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Acceptability of AutoBeaut: An Automated Judging System for Beauty Pageants Throughout the Five Years Operation

John Edgar S. Anthony*

Abstract: The Philippines is a home of hospitable, peace-loving, beautiful, handsome, and intelligent people. Beauty contests are always part of traditions and in celebrating festivals, fiestas, and other social activities. When the beauty contests are done, people often feel disappointed in the results because errors usually occur in the manual computation of the scores. As a result, the judges are oftentimes commented as biased, that judges have their proteges, and favoritism prevails. Thus, with the advent of technology, AutoBeaut was developed, intended for barangays, municipalities, organizations, and institutions. The contests consist of different categories to be competed in by the candidates, and every category has its own criteria. The application runs on desktop computers and mobile phones. The pageant's results will be sent to the server, and the tabulated results will be printed. The Prototyping Model was used in the development of the system. The system was used in the different beauty pageants, especially for organizations or agencies requesting the Pageant Computerized Tabulation System. This is one of the extension activities of the College of Computer Studies, particularly the Bachelor of Science in Information Technology. The system is important in computing, tabulating, and monitoring the scores given by the judges to every candidate. Results would be readily accessible once the judges entered the points garnered by candidates. It will lessen and hasten the work of the judges and statisticians and provide fast, accurate, valid, and reliable results that can be retrieved anytime if somebody needs the computation for reference. The system was tested and evaluated by the respondents based on ISO 25010 and rated as "Very Acceptable" among the different criteria set.

Keywords: AutoBeaut, Beauty, Candidates, Judging App, Pageants

1. Introduction

The most common competition in every celebration, locally and internationally, is a beauty pageant. A beauty pageant or beauty contest is a competition focused on judging and ranking the contestants'

* College of Computer Studies, Mindoro State University, Oriental Mindoro, Philippines
Email: jeanthony73@gmail.com

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physical attributes, personality traits, talent, and intelligence, which they gauge by answering questions made by judges or the pageant's committee [1].

The committee of each pageant sets the rules and criteria of the competition, including the age range of contestants, civil status, gender, nationality, and even the clothing standards, including the gown, swimsuit, national costume, native costume, formal or casual, and many more. If the candidate does not meet one of the criteria, they will be disqualified.

The most well-known pageant in the world is Miss Universe [2]. This worldwide pageant competition has been held annually since 1952 and is organized by the Miss Universe Organization. Eighty-nine candidates from different countries participate in the competition every year. It is broadcast in over 190 countries worldwide and is watched by over half a billion people a year. Over the years, the format and the criteria have slightly changed. The most common format is as follows: Preliminary round, in which all candidates are judged in three areas: Interview, Swimsuit, and Evening Gown, to choose the top 10 or 15 semifinalists who will move forward to the competition. Then, the semifinalists will compete again in swimsuits and evening gowns to choose the best five finalists. Finally, the five best candidates will go through an interview round to select the runners-up, and the winners will be announced [3].

Barangays, schools, colleges, universities, institutions, and companies also hold beauty contests during important occasions or celebrations. One of the problems in organizing such a competition is the standard way of tallying or computing the criteria they set for the competition. When the results come out, people sometimes feel disappointed because there is an error or the judges are biased. In the worst scenario, people accuse the results of being changed.

Thus, with the help of technology, the researcher developed the AutoBeaut application, intended for beauty pageants in every barangay, municipality, organization, and institution. The application already consists of different categories to be competed in by the candidates, and every category has its own criteria. The application can be run on desktop computers and mobile phones. The results will be sent to the server, and the tabulated results will be printed.

The system was created for computing, tabulating, and monitoring the scores for each criterion the judges give to every candidate. The results in each criterion and overall results would be readily accessible once the judges entered the earned points of candidates. The purpose of this application is to lessen and hasten the work of the judges and statisticians. It provides fast, accurate, valid, and reliable results, and it is available anytime if somebody needs the computation for reference.

Developing this study aims to provide a scoring system that can generate results faster and accurately also it covered the design, development, and evaluation of the web-based scoring system intended for beauty pageants [4].

Generally, the study aimed to design and develop AutoBeaut: An Automated Judging Application for Beauty Pageants.

