at the center of all design decisions. Through UCD, SmartEMS can be created by meeting the needs, expectations, and capabilities of real users, while providing a positive and easy-to-use experience. Therefore, the process of developing SmartEMS has actively involved users in every stage of system development through user research, interviews, testing usage and reviews. This indirectly helps in understanding the user's background, the problems they face, and how the system can solve those problems. This can be explained by looking at the design of the system that has been developed based on the results of the user needs analysis that has been done.

SmartEMS Main Page

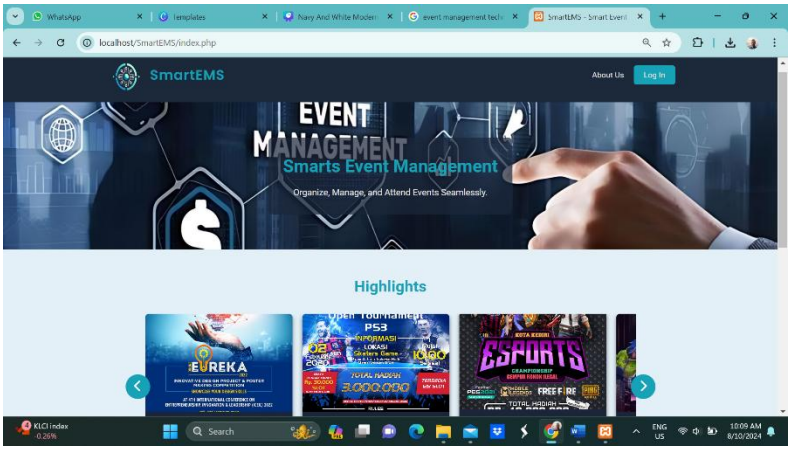

Figure 1 shows the main page of SmartEMS where this page provides information about the system that can be seen on the about us page. This page also provides a highlight section to see events that have been organized and are still active. This highlight can meet the needs of users who need a interesting interface and medium to promote events that are recommended by them to the participants due to the participants having to visit the main page of the system first before logging in to the user page. So, this can indirectly make the user see the highlights provided. This page also provides an exclusive package section at the bottom where it shows the package services provided to users such as package 1 which provides basic services in managing events to organizers with price offers for free. This page also provides a login button located at the top which can be used to go to the login page and enter the user page.

Login and Register Page

Figure 2: Login Page

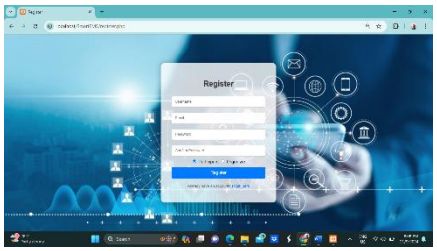

Figure 3: Register Page

Figure 2 shows the login page where this page can be used by event organizers and participants to enter the user page. Registered users need to enter their username or email and password to enter the user page. to users who have not registered can click on register here and go to the register page as can be seen in figure 3. on this page, the user needs to enter information such as username, email, password and choose the type of user either participant or organizer to register. after the user successfully registers, the page will automatically be taken to the login page to enter the user page. due to the user asking for a simpler and simpler registration process, this system only asks for the user's brief information to register, and the detailed user information can be updated in the user's profile column when logging in the user room.

