

**Proposal for
CAPSTONE DESIGN PROJECTS [EE411]**

Title:

Performance Evaluation of Voice over IP (VoIP) on University Data Network.

Description of the project:

The objective of this capstone project is to conduct a thorough and comprehensive study, involving the design, conduct and analysis for the pre-deployment assessment tests of Voice over IP (VoIP) on university network.

KFUPM has a quite big and diverse network comprising of both wired and wireless (WiFi) data network. The students in this project will first study the university network infrastructure. Several locations will be identified according to the data traffic and network utilization. Students are required to learn and get hands-on experience on the VoIP assessment tools and different assessment criteria. Students will study about different call scripts and codec and learn how to design and modify the call scripts for different scenarios. Students will design the VoIP test network. The assessment test will run for few days during peak and off-peak working hours and data will be collected. The results will be interpreted and analyzed based on the standard criteria of VoIP.

System Design Requirements:

- Students will study the design history of University Network.
- Students will identify the locations best suitable for VoIP assessment.
- Students will design the test network for VoIP assessment which will include locations from different university buildings.
- Students will also design the call script.

Prerequisites:

1. EE 370
2. Basic Knowledge of Networking (preferably EE 400)

Approximate Cost:

SR 2000 (to purchase few USB Wireless Network Adaptors)

Instructors:

Dr. Maan Kousa

Mr. Ahmar Shafi

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