Specifically, the study aimed to:

1. develop an interactive computer-based and mobile-based scoring application for the judges;
2. develop a computerized and standardized scoring system for each criterion for judging and tabulate the scores;
3. generate an automated computation and accurate tabulation of results in the different criteria, minor and major awards; and
4. implement the developed system for the specific client or organization.

2. Project Design and Methodology

2.1 System Architecture

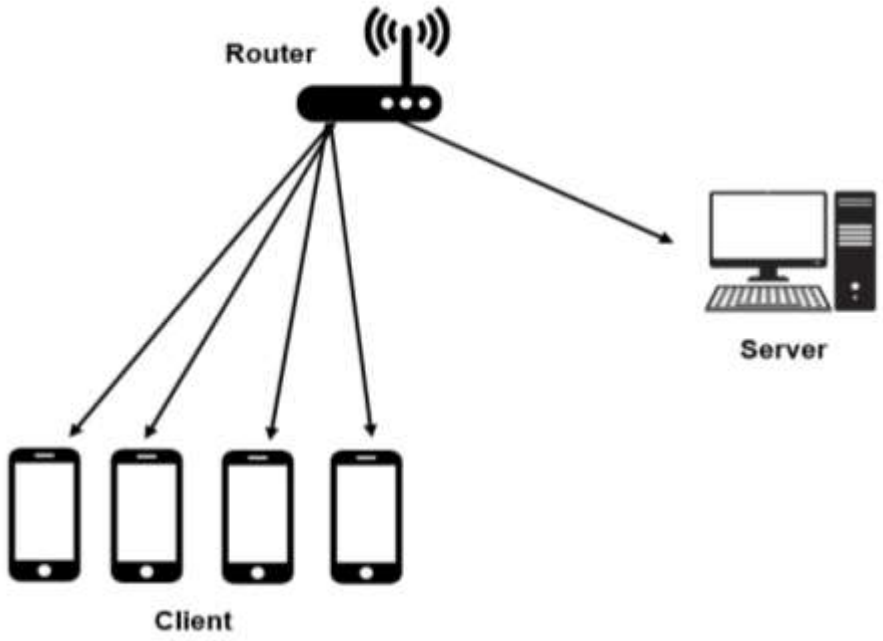

Figure 1. System Architecture

The study focused on the Automated Tabulation System for Beauty Pageants. The system is for male and female beauty contests. The contest consists of different categories that the candidates will compete in; every category has its own criteria. The system has two sub-systems: the admin and the client. On the admin side, the statistician will control and access all the system's functionality on the client side. For the client side, that will be for the judges that serve as the interface to send the scores of the candidates in every category, which will automatically be sent to the admin side. The system can run on desktop computers and mobile applications.

Each judge will have their account used to access the application using their mobile phone or desktop computer. In the application, the judges need to tap the pictures of the candidates to proceed with the pageant categories. The system will show the name and group of the candidates. It also displays the criteria, ranking, rules and regulations, and contestants' scores.

For the administrator or statistician of the system, they can monitor the scores and status of each judge. The system automatically generates reliable and timely results in every category.

The system was developed using PHP, MySQL as the database, and the LARAVEL Framework. The system needs a router or wireless local area connection so the client can access the system. The admin will give all the clients access using their username and password. The client's score will be submitted to the server, and the server will generate accurate and timely results. The server can manage the users; add, edit, and delete candidates; add, edit, and delete events; add, edit, and delete categories; add, edit, and delete judges; and generate results by category and overall result. The client can perform the following activities: log in and access the system, view the candidate list, view the event list, view the category list, and submit a score.

2.2 Development Method

The system has two subsystems: (1) Administrator and (2) Clients. In the administrator system, the admin needs to login first in order to access and manipulate the system. The Administrator can view the dashboard of the system; it includes the number of users, candidates, events, and judges of the system. It can add, edit, and delete candidates, events, judges, category, and subcategories. In the admin, the results of the pageant can be generated once all the judges have submitted their respective scores of the candidates in a specific category.