Organizer Page

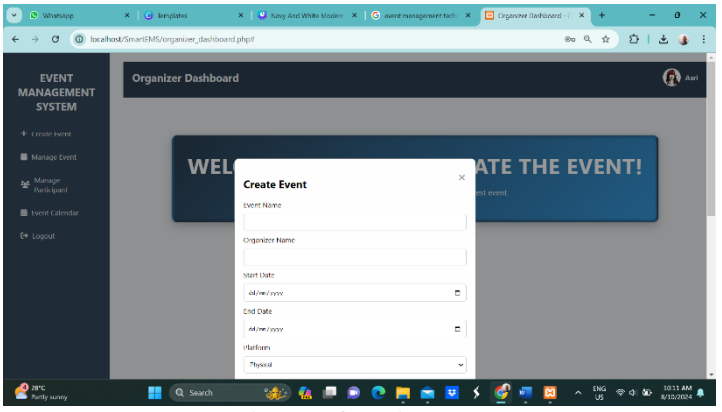

Figure 4: Organizer Page

Figure 4 shows the organizer page. This page provides the main function for the organizer to manage an event as a whole and completely. For the first, the organizer can update user information in the profile section to facilitate event management matters so that the trust of the registered organizer can be ensured to prevent any misbehavior and fraud. Next, the organizer can create a new event that he/she is promoting by pressing the create event button as can be seen in figure 4. The organizer needs to complete the form to create an event and submit. The submitted event will have a pending status and will be checked by the admin to ensure the validity of the event and approved. When the event has been approved, the organizer can manage it on the event management page by pressing the manage event button. The organizer can update the event information in the room according to current needs and use the services provided including the management of registered participants. The organizer can also check the schedule of the event he is organizing with other events organized on the event calendar button. After finishing managing the event, the organizer can log out of the page and return to the SmartEMS main page.

Participant Page

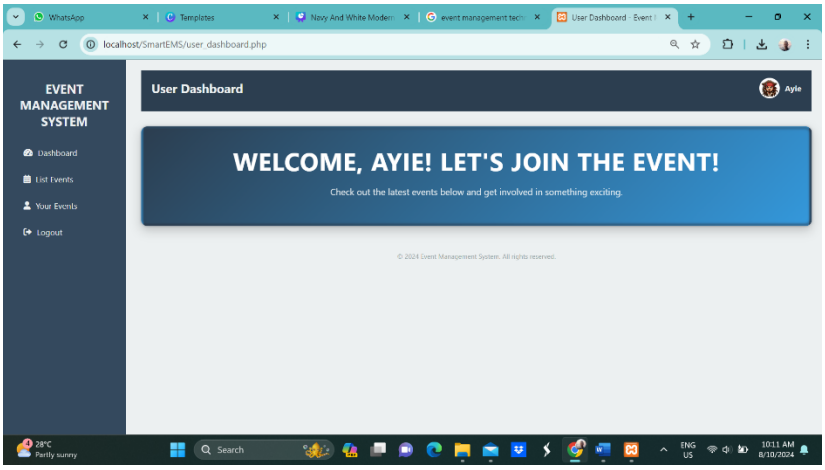

Figure 5: Participant Page

Figure 5 shows the user page for the participant. First of all, the user needs to fill in the participant's information in the profile section to facilitate the event joining because that information will be used and given access to the organizer. Therefore, the user only needs to press the join button to join any- which

event is desired. This page also provides a dashboard button that provides calendar events for the user to see and an event list button that shows all the lists of events that are organized. The user can use search to find the event he wants and see detailed information about the event that is available at list and can join it by pressing the join button. When the user participates in an event, the user can check the progress and information during the event to attend the event in your events section. Complete information about the event will be provided by the organizer including a link to the attendance form and online meet for online events and event programs for physical events. Users can also use the reward button to check and claim rewards provided by the event such as e-certificates or medals. So, claims can be made on the page including direct contact with the organizer. Finally, if the business is finished and there is no other business, the user can logout by pressing the logout button under the profile button and return to the SmartEMS main page.

