# SHORT MESSAGE SERVICE
# FOR
# MILITARY SWITCHED NETWORKS

**By**


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**National University Of Science And Technology**
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**MAY 2005**

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*Project Report for partial fulfillment of requirement of MCS/NUST for the award of the B.E Degree in Telecommunication Engineering*

**Department Of Electrical Engineering**
**Military College Of Signals**
**National University Of Science And Technology**
**Rawalpindi**

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# DEDICATION

Dedicated to our parents & instructors who have been a source of constant encouragement for us

# DECLARATION

No portion of the work presented in this desertion has been submitted in support of another award of qualification either at this institution or elsewhere.

# ACKNOWLEDGEMENTS

Humblest gratitude to Allah Almighty – the All knowing and the All Powerful, the Creator and the Lord – the Most Merciful and the Most Beneficent. He is the Omni Present and the Omni Potent. Indeed the working of the universe is nothing but a manifestation of the Great Powers He possess. Without his consent, not even a single breath could enter or leave our bodies. May He bestow us with His Guidance and make things clear for us when they get vague and confusing. Aameen!

Amongst His creatures, first we would like to thank our kind and beloved parents who understood our concerns and spared us from certain responsibilities which would have definitely hindered the regular attention required for this work, which adds to the ever growing list of favors that they have done for us. During all this time their prayers have been invaluable, for which we can offer no compensation.

Our hardworking instructor Maj Rauf is the person who requires special mention. The interest and eagerness exhibited by him to help us during our project has been phenomenal, which has been complemented by his excellent management and knowledge to the subject. His consistent guidance at every step has really been a source of motivation for us. We indeed are thankful to Dr Sherzada (Dir DEFCOMS) for showing his confidence in us and assigning us the project, and certainly without Maj Imran Rashid we would not have been able to be at a stage where we stand now, who took keen interest in helping us to approach to the authorities concerned to implement the system in Military network.

We are really thankful to our Department (EE Dept) for making the labs available to us for our work, and particularly to ACE Quality (Pvt) Ltd who accepted our idea and joined hands with us in order to materialize the project. And last of all we are grateful to Military College of Signals (NUST) for providing us the opportunity to enhance our technical, practical and professional skills.

# ABSTRACT

According to NUST policy, the purpose of final semester project is to develop the ability in students to face the challenging and advanced engineering problems in software, communication and related fields in order to utilize and integrate the knowledge and expertise that students developed through their course work.

Keeping in view NUST's aim and its implications on present telecommunication scenario in Pakistan, we have undertaken a project to optimize the PSTN/DEFCOM by implementing FSMS (Fixed Line SMS) services.

Fixed line SMS has been standardized in the PSTN just like its implementation in the SMS enabled PLMN. ETSI 201 912 v1.1.1 was published in 2001-02, which stipulates the protocols for the implementation of SMS within PSTN. The solution for its implementation consists of a user based platform and is commercially available in 38 countries globally. We consider Fixed-line SMS to be the latest and most promising emerging technology today for its commercial as well as military users. This makes it a "challenging and advanced engineering problem" in Pakistan.

SMS is a value added service for its users. Previously it was the sole domain of the mobile users to use the SMS but now it has been made available to the fixed-line user as well. Implementing the SMS into PSTN/DEFCOM would make us achieve all the factors of NUST's aim as defined above. SMS in PSTN would be a value added service for all types of its users, which include business, residential and military users etc.

The abstract of the project was communicated to our DS Air Cdre Sherzada Khan and was approved by him after our verbal discussions. The project defense was submitted to the course advisor for the approval from NUST in Sep 2004, which included the project plan and the comparative progress achieved. The course advisor Maj Imran approved the project at the end of the project defense.

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