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Development of Event Hall Scheduling and Management System (EHSMS)

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Abstract- *An event hall is a venue in which occasions like weddings, galas, conferences, and other gatherings of a similar nature are held. Conference rooms, banquet halls, outdoor tents, chapels, and/or commercial kitchens dedicated to such occasions are examples of such uses. Scheduling, planning and managing this resource manually is difficult and highly provoking task. This research work aim at eliminating the challenges associated with manual approach of event hall scheduling which include manual reservation, lack of real-time, reliable and accurate activities report. Programming language and software used for the design includes Hypertext Markup Language (HTML), Cascading Style Sheet(CSS), JavaScript and Bootstrap for the frontend and Php(Hpertext Processor) strictly used for the backend. The system maintains a database of user contacts, associated event information, and hall reservations in addition to monitoring the state of the hall and reservations made in advance. Using the system GUI, the administrator can quickly view the hall bookings and timings. Mean Opinion Scores (MOS) among the hall managers and consumers (clients) were used to evaluate the system. The evaluation findings demonstrate that both the internal and external ratings of the system by the users (hall managers and customers) are above 97.32%, demonstrating the system's outstanding performance. The study's final finding is that the system can be simply used for event hall bookings, planning, and management.*

Keywords*: Database, Event, Scheduling, Planning, Reservation, System*

Introduction

People are now aware of the importance of information and communication technology (ICT) for enhancing the daily activities of individuals, organizations, and institutions as the world grows more interconnected and moves toward ubiquitous computing. Our regular activities at work involve appropriate interaction because it is one of the frequent tasks in an organization (Kokkinaki et al., 2020). Events have the unique capacity to physically unite people, inspire them, and compel them to speak in ways that are difficult for other methods to replicate. Even though occurrences play a significant role in human life, the topic is underdeveloped and requires further development. (Ackermann, 2023). An event is a planned gathering made up of a series of activities with definite objectives and needs for the participants. An event can be a gathering, a musical performance, the marketing of a product or brand, a convention, a conference, an exhibition, a special event, a wedding, a party, a gala dinner, etc.

A hall is an extensive room or building that hosts public events like performances and conferences. The word "venue," which refers to a location where individuals gather, comes from the Latin word "venire," which means "come." Another meaning of venue is specific to the law as the place where a trial will be held, and the area from which the jury will be selected (Malhotra, 2019). A venue can also be terms as hall, where by a hall is a huge space or area which can be used for public activities like concerts, exhibits, meetings etc. The organization and carrying out of every kind of programs and events, such as conferences, meetings, exhibitions, festivals and other cultural gatherings, sporting activities, private gatherings, and a plethora of other special occasions, falls under event hall management. Event hall means a venue for holding of activities which may include wedding, conferences, galas and others similarities. Hall that may be use for such activities include conference rooms, banquet halls, a chapel or other ceremonial space for events, outdoor tents, and/or commercial kitchens serving such events. For greater clarity this definition does not include a restaurant serving the traveling public (Getz, 2020). An event management program (or event management

software) can help with the preparation, execution, and evaluation of a successful event. We have to comprehend how to conduct our event in the new environment of today in order to make it entertaining and memorable. Many organizations consistently organize a variety of events as part of their business operations. Since event management requires a range of skills and specific expertise, it can be difficult. Organizations can allocate proper time and resources to event management by having a better understanding of how it operates. The field of event management is a new and vibrant one that emerged to handle various types of events, contingent on the attendees' numbers. Event management is the integration of all the tasks and operations required for carrying out an event in terms of its strategy, planning, execution, and control, using the methods and ideas of event marketing.

With a real comprehensive event management system (ESM), users and organizers of events will be able to access and manage all aspect of an event, including registration, advertising, interaction, connections physical planning and preparation, reporting and analytics, and more. Event hall management systems are software solutions designed to streamline the management of event venues, including booking, scheduling, resource management, and communication. These systems are utilized by event venues, such as hotels, conference centers, and dedicated event spaces, to efficiently handle the logistics and operations of hosting various events (Getz, 2020).

In today's fast-paced world, event management has become increasingly complex and demanding. Event halls and venues are constantly faced with challenges in managing bookings, scheduling, customer communication, resource allocation, and billing. Traditional manual methods are time-consuming, prone to errors, and limit the potential for growth and scalability. To address these challenges, the development of a web-based Event Hall Management System is crucial (JosephNg et al, 2022). The advent of web technologies and the increasing use of the internet have revolutionized various industries, including event management. A web-based system offers numerous advantages, such as accessibility, real-time updates, automation, and seamless integration with other systems. This proposal aims to leverage the power of web design to develop a comprehensive Event Hall Management System that enhances efficiency and customer satisfaction (Malhotra, 2019).