Admin Page

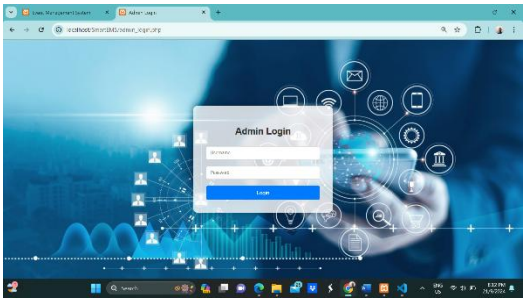

Figure 6: Admin Login Page

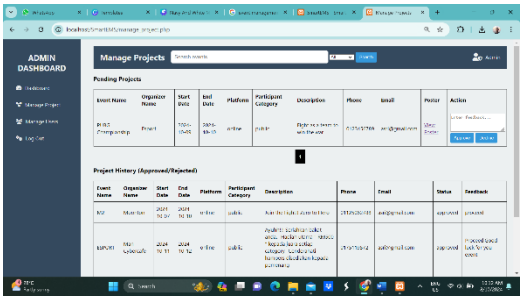

Figure 7: Admin Page

Figure 6 shows the login page for the admin where only one admin id can log in to the admin page. The admin page also provides a profile section where information about the admin can always be updated. This page provides a dashboard that displays the organized event calendar. The admin can also press the button manage project to check the event submitted by the organizer to be approved. When an event is approved, the event information will be indirectly displayed in the event list for participants and highlighted for all users. Admin can also check, block and delete user accounts in the section manage users including participants and organizers. In the settings section, users can update the services provided to organizers and users. Admin can log out after completing the business by pressing the logout button located under the profile button and return to the admin login page.

DISCUSSION

For discussion, the issues arising from the thematic data analysis have listed some of the main issues faced by entrepreneurs and organizers of small events in the new urban area of Tanah Merah and how the Smart Event Management System (SmartEMS) can provide solutions to these problems. including the inefficiency of current methods, the irrelevance of communication applications used such as WhatsApp and Telegram, financial and technological constraints, the complexity of existing systems and challenges in event promotion. Therefore, SmartEMS addresses these problems by offering easy-to-use tools to manage online events, especially for organizers who are less skilled with technology. Due to small event organizers who usually use WhatsApp and Telegram to manage events even though these platforms are not designed for detailed event management, the main functions in managing events such as participant tracking, communication, and payment processes become complicated and not organized when managed through these applications. So, SmartEMS has also been developed to replace these inadequate tools by offering

specific features for events such as automatic registration, scheduled notifications, and more structured communication methods as can be seen in Figure 5.

Futhermore, SmartEMS also offers a more affordable and intuitive solution to users through a "freemium" model. this allows users to access basic features for free with the option to pay for advanced features if needed and ensures that this system is accessible to those with limited financial resources as can be seen in the exclusive package section in figure 1. For problems complexity of existing systems, SmartEMS simplifies this process by offering only the necessary features such as participant management, payment processing, and event scheduling, while maintaining a user-friendly and easy-to-understand interface as can be seen in figures 4 and 5. SmartEMS addresses the problem of the limitation of this promotion by integrating promotional tools such as highlight columns, event lists, social media links and digital marketing platforms such as Facebook Ads and Google Ads as can be seen in figures 1 and 5. This indirectly not only reduces the manual effort required for promotion but also expanding the organizer's reach to a wider audience and being able to optimize the potential of organized events.

CONCLUSION

In conclusion, SmartEMS is sure to offer the best and ideal solution for small entrepreneurs and event organizers in developing areas such as the new city of Tanah Merah. A thematic analysis of the challenges they face such as the transition to online platforms, reliance on inadequate communication tools, financial constraints, complex systems, and difficulties in promoting events have shown the need for a simpler and more affordable event management system. Therefore, SmartEMS has been introduced with a user-friendly interface, reasonable cost, as well as the integration of event-specific features that meet the main needs of these users. This system allows small organizers to effectively manage physical and online events, promote their events to a wider audience and increase the potential of organized events, as well as operate within the financial and technological limitations they face. In addition, the freemium model of the system used can also ensure that even those with limited financial resources can still access the basic functions of event management. So, this indirectly makes SmartEMS a tool that has the potential to change digital event management for the better and the extension for small entrepreneurs.

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