The following are the Administrator system outputs:

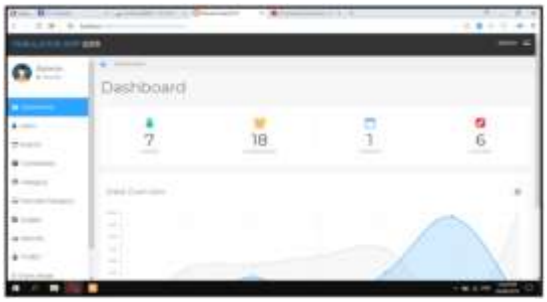

Figure 2. Admin Side Dashboard

Figure 3. System Users Account Information

Figure 2 shows the dashboard of the admin, which shows the number of users, candidates, events, and judges of the system. In Figure 3, it shows the system users account information, such as the name of the judge, type of user, and username.

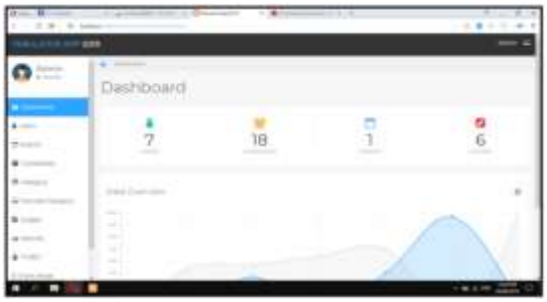

Figure 4. Event Menu Information

Figure 5. Candidate's Information

Figure 4 shows the event where the system is being used, it includes the title, sponsor, description, date, and result type. Figure 5 shows the candidate information, such as the contestant number, name, age, gender, and event name.

Figure 6. Adding New Criteria Form

Figure 7. Category Activation

Figure 6 shows the addition of new criteria for the specific beauty pageant. It includes the following information: event name, criteria, sub criteria, and corresponding points. Figure 7 shows the activation of each category of the criteria for the specific beauty pageant.

Figure 8. Judges Information

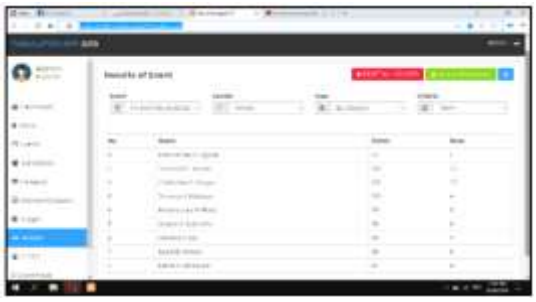

Figure 9. Results of Event Information

Figure 8 shows the judge's information; it includes the judge's number, name, username, password, and event name. In Figure 9, it shows the results of the event in each category and criteria, along with the generated ranking of the candidates.

On the client side, the judges will just log in using their username and password. The system can be used on desktops, laptops, and mobile phones. The client must be connected to only one local connection. The judges will just choose the category of the pageant and click on the pictures of the candidate. In each category, the judges need to choose the score, and if done, they need to click the submit button. The scores of the judges will be automatically sent to the server or the administrator of the system.

The following are the client system outputs:

Figure 10. Client Home Screen

Figure 11. Client Login Form

Figure 10 is the judge's home screen on their respective mobile phones or desktop computers. The judges are required to login with their respective usernames and passwords in order to use the system. Figure 11 shows the judge's login form; they need to type the information needed in the box and select login.

Figure 12. Judge Login Information

Figure 13. Category Form

Figure 12 shows the current judge's login in the mobile application. In Figure 13, it shows the different categories of the beauty pageant and the corresponding points for each criteria.

Figure 14. Individual Candidates Scoring Form

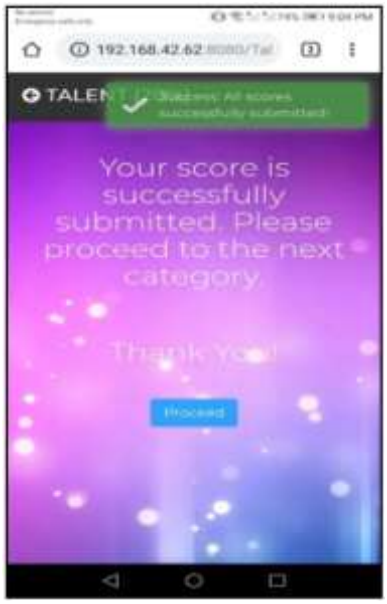

Figure 15. Notification for Submission of Scores

Figure 14 shows the individual candidates scoring, and the judges need to click the submit button in order to submit their points to the Administrator of the system. Figure 15 shows the notification for the submission of scores from different categories.

