Opportunistic Communications

In opportunistic communications, various devices communicate opportunistically on making a contact without having end to end connectivity.

Objectives

Study of human mobility patterns to improve message transfer in DTNs by deployment of checkpoints - high end wireless nodes - as trasceivers installed on places where people meetings are more frequent.

Results

Checkpoints increase the message relay and delivery ratio on places where human meeting predictability is higher (e.g. Bus Station GTC of Fargo), as compared to places where people less frequently visit.

Delay Tolerant Networks

In Delay Tolerant Networks (DTNs) the delay in message transfer is tolerated due to lack of end to end connectivity and message delivery ratio is lower.

Methodology

Creation of synthetic mobility model by passing Fargo city map to ONE simulator. Buses acting as message carriers on various routes. Bus routes are connected through checkpoints.

Future Applications

The research has some future applications in areas such as:

- Crises Management
- Interplanetary Internet
- Vehicular Ad hoc Networks
- Pervasive Healthcare
- Electronic Social Network