

ISPSC QUEUING SYSTEM FOR ACCOUNTING OFFICE

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CURRICULUM VITAE



Chapter I

INTRODUCTION

Project Context

Queuing is the process of moving students in a specific sequence to a specific service according to the student need. In our everyday lives, we face different situations where we have to stand in long queues waiting for a service to be granted. Waiting in lines is a part of our everyday life. Waiting in lines may be due to overcrowded, overfilling or due to congestion. Any time there is more customer demand for a service than can be provided, a waiting line forms. We wait in lines at the movie theater, at the bank for a teller, at a School. Waiting time is depends on the number of people waiting before you, the number of servers serving line, and the amount of service time for each individual customer. And waiting line priority rule determines which customer is served next. A frequently used priority rule is first-come, first-served. Other rules include emergencies/disabled person first, and so on. Although each priority rule has merit, it is important to use the priority rule that best supports the overall transaction strategy. The priority rule used affects the performance of the waiting line system. (Bose, 2009).

One way of managing queues is to have an automated queuing system in place that can instantly decrease students waiting time and to make transaction in the accounting's office more quickly done. The



importance of implementing an automated queuing system is becoming vital as most of the time the transaction are accessible instantly.

The implementation of this system can help institutions to decrease students' waiting time and it will make the transaction in the accounting's office more quickly done. It will be very helpful in the convenience of students in the school. This project helps the school to manage the transaction of each student in the accounting's office transaction especially in claiming the permit examination of the students and it will be more organized with the help of the automated queuing system. In the modern World, the effect of modern technology is really undeniable as it continues to grow. People cannot deny the fact that now a days we are very much embedded and influenced by the modern product of technology thus, enjoying whatever it has offer. These things will help people in many ways and also affect their way of living like in doing some office works – instead of using manual transactions they prefer to use computers which allows them to operate. Because of many problems encountered such as long waiting lines, transactions are slow, or some students need to jammed for fast transaction in accounting office. Information and communication technology change our lives. The things we do now are really in a much faster pace than before. Queuing system is an effective way to decrease student waiting time. This is usually for accounting office only. The same case applies in Ilocos Sur



Polytechnic State College (ISPSC) and as a result, the manual queue becomes prone to human and time consuming.

Along with the articulated ideas mentioned above, the researchers tend to create an Automated Queuing System of ISPSC to make easier for the student to make transactions in the accounting office.

Purpose and Description

The purpose of creating a Queuing System is to manage the transaction of each student in the Accounting Office and transaction will be more organized with the help of the automated queuing system. The queuing system is a system that was made to make the queue in the accounting office more easier and orderly the queuing system was programmed using the vb.net language, its function is to issue number to the student that are currently in the queue for enrollment days for their tuition fees, examination permit to be assessed. This will help the following:

Students. The system will decrease the students' waiting time to make transaction in the accounting office.

Accounting Office. The system will fasten and lighten the transactions in the Accounting Office.

Administrator. The result of this study could serve as a solution to the unorganized queuing system.



Researchers. The researchers can impart their knowledge in this system to the clientele. This will be a great help to them, as beginners, in applying the learned skills in the field of searching, programming, encoding and other computer-related competencies.

Future Researchers. The system will be their basis in developing an queuing system.

Scope and Limitation

This study focused on the development of Queuing system that will lessen the time of queuing process. Specifically, this study aim to make a fast transaction in claiming the examination permit and enrollment days. The programming language to be used will be VB.Net 2010.

The system is for accounting office of ISPSC Sta. Maria Campus only. There is only one user who operate the system in the accounting office.

Statement of Objectives

The study aims to create and develop an Automated Queuing System. Specifically, this study sought to do the following:

1. to determine the existing process of Queuing System in the Accounting Office.
2. to develop a Queuing System in the accounting office for ISPSC Sta. Maria.



3. to test the usability of the Queuing System for ISPSC Sta. Maria along:
- a. efficiency
 - b. controllability
 - c. effectiveness
 - d. learnability
 - e. helpfulness



Chapter II

REVIEW OF LITERATURE

According to Ivant Technologies (2009), Queue Rite is highly-customizable software that functions as a queue management system. It processes and prints queued numbers in place of large and outdated numbered cards. This system allows business owners to systematize the initial procedure for customers as they line up and wait for their turn to be served. By using Queuerite, customer services at the reception area will become more efficient and the confusion brought by customers' long lines will be minimized. Through this queuing system, your customer representatives are provided with a more systematic workflow and this enables them to be more focused on the task they have at hand. The full automation feature of this queuing system significantly cuts the time that customer representatives spend on serving customers for a single business transaction.