2.3 Development Method

This study employed Developmental, Descriptive Research, and Prototyping Model development. It is a problem-oriented and interdisciplinary research methodology. Developmental research, as opposed to simple instructional development, has been defined as the systematic study of designing, developing, and evaluating instructional programs, processes, and products that must meet criteria of internal consistency and effectiveness [5]. This method is used to develop prototypical software, starting with the software's design, development, and evaluation. A descriptive research method describes the nature of the situation at the time of the study [4]. According to Creswell, it can help show the different facts connected with the nature of the current problem or condition as it happens at the time of the study [6]. This is why it is considered one of the most applied methodologies in most studies. It is concerned with conditions of relations or relationships that exist, practices that prevail, beliefs, processes that are going on, effects that are being felt, or trends that are developing. The descriptive research process goes beyond mere gathering and tabulating data. It involves an element or interpretation of the meaning or significance of what is described. Thus, description is often combined with comparison and contrast involving measurements, classifications, interpretation, and evaluation.

Through a thorough study of the different software development models, the researcher realized that the best model to use is the Prototyping Model. The Prototyping Model is a System's Development Method (SDM) that suggests and allows the researcher to go backward to the previous phases if changes, revisions, and improvements are implemented.

Prototyping is a system development methodology in which a prototype is built, tested, and reworked as necessary until an acceptable prototype is finally achieved, after which the complete system or product can be developed. In addition, this model is an iterative, trial-and-error process between the system developers and the end users. The researcher chose to use this model for several reasons, such as: it may provide the proof of concept necessary to attract funding; early visibility of the prototype gives users an idea of what the final system will look like; it encourages active participation among users and producers; it enables a higher output for user; it is cost-effective (*i.e.*, development costs reduced); it increases system development speed; it assists in identifying any problems with the efficacy of earlier design; it facilitate requirements analysis and coding activities; and it helps to refine the potential risks associated with the delivery of the system being developed.

The main respondents to this study were the judges, pageant organizers, and candidates. The respondents were given questionnaires after manipulating and navigating the developed system. Furthermore, to obtain the accuracy of their responses, the system was presented to the respondents before getting their responses to the questionnaire.

3. Implementation

Testing was conducted after the development of the system to find and remove some errors in the program. Activities like these are performed to check the system's acceptance criteria. All test data was prepared for this phase.

The testing activities involve unit, integration, system, and acceptance testing.

The testing activity is the study that determines the system's capabilities through its different respondents, such as end users or judges, pageant directors, candidates, and IT experts. The test activity comprises eight questions to be rated: 5 for Very Acceptable, 4 for Very Acceptable, 3 for Moderately Acceptable, 2 for Not Acceptable, and 1 for Very Not Acceptable. This helped determine the different selected criteria for the system's quality for end users.

Table 1 shows the results of the different criteria of the system from the respective end users or respondents.

Table 1. Overall Results of the System

Criteria	Mean	Verbal Interpretation
Functional Suitability	4.71	Very Acceptable
Performance Efficiency	4.69	Very Acceptable
Compatibility	4.66	Very Acceptable
Usability	4.67	Very Acceptable
Reliability	4.60	Very Acceptable
Security	4.70	Very Acceptable
Maintainability	4.76	Very Acceptable
Portability	4.70	Very Acceptable
Overall Mean	**4.69**	**Very Acceptable**

Based on the evaluation, the functional suitability of the system is "Very Acceptable". It shows that the system is effective in functional suitability, with an average mean of 4.71. To test the system's performance efficiency, most respondents favored the rating of 4.69, which is considered very acceptable. The result was very acceptable in terms of the system's compatibility with the average mean of 4.66. Regarding the system's usability, the respondents favored the rating of very acceptable, with a computed average mean of 4.69. The reliability rating of the system was 4.60, which shows that the system was very acceptable. The rating for the security of the system was 4.70, which shows that the system was very acceptable to the respondents in terms of information security. The system's maintainability resulted in 4.76, which shows that the system was very acceptable. Lastly, to test the system's portability, most respondents favored the rating of very acceptable, with a computed average mean of 4.70. The evaluation results concluded that the system is functional, suitable, performance-efficient, compatible, usable, reliable, secured, maintainable, and portable for the users and the specified devices.

