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ADVISE MOBILE: A WEB AND MOBILE-BASED GUIDANCE CONSULTATION SYSTEM

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Abstract - This study is entitled Advise Mobile: A Web and Mobile Based Guidance Consultation System. The study was conducted by the proponent at Carlos Hilado Memorial State College – Alijis Campus. Since institutions nowadays have adapted to the technology era that makes everyday living easier, the proponent came up with this study. The proponent interviewed with the Guidance Counselor about how the office conducted counseling or consultation and found out that the main problem of the office was the paper works to be compiled and kept confidential. This study aided the manual process of consultation to make it a computerized and automated system. This study provided the students with a system that allows them to request an appointment schedule for counseling, receives an SMS notification for the schedule, modifies their accounts and makes a video conference with the Guidance Counselor. The Guidance Counselor was also provided with the same concept except for setting the schedule of the requested appointment for counseling or consultation. While for the Administrator, the system provided graphical reports and the statuses of the counseling of the Guidance Counselor and the students. The system is web and mobile-based and the internet is essential to access the system.

Keywords – Guidance, counseling, video conference, SMS notification

I. INTRODUCTION

Technology has played a big part in the business world [1]. It infused and introduced a new world of learning and developing tactics in the IT industry. It also is a big help in terms of communication [2] and performing business processes [3]. On the contrary, the sudden changes in the world also demanded changes in the industry and businesses, and even in institutions [4]. The development in technology arises as well as never ending demands in the business.

One of the institutions that would adopt the change is the CHMSC – Alijis specifically in processing the consultation and counseling of the Guidance office. The CHMSC - Alijis students have been visiting the guidance office for either consultation for personal problems or counseling for academic purposes. The students set for an appointment due to the busy academic schedules. On the other hand, a problem arises in setting up an appointment personally. Apart from spending time in visiting the Guidance Office, paper works to be checked and done are hard to retrieve especially, for the worst case scenario, if it has been misplaced or lost [5].

The researcher developed the Advise Mobile: a Web and Mobile-Based Guidance Consultation System that consists of consultations appointment module for online and mobile, video conferencing module, SMS notification for the counselee, consultation record keeping, and graphical report that can be a solution for the existing problems [6] with the CHMSC-A Guidance Office manual process. Also, this can be a contribution in giving high satisfaction to all who wanted to consult and seek help from the Guidance Counselor.

Objectives of the Study

A web and mobile-based guidance consultation system for the CHMSC-A students aided the existing problems that occurred with the manual requesting for counseling and consultation schedules. Specifically, this study was:

1. Automate the manual process of CHMSC - Alijis Guidance Office when requesting an appointment for counseling or consultation of the students through web and mobile.
2. Provides options whether the counselee wanted a face-to-face or through video conferencing counseling or consultation.
3. Gives a reminder notification of consultation schedule for the counselee.
4. Generates graphical reports for decision making in conducting seminars for future use.

II. METHODOLOGY

System Development Life Cycle

System Development Life Cycle discusses the stages involved in developing the system. The researcher used the Sashimi Waterfall Model to be able to make necessary changes if the process of the Guidance Office of the college made alterations in conducting counseling and consultations.

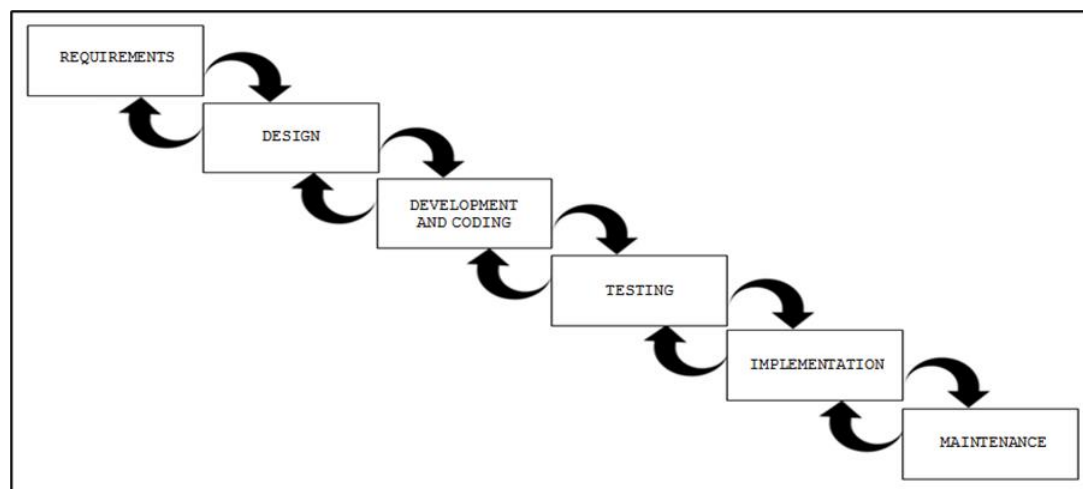


Figure 1: Sashimi Waterfall Model

Figure 1 shows the Sashimi Waterfall Model, a variant of Waterfall Model, which is also known as the waterfall with overlapping phases. The Sashimi Waterfall Model allowed the proponents to do the documentation and the system simultaneously.

