

# Bridging the Gap: Decentralized Grassroots Networks for Disaster Relief and Education

**Dan Bachar**

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Chair of Connected Mobility  
School of Computation, Information, and Technology  
Technical University of Munich



- Lack of resilient decentralised infrasture for social networks
- Centralised networks prone to censorship that restricts democratic communication

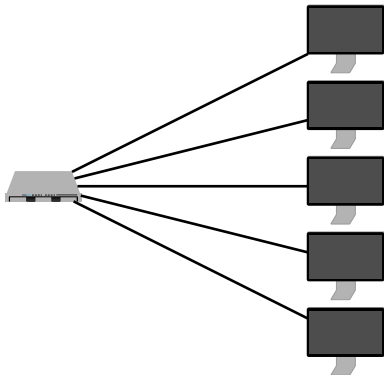


Figure 1: Client-Server

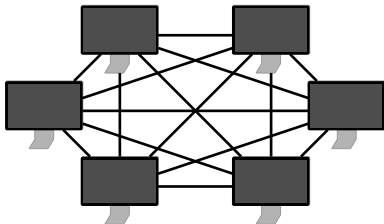


Figure 2: Distributed Grassroots Network

- Grassroots networking (ad-hoc networking)
- IEEE 802.15.1: Bluetooth
- IEEE 802.11: WLAN

Author	Year	Title
Project SPAN	2017	Smart Phone Ad-hoc networking
Project Briar	2018	Briar
M.R. Albrecht, J. Blasco, R.B. Jensen, L. Mareková	2021	Mesh Messaging
P.S. Almeida, E. Shapiro	2024	The Blocklace
E. Shapiro	2024	