ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ
ΤΜΗΜΑ ΠΛΗΡΟΦΟΡΙΚΗΣ

ΕΠΛ 651 Data Management for Mobile Computing
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Project Description

Policies for adaptive mechanisms
Two open research questions are when to decide to initiate/shutdown a network transport connection in a virtual circuit-based network (e.g., when to place a GSM data call and when to end the call) and which network transport to use when multiple ones are available (e.g., use CDPD or GSM). These decisions may be based upon the bandwidth, latency, network coverage, pricing model, and future expected network availability (i.e., if I'm on a plane, do I use the £5/min AirPhone or wait to place a £0.10/min long-distance call from the hotel?). This project will involve researching the issues, developing a decision-making algorithm, simulating the algorithm, and evaluating the results. The following components should be built:

- **Core Algorithm** – for deciding the schedule and queuing of network connections. A model should be built with which connections should be graded from unimportant to urgent. A model should also be defined to represent network parameters and their importance in the decision making process. This model can then be custom-tailored to the needs of each user.
- **Personalization Component** – for enabling the customization of the connection model and the network parameters model based on user preferences and rules.
- **Simulator** – for demonstrating a use case scenario with virtual networks and users.
- **User Interface** – for writing models and setting up simulations. In essence this is the front-end of the system.