Phase 1: Requirements

In this phase, the proponent conducted an interview with the CHMSC-A Guidance Counselor and discussed the processes a counselee and counselor should undertake, the setting and the conduct of an appointment schedule for counseling or consultation.

Phase 2: Design

The proponent brainstormed on the database design of the system, how the system should work, what programming and scripting languages to be used, and what unique features would be added to provide a user-friendly system to the users. The researcher also made a rough draft of the user's interface as the basis for the development of the GUI of the system.

Phase 3: Development and Coding

In this phase, the proponent used PHP and jQuery as scripting languages, MySQL as Database, Apache for the Server, CSS for the design and AJAX for cool interfacing. The proponent also integrated API (Application Program Interface) for the SMS notification and video conferencing modules.

Phase 4: Testing

In this phase, the proponent had an alpha test on the system. Multiple checking of functionalities such as the integration of SMS-API and Video Conferencing for mobile compatibility has been made to ensure that the above mentioned were properly working.

Phase 5: Implementation

The system was ready to be implemented. Final comprehensive and technical tests were conducted to ensure the quality of the system. The approval of the administration was also a requirement for the implementation of the system.

Phase 6: Maintenance

The proponent was readily available through email, phone call and text in case of system errors, malfunctions, and as well as to maintain and improve the system if possible.

Operational Framework

Figure 2, on the next page, shows the Operational Framework of the Advise Mobile: A Web and Mobile Based Guidance Consultation System. This part discusses how the users would interact with the system, and how the system would respond to the user in return.

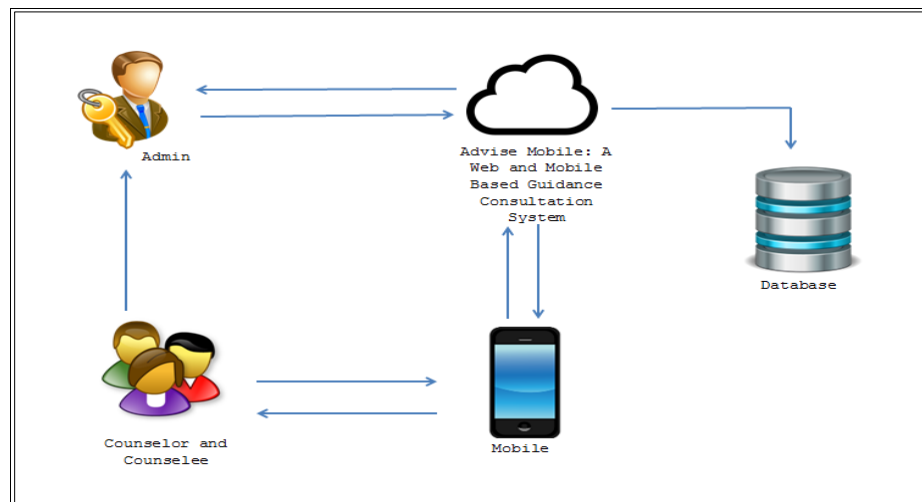


Figure 2: Operational Framework

To start the system, the users must load the Advise Mobile: A Web and Mobile Based Guidance Consultation System (AM-GCS) page. The system has three users: the administrator, counselor and the counselee.

The administrator, if logged in, can check on the activities of both counselor's and counselee's accounts. The administrator can check with regards to the new, pending, scheduled appointments done. This also gives the administrator the right to choose the counselor who would do the counseling in case of re-designation. The administrator can acquire reports generated by the system for output. The administrator can also add appointments for walk-in or referred counselees.

The counselor, however, can add appointments in his convenience and availability. He/She can conduct counseling through face to face or video conferencing in either web or mobile.

The counselee is the one who can request for a scheduled appointment for counseling. Once the counselor has set the date and time for counseling, the counselee would receive an SMS and web notification reminding and notifying him/her of the schedule.



Figure 3: Dashboard in Mobile View.

This figure shows the mobile version of the dashboard.

