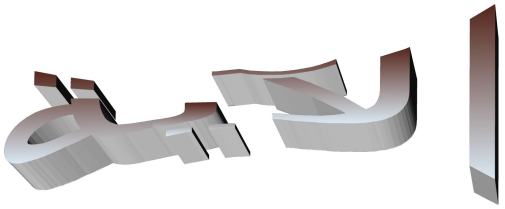

قال الله تعالى:

(وَمَا أُوتِيتُم مِنْ الـعِـلْمِ إِلا قَلِـيلا)

صدق الله العظيم

:This work is dedicated

- **To all those who directed me to the way studying and they toiled and moiled to put me on the right study tract.**
- **To those who told me about their experiences and experiments.**
- **To Dr. ABDU ALRASOOL AL ZUBAUYDI who made the completion of this work possible in the first**

place by his advice and by the generous aid that he has offered me. He has also been kind enough to follow me preparing the manuscript and to make constructive.

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Through this research the promotion and development of the switches starting from manual switch and ending with optical switch have been known. The research explains the most important characteristic of the switches and their working principle. The components and the nature of the work of the traditional PSTN are also studies. The last issues and the way to differentiate between access, transmission and transformation are also studied. The previously mentioned facts are covered in chapter one to chapter three.

In the fourth chapter the SOFTSWITCH is covered by defining it, its architecture, characteristics and the most important protocols to explain communication via it.

In the fifth and sixth chapter's hardware design is made to explain the SOFTSWITCH working principle. This means exchange the subscriber number to IP address by using a computer program, which is written by " C " language or " C++ " language and a design to an electronic circuit which is jointed by an LPT port to explain way of exchange can also be used .

تجريد

تم التعرف من خلال هذا البحث على تطور المـ قسمات على إختلاف مراحله ابتداءا من الـ قسم اليدوي وانتهاءا بالمـ قسم الضوئي توضيحا لاهم مميزاتها وطرق عملها. كما درست المفاتيح التـ قليدية لشبكة مـ قسم الهواتف العام من حيث مكوناتها وطبيعة عملها واخر اصداراتها والتمييز بين الوصول والـ قل و الاتصال و قد كان ذلك في الابواب من الاول وحتى الثالث.

اما الباب الرابع فـ قد تناول المـ قسمات المرنة من ناحية تعريفة وبنيته المعمارية ومميزاته واهم بروتوكولات الاتصال من خلاله.

اما البابين الخامس والسادس فـ قد حويا تنفيذ تصميم يبين كيفية عمل المـ قسم المرن وهي تحويل رـ قم المتصل إلي عنوان بروتوكول الانترنيت مستخدمين في ذلك برنامج حاسوب كتب بلغة سي علما بإمكانية رمجته بلسخدام سي + + وربطه بالدائرة الالكترونية منفذ الـ LPT لكي تـ قوم بعملية التحويل.

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