List of Projects

Single-Student Projects:

S1: Node Mobility: **Design and implement a simulation of mobile nodes in an ad hoc network**

Define an area for a mobile node to roam; define mobility pattern; update the location of a node in time; display the location of a node; calculate routes

S2: Steiner Tree: **Design and implement an algorithm to create a Steiner Tree for a network graph**

Define a network by a graph; identify the Steiner nodes; design a heuristic algorithm to compute the Steiner Tree

S3: Chat Program: **Design and program (socket programming) a simple chat session application**

Design a session between two individuals on separate computers to exchange messages. **(An extended version of this project, which include graphical interface, may be a 2-person project)**

Two-Student Projects:

T1: Bordercasting: **Design and implement an algorithm to perform the bordercasting operation on a given network graph**

Define a network by a graph; Design an algorithm to route messages using the bordercast routing operation

T2: Reliable Multicasting**: Design and program (socket programming) algorithm for reliable multicast communications**

Design an algorithm for reliable multicasting using TCP; using multicast socket programming, implement the algorithm

T3**:** ***IP Mobility Support:*** **Design and program (socket programming) a simple Mobile IP protocol**

Implement the basic functions of the Mobile IP protocol to support routing for a mobile that is connected to any network

T4**:** ***Path Statistics:*** **Design and implement an algorithm to collect delay measurements of Internet-based hosts and process for correlation**