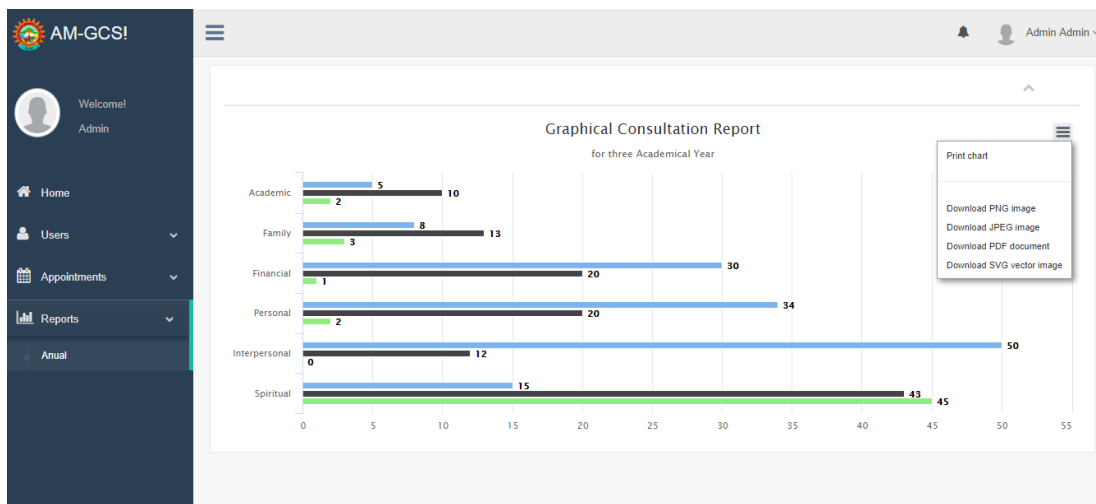


Figure 4: Graphical Consultation Reports

This figure shows the graphical reports. The administrator may choose what kind of file or reports will be printed or shown.

III. RESULTS AND DISCUSSION

After the thorough evaluation of experts and respondents, the results are as followed:

TABLE I
Evaluation Results Given by The Respondents.

	Mean	Verbal Interpretation
In terms of managing consultation records.	4.68	Very Good
In terms of managing appointments for consultation.	4.78	Very Good
In terms of notifying users.	4.80	Very Good
In terms of generating graphical reports.	4.76	Very Good

Table 1 shows that the developed system can manage the consultation records, the respondent rated the system with a mean of 4.68 which is very good. In terms of handling appointments for consultation, the system got a rating of 4.78. In reminding users through sms notification, the system got a 4.80 rating. In generating graphical reports, the developed system got a 4.76 also interpreted as very good.

In terms of management of consultation records.

The developed system organized and managed the consultations records with ease. Automated data records allowed the counselors to locate and track each of their counselee's statuses without looking at multiple stacks of papers. Looking at the counselee's overall records consumed less time and workload for the counselors.

In terms of managing appointments for consultation.

The use of a developed system making appointments anytime and anywhere quick and efficient, or walk-in will do. A diverse way of choosing what they want helps the counselee at their convenience. Face-to-face or video conference counseling will be the two options the counselee could choose. The developed system could give forewarning to the counselor if there is a time and date conflict. The counselor could easily provide an appropriate schedule for the appointments with a time and date difference.

In terms of notifying users.

The developed system provides notification through SMS and mobile application instantaneously. Counselee could keep track of the appointment's current status. Counselors will be advised of the counselee's chosen schedule and could provide a desirable response and decision for availability.

In terms of generating graphical reports.

Generating reports was a piece of cake when using the developed system. It could provide a graphical chart representation that allows the users to point out what problem was numerous and what prior solutions should take. A Graphical report will give the users effortless results that are easy to read and understand.

TABLE II.
Evaluation Results Given by The IT Experts.

Criteria	Mean	Verbal Interpretation
Functionality	4.80	Very Good
Efficiency	4.75	Very Good
Usability	4.80	Very Good
Reliability	4.50	Very Good
Maintainability	4.50	Very Good
Portability	4.60	Very Good
Total	4.66	Very Good

Table 2 shows the result of the IT Experts' feedback in determining the quality of the Advise-Mobile: a web and mobile-based guidance consultation system based on the characteristics set in the ISO 9126 Software Quality Model. The above-mentioned criteria determined the degree to which the developed system conformed to the standard in terms of its functionality, efficiency, usability, reliability, maintainability and portability. The overall performance of the developed system is very remarkable in an overall rating of 4.66 which means Very Good.

CONCLUSIONS

Based on the findings that were drawn from the study, the proponent found out that the violations and complaints of the teachers concerning the behavior of their students are not included in the system for it is the Discipline Officer's duty. The developed system can provide the administrator with graphical reports for 3 academic years, as well as different types of files. The graphical reports can be printed or produced. The developed system can also help students monitor their counseling and consultations by displaying their previous visitation dates on their accounts.

RECOMMENDATIONS

In view of the findings and conclusion of the study, the following were recommended to further improve this project:

1. The future researchers who may want to use this study as a basis for future studies should enable the system to save the videos regarding the sessions.
2. The system should be improved by making it an android application.
3. Future researchers can also include two-way chat support for counselor and counselee in preparation for conducting a video conferencing.
4. Violations and complaints may also be included to broaden the system's scope and to convert it to a Guidance Management System.

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