CHAPTER 1

INTRODUCTION

## Background of the Project

Through the years, Gayatin Dental Clinic has been used to setting up of patient appointments manually via text message, phone call, or chat using social networking sites. The way for creating an appointment was unorganized because it was done through different sorts of media. It added burden to the clinic staff because they needed to regularly check on these different media of communication and review whether the schedules that the patients gave did not conflict. Patients also did not have a convenient way of checking the clinic’s available schedules for appointments.

The creation and updating of patient records were done manually and the clinic did not only cater to one or two patients but they go by the hundreds therefore it had become a hassle to go through a lot of patient records in order to find the record of a specific patient. And due to the characteristic of a patient record being tangible, it opened the possibility of a record getting misplaced or destroyed as time went by.

The study was intended to produce a system that would allow Gayatin Dental Clinic to have an easy and efficient way of organizing patient appointments and patient profiles. The system was designed to be web-based in order to cater the online appointment module which would allow patients to book for an appointment with ease online.

## 1.2 Project Objectives

### 1.2.1 General Objectives

The study aimed to develop an Online Appointment and Patient Profiling System for Gayatin Dental Clinic.

### 1.2.2 Specific Objectives

The project specifically aimed to:

1. acquire information with regard to the current business process of Gayatin Dental Clinic;
2. analyze the current business process of Gayatin Dental Clinic;
3. develop an Online Appointment and Patient Profiling System for Gayatin Dental Clinic which will include:
4. Patient Management
5. Transaction Management
6. Teeth Profile Management
7. Appointment Management
8. Clinic Schedule Management
9. Account Management
10. Clinic Services Management
11. Report Generation
12. test and evaluate the developed system to ensure that it has conformed with the requirements specification of the system; and
13. deploy the developed system to Gayatin Dental Clinic

## 1.3 Significance of the Project

The project will allow the researchers to develop a system which will result to an organized way of creating and scheduling appointments through an online patient appointment system. It would also help save time and effort in creating, retrieving, and updating a patient’s medical record through automation. The project will also provide an easier way of tracking the treatments rendered to a patient during an appointment along with the amount to be paid for the treatments rendered. This study specifically brings benefit to the following:

* **Dentists**. With the help of the system, dentists can now have a hassle free way of keeping track of their patient’s records and transactions. They would have an easy way of informing the patients about the clinic’s available schedules for appointments. They would be provided with a convenient way of creating schedules for clinic appointments. They would also have an organized way of checking and verifying the schedules of their patient’s appointments. The report generator would also help them in determining the types of treatment that are commonly availed on a period of time.
* **Clinic staff**. With the help of the system, they would no longer need to scan all the stacked sheets of paper when searching for a patient record thus making the searching process stress free and less time consuming. They would also have an easy way of organizing patient appointments.
* **Patients.** The patients will be benefited with the fast response to verifying previous transactions with the help of the automated patient profiling system. They would also be given the privilege to conveniently look at the available schedules and be able to book an appointment with the help of the online patient appointment system.
* **System Developers.** System developers can use this system as a basis for dental clinic online appointment and patient profiling systems. They could then find ways on how to improve the system’s major functionalities. They could also improve the system in such a way that it could already cater to text message responses from users on the online patient appointment module.

## 1.4 Scope and Limitations of the Project

The system comprises of three major modules. The entire system is web-based. The firstmodule is the online appointment. The second module is the patient profiling. And the third module is the report generator.

Only the clinic staff and the dentists will have the privilege to create, view, and update patient profiles. Though the patient profiles will be automated, it will not remove the manual way of acquiring patient information if the internet connection is unavailable. The system will enhance the process by creating an intangible softcopy and providing a faster way of retrieving patient profiles. The patient profiling module also allows the viewing of a patient’s history of appointments and teeth profile.

The teeth profile serves two main purposes. First is to allow the dentists to monitor the findings for the different tooth surfaces and which surfaces of the tooth have cavities during an appointment. Second is to allow the dentists to track the treatments performed on the patient’s teeth.

The appointment record on the other hand would provide the clinic staff with a convenient way of tracking transactions with the help of the transaction management module. The appointment record would cover the treatments performed to the patient’s teeth along with their respective prices, the total cost for the treatments, and the dentist who performed the treatments.

The system will provide the dentist with an automated way of managing schedules for their clinic. Patients will then have the privilege of making an appointment online with the help of the online patient appointment system. Patients don’t need to create an account in order to create an appointment reservation but the system would need to acquire relevant information from them. Patients who reserve an appointment through the online patient appointment system will be added to a queue of pending appointments for the timeslot on a chosen date.

This queuing process is implemented to ensure that patients who create an appointment reservation are served according to priority and are legit patients. The clinic staff will still need to contact and verify if the person on the top of the queue if wants to push through with the appointment. If the patient confirms that he/she does not want to push through, the administrator has the ability to remove him/her from the queue. But if the person confirms that he/she wants to push through then the administrator can then confirm to the system that patient and reserve that timeslot to him/her. That patient will then be transferred to the list of patients with confirmed appointments. That patient will then be sent an SMS notification stating the success of the appointment reservation along with the patient’s appointment number which would be used by the patient when moving or cancelling the appointment. The other people who belong to that person’s timeslot queue will also be sent SMS notifications which would state that someone else has already occupied the timeslot which they want to reserve on. The system is limited to sending notifications and does not have the ability to receive text message responses from the patients.

Though the online patient appointment system will be available, it will not remove some old ways of creating appointments like text messaging, or phone calls because not all patients may have internet access. But those who will try to reserve using these kinds of media would still be added to the timeslot queue. The clinic staff will be the one to create the online appointment for those who will reserve through text or call.

The clinic also caters to walk-in patients. If a patient who has a reserved appointment for a chosen timeslot did not show up 30 minutes after the scheduled appointment, the system allows the clinic staff or dentist to send an SMS and email notification informing the patient that a walk-in patient has been accommodated due to the no-show. The patient would also be informed that he or she could move the scheduled appointment manually but the patient can still choose not to move the schedule and risk on going to the clinic as a walk-in patient.

The report generator module would generate 4 kinds of reports. The first is the List of Clients per Month which allowed the generation of the list of new patients on a chosen month. The second is the Gender and Age Classification of Patients which allowed the generation of the different age and gender classifications of patients on a chosen timespan. The third is the List of Services Rendered which allowed the generation of the list of services availed by patients along with its frequency on a chosen timespan. The fourth is the Appointment Status which allowed the generation of the number of created, confirmed, and cancelled appointments on a chosen timespan.