Our QueueRite System allows you to consolidate reports from the queue system of individual branches. This functionality enables the head office to have an accurate and timely overview of the customer queuing operations in each remote branch. Querite System software has a set of API functions that can be accessed by different 3rd party softwares. The common queue management methods, like calling the next customer, call again, tag as no show, etc. can be accessed by 3rd party software via a set of Web Services API calls.



According to Shaikovsky (2009), it is a major breakthrough in multimedia queuing management system. The system is designed not only as a tool to solve queue congestion. The system allows for faster organisation of queuing and customer service with its non-linear system. Customers no longer have to stand in a line waiting for their turn to be served, as they can sit comfortably in the waiting area without having to worry about missing their turn. According to Ilya Shaikovsky Queue congestion can lead to low customer satisfaction, longer waiting periods, poor brand image and walk-offs. Ultimately this affects customer loyalty issues. Yet, hiring additional employees is not the answer, as this may reduce productivity, lead to staff idleness and reduce profitability. In a world where customer service is imperative for all businesses to function, a poor congestion of queues is the last thing needed for effective business transactions. An unplanned influx of customers without adequate service not only creates customer frustration but create inefficiency within the work place.

According to Electrobrain Enterprises (2008), is a Multimedia Content Management and Digital Signage Solution, integrate with Queue Management System using LCD/ LED TV. AQMS allows you to deliver targeted advertising and promotional campaigns to your customers in a dynamic and attractive way, while keeping them updated with the latest Queuing Information. The extensive setup menus are straightforward to use and enable you to design a display scheme to blend with existing



decor and signage. Any customer-orientated institution, like banks, local government offices, hospitals, post offices, telecommunication companies, restaurants etc. will improve their services providing a more favorable image.

It was established to handle the growing demand of market for electronics devices for computer real-world application. We are committed to our customers by providing fast and genuine service, quality, and value. As a technology based company, Electrobrain constantly developed and refined our electronic LED displays, designs, and manufacturing process to deliver continual improvement and value. New products are also continuously being developed. We have our own team of designers and programmers so that our products and softwares can be modified anytime to suit customers' requirements. We also provide full technical support and assistance to our customers. We make it a point to sell our products at low prices at the same time maintaining their high quality. We aim to sell our products not only to large-scale industries but to medium and small scale industries as well. Most of our clients are prestigious schools, universities and factories/offices among the top 1000 companies worldwide.

Electrobrain Enterprises is a manufacturer of LED Displays, Scrolling Message, Bulletin Display, Production Counter, FOREX Board, Electronic Scoreboard, Digital Clock, Queue Management System,



Cockfight Timer, Safety Index Board, Count up/ Down Timer, Andon (Help Call) Board, Digital Time Zone Clocks, Advertising Signages, Advertising Materials,etc. We are also distributors of Advertising Equipments or Machines such as Vinyl Cutters and CNC or Engraving Machine.

According to Dharmawirya (2011), Restaurants would avoid losing their customers due to a long wait on the line. Some restaurants initially provide more waiting chairs than they actually need to put them in the safe side, and reducing the chairs as the time goes on safe space. However, waiting chairs alone would not solve a problem when customers withdraw and go to the competitor's door; the service time may need to be improved. This shows a need of a numerical model for the restaurant management to understand the situation better. This paper aims to show that queuing theory satisfies the model when tested with a real-case scenario. We obtained the data from a restaurant in Jakarta. We then derive the arrival rate, service rate, utilization rate, waiting time in queue and the probability of potential customers to balk based on the data using Little's Theorem and M/M/1 queuing model. The arrival rate at Sushi Tei during its busiest period of the day is 2.22 customers per minute (cpm) while the service rate is 2.24 cpm. The average number of customers in the restaurant is 122 and the utilization



period is 0.991. We conclude the paper by discussing the benefits of performing queuing analysis to a busy restaurant.



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