An array of individuals come together with the intention of working to accomplish the organization's objective. As events are one of the most common duties in a company, it is important for us to interact properly at the workspace during our regular operations. Events offer the unique power to physically unify people, stimulate them, and encourage communication in ways that are impossible to duplicate through other means. Events play an important part in human life, however the subject lacks depth and requires adequate education (Malhotra, 2019). An event covers an array of functions in numerous situations. This term covers social gatherings, games, meetings, entertainment, celebrations, and more. It has become customary to refer to whatever involving people as an event.

Users can manage and monitor all aspects of an event, such as registration, planning, reporting, and more, in a single location with administration resources and software.Singh et al. (2022) stated that the benefits of automated event hall include :

i. Minimize Administration Efforts:
ii. Eliminate communication barrier between the planner and resource provider
iii. Digitize How Your Events Are Run
iv. iv. Plan future events faster
v. Gain access to detailed reports and analytics

For resolving the crucial scheduling-related issues, numerous research projects and numerous algorithms have been devised, tested, and implemented. Numerous popular methods, including Priority Scheduling, First-Come, First-Served (FCFS) Scheduling, Round Robin (RR), Shortest-Job-First (SJR) Scheduling, and many others, have been used to solve the scheduling problem.

An event includes getting people together in a specific location and over a specific period of time. The main issues are finding the right venue for each event and communicating information about it (Perez et al., 2017). The limitations of manual message delivery include the suggested receiver's unavailability and the dispatcher's suppression of crucial information, among others. Because there is no adequate documentation on the event, another issue is that individuals tend to forget the event's date or time. Sometimes the event's aim is not clearly communicated, which results in a lack of preparation for such meetings.

Research Methods

Relevant data were gathered through personal observation and direct interview of some event halls manager and clients/customers, the programming language and software used for the front end of the system are HTML, CSS, Bootstrap and JavaScript while Php was used for the backend.

System Design

Customer Registration Page

In the system, this page will accept brief new customer's information. The customer's information which are expected to be input include are Customer Name, Email, Address, Phone number, Password, Town/City and Picture.

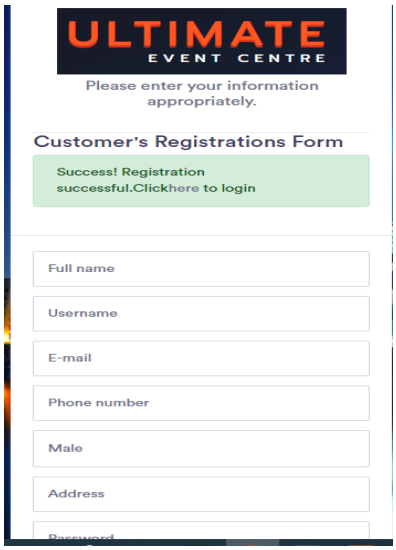

Figure 1: Customer Registration Page

Login Page

This page give users access to the system, the user gain access into the system by entering valid username and password.

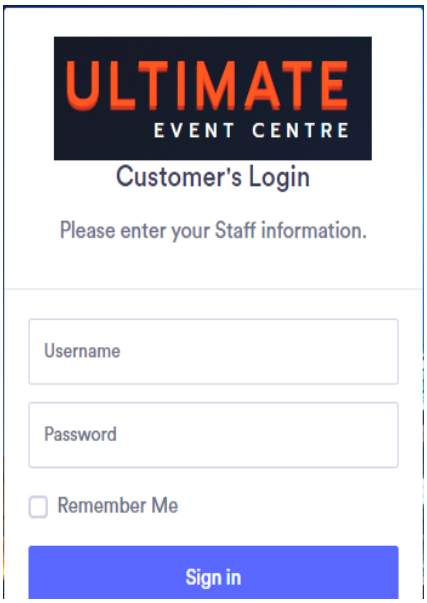

Figure 2: Customer Login

The Reservation page

Here, various available even hall is displayed for the user to select the interested one, the picture of different hall and the available facilities is display.