4. Strategies and Impacts

The AutoBeaut System was used and implemented in the different institutions, local government units, and non-government organizations in Oriental Mindoro during their Foundation Day and Fiesta. The organization first sends a request letter to Mindoro State University (MinSU), and then MinSU personnel will communicate with the organization to request their service before it is utilized and implemented. After a meeting and consultation, the Memoranda of Understanding/Agreement (MOU/MOA) will be signed by the head of the agency and the organization. Then, during the event, MinSU personnel will assist in tabulating the pageant using the system.

Through this extension service of MinSU, the manual process of computing and tabulating the scores of the judges was expedited; it also improved and gave a modern way to the pageant director and committees to provide scores for the competition, run the competition smoothly, and give reliable and accurate results for the different awards.

The system was used and implemented in the different institutions, local government units, and non-government organizations in Oriental Mindoro during their Foundation Day and Fiesta. The beneficiaries of the AutoBeaut System are the following during the conduct of their Fiesta and Foundation Day.

1. LGU- Municipality of Victoria
2. Youth Development Group – Victoria
3. Barangay Alcate, Victoria, Oriental Mindoro
4. Barangay Poblacion I, Victoria, Oriental Mindoro
5. Barangay Ordovilla, Victoria, Oriental Mindoro
6. Barangay Macatoc, Victoria, Oriental Mindoro
7. Barangay Villa Cerveza, Victoria, Oriental Mindoro
8. Barangay San Gabriel, Victoria, Oriental Mindoro
9. MinSU Main Campus

5. Conclusion and Recommendations

Based on the results of the evaluation of the system, the following have been drawn:

1. The system was working properly on desktop computers and mobile phones.
2. The judges and statisticians got the results quickly because the application included a standardized point system to score the candidates in each criterion.
3. The system generates accurate and timely results for the pageant.
4. The system was found functional, suitable, efficient, compatible, usable, reliable, secured, maintainable, usable, and portable.
5. The system was implemented and used in an organization.

After evaluating the AutoBeut System, the following recommendations were formulated:

1. The system must add features in terms of popularity contests using social media. Therefore, the system must have an integrated Facebook fan page.
2. The system must have avatar options for the judges that can be customized based on their preferences.
3. The organization must provide a knowledgeable person who will manipulate and update the system once needed in the pageant.
4. It is recommended to have continuous monitoring and evaluation to determine its impact on the organizations and use the results as a basis for possible implementation in other organizations in the province of Oriental Mindoro and eventually in the region to cater to the needs of the organizations in the province, which will lessen the burden of the pageant statistician, pageant director, and judges in the implementation of ICT innovations.

References

[1] Wikipedia, "*List of Beauty Pageants*", www.en.wikipedia.org/wiki/List_of_beauty_pageants (Accessed September 1, 2019).

[2] Miss Universe Home, "*Miss Universe*", www.missuniverse.com/ (Accessed January 11, 2024).

[3] J. A. Orioque, J. Cabardo and H. D. Selpa, "*Web-based Scoring System*", in Proc. 2021 Second International Conference on Innovative Technology Convergence (CITC), Sibalom, Philippines, December 9-11, 2021, pp. 33-37, doi: 10.1109/CITC54365.2021.00014.

[4] M. Hamashima, "*Beauty in the Indigenous Pageant the Cultural and Social Relevance of Miss Samoa*", Independent Study Project (ISP) Collection, Fall 2012, www.digitalcollections.sit.edu/isp_collection/1486/ (Accessed).

[5] R. C. Richey, J. Klein, W. A. Wayne, "*Developmental Research: Studies of Instructional Design and Development*", in *Handbook of research on educational communications and technology* (2nd ed.), D. H. Jonassen (Ed.), 2004, pp. 1099–1130.

[6] J. W. Creswell, "*Research Design: Qualitative, Quantitative and Mixed Methods Approaches*", 4th edition, SAGE Publications, Inc., Thousand Oaks, California, United States, January 2015.