

DESIGN OF TRAFFIC INFORMATION SYSTEM DISPLAY FOR A TYPICAL MOBILE COMMUNICATION

Thesis is presented in partial fulfillment for the award of Bachelor of Engineering
(Hons) Electronics Engineering (Communication)



FATIN FATIMAH BINTI MOHAMMAD AFENDY
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM
SELANGOR DARUL EHSAN

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ABSTRACT

Dropped calls are one of the most problems in mobile communications. It is one of the most important Quality of Service (QoS) indicators for a mobile carrier. Over the years, many strategies have been proposed to solve the problem of call drop out. But the problem is still prevalent. The project is about the design of a traffic information system to display dropped calls for a typical mobile system. Visual Basic (VB) used as the user interface because of its user-friendly interface and data access features. The database used for this project is Microsoft Access 2010 (Access). The database is used to store the username and password for login purposes. In this project, charts are created by using Microsoft Excel (2010) to display the number of dropped calls for different cells. The dropped calls from different cells are plotted during busy hour of traffic for a particular day in a week. The system can also display the time of the frequently occurring dropped calls in a week. The various displays enable users to identify and improve the issues related to drop calls associated with various cells, busy hour and time of dropped calls occurring.

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CHAPTER 1

INTRODUCTION

This chapter discusses a brief introduction to the background of an overall project, including background, problem statement, objectives, overview and outline of this thesis.

1.1 Background of Study

Nowadays, a variety of mobile phone services are being used, voice communication, and web browsing, being the most prominent. Although, a set of third generation technologies have been developed and deployed for several years, the Quality of Service (QoS) is still unsatisfactory. Users experience a high percentage of dropped calls, congestion cells and QoS. This is because the wireless link quality can change significantly over time, due to shadowing, fading and interference. Furthermore, the user traffic pattern might also be quite different over time. As a result, some long-range cellular links are highly congested, and meanwhile the bandwidth of others is wasted. Therefore, the overall network utilization is low.

For the cellular communication system, it is a big problem that the call drops out to the user and service provider. The propagation conditions required for a satisfactory communication cannot always be met due to irregularities in cell coverage or shadowing and rapid signal loss, which is due to the existence of