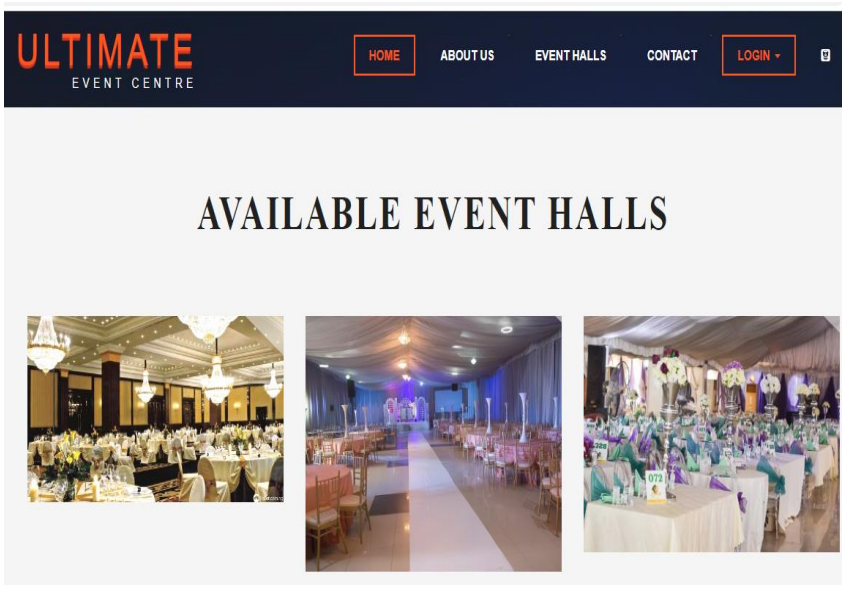

Figure 3: Reservation Page

Admin Dashboard

Admin dashboard consist of various operations that can be performed by the admin. Admin can add new hall, preview information about the existing hall, add new hall, preview reservation information, access payment report and print reservation report.

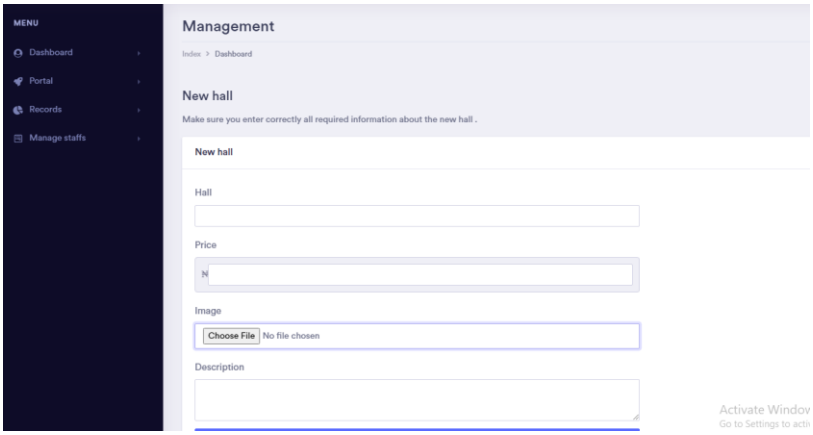

Figure 4: Add Event Hall and Amenities

Payment Page

This page is used by the customers/client to make payment for hostel reservation. The customer select the required facilities and cost of such a facilities is displayed for further processing.

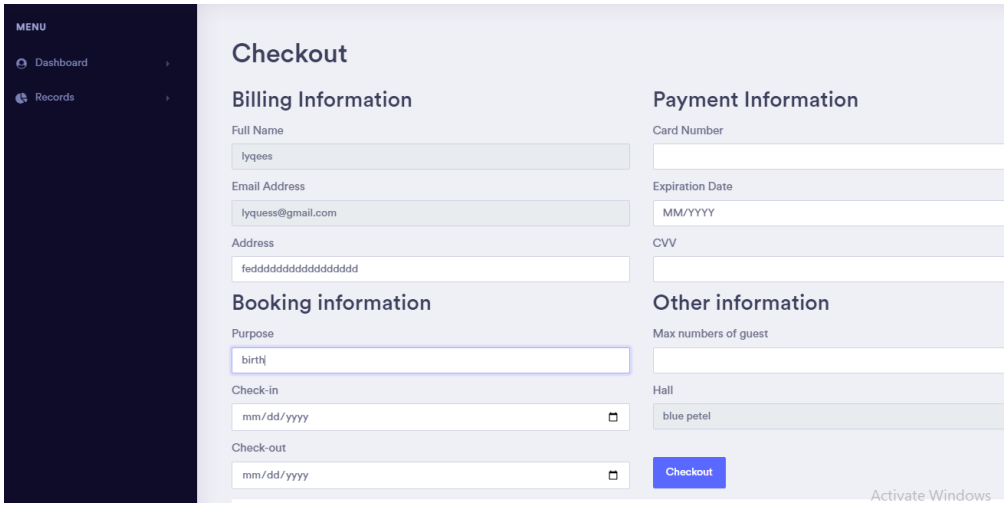

Figure 5: Payment Page

3.0 System Evaluation

From our discussion in the methodology, the aim of the research work is to develop a system and not to investigate or compare a system. Therefore, the mean opinion score is used to test the outcome of the system. The program testing follows two distinct stages:

a) ***External Quality Testing:*** This includes testing for features like economy, resilience, transferability, clarity, user interface, and ergonomics that are readily apparent to end users or the player.

b) Internal Quality Testing: This involved the testing that is concerned with internal technical issues of the software such are; Portability, Efficiency, Modularity, and Maintainability. ***Internal Quality Testing:*** This

involved the testing that is concerned with internal technical issues of the software such are; Portability, Efficiency, Modularity and Maintainability.

During the system's deployment, the mean opinions score (MOS) was documented. Thirty (30) customers or clients and ten (10) event hall managers oversaw its administration. The players (event hall managers and customers) who were specifically chosen to interact with the developed system were given questionnaires to complete after making multiple attempts, and they were asked to rate the system based on the aforementioned software quality rating. The outcome, which was rated from 1 (very terrible) to 5 (very good), demonstrates that the system performed significantly better than average.

Results

The chosen players were involved for a while, fifty-five (55) responders were given a questionnaire based on the aforementioned parameter described above. First, the results of the EHSMS System's internal and external quality testing are displayed in turn in Table 1, Table 2, Table 3, Table 4, and Figure 1, Figure 2, Figure 3, Figure 4. The tables in this section display the total weighted percentage in relation to the rating criteria.

Table 1: External Software Quality Rating for Player (Even Hall managers)

Parameter	**Excellent (5)**	**Good (4)**	**Fair (3)**	**Poor (2)**	**Bad (1)**	**Sum of Respondent**	**Sum of points**	**Average**	**MOS Percentage**
Clarity	4	1	0			5	24.00	4.80	96
User interface	5	0	0			5	25.00	5.00	100
Usability	3	2	0			5	23.00	4.60	92
Economy	4	0	1			5	23.00	4.60	92
Validity	5	0	0			5	25.00	5.00	100
Timeliness	4	0	1			5	23.00	4.60	92
Average	**4.17**	**0.5**	**0.33**	**0**	**0**	**5**	**23.83**	**4.77**	**95.33**

Table 2: External Software Quality Rating for Player (Customers/Clients)

Parameter	**Excellent (5)**	**Good (4)**	**Fair (3)**	**Poor (2)**	**Bad (1)**	**Sum of Respondent**	**Sum of points**	**Average**	**MOS Percentage**
Clarity	48	1	1			50	247.00	4.94	98.8
User interface	47	1	2			50	245.00	4.90	98
Usability	50	0	0			50	250.00	5.00	100
Economy	49	0	1			50	248.00	4.96	99.2
Validity	50	0	0			50	250.00	5.00	100
Timeliness	49	0	1			50	248.00	4.96	99.2
Average	**48.83**	**0.33**	**0.833**	**0**	**0**	**50**	**248**	**4.96**	**99.2**

Table 3:internal Software Quality Rating for Player (Even Hall managers)

Parameter	**Excellent (5)**	**Good (4)**	**Fair (3)**	**Poor (2)**	**Bad (1)**	**Sum of Respondent**	**Sum of points**	**Average**	**MOS Percentage**
Correctness	5	0	0			5	25.00	5.00	100
Efficiency	4	0	1			5	23.00	4.60	92
Modularity	3	1	1			5	22.00	4.40	88
Documentation	4	1	0			5	24.00	4.80	96
Accuracy	5	0	0			5	25.00	5.00	100
Maintainability	4	1	0			5	24.00	4.80	96
Average	**4.17**	**0.5**	**0.333**	**0**	**0**	**5**	**23.83**	**4.77**	**95.33**

Table 4: Internal Software Quality Rating for Player (Customers/Clients)

Parameter	Excellent (5)	Good (4)	Fair (3)	Poor (2)	Bad (1)	Sum of Respondent	Sum of points	Average	MOS Percentage
Clarity	48	2	0			50	248.00	4.96	99.2
User interface	49	1	0			50	249.00	4.98	99.6
Usability	50	0	0			50	250.00	5.00	100
Economy	49	1	0			50	249.00	4.98	99.6
Validity	48	0	2			50	246.00	4.92	98.4
Timeliness	49	1	0			50	249.00	4.98	99.6
Average	**48.83**	**0.83**	**0.33**	**0**	**0**	**50**	**248.5**	**4.97**	**99.4**

Conclusion and Recommendation

Since events are one of the most common tasks in an organisation, it is necessary for us to interact properly at the workspace during our regular duties. Events possess the unique power to physically unite people, inspire them, and facilitate communication in ways that are difficult to replicate through other channels. Manual scheduling and management of event results in time consuming, resource wastage and inaccurate report. EHMSS is design to address the aforementioned problems, the system was evaluated and the evaluation results shows that average MOS is 97.32, this shows that the system is reliable and very effective.

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