**Motivation**
- Wireless sensornets are more robust and less likely to fail in disaster scenarios
- They can serve as an alternative medium through which rescuers can communicate

**Problem Statement**
- The sensornet is initially deployed for some other purpose (e.g., environmental monitoring)
- Users (rescuers) must remain in contact with each other while continuously moving.
- Limited resources
- Membership?
- Unreliable wireless links

**Agilla Middleware**
- Mobile agents
  - move and clone across nodes
  - can be dynamically injected
- Simplifies development
  - context discovery
  - multi-hop geographic greedy routing

**Approach**
- Implement the group communication service on top of Agilla, a mobile agent middleware for sensornets
- Each user has a *member agent* in the network that “follows” the user and handles communication between the user and the group
  - When a user moves, it “drags” its member to its new location. Member updates its new location with leader when it is dragged. User injects a new member if it fails to drag its old member.

**Registry**
- The *leader agent* keeps track of member locations and distributes group broadcast messages
- The *registry* keeps track of leader location

**Supported Operations**
- Join - Member agents can join a specific group to exchange messages within the group. A group is formed when the first member joins.
- Leave - A member agent can leave a specific group to stop sending or receiving messages within the group. A group is disbanded when the last member leaves.
- Send - Member agents can send messages that will be forwarded to all the other members in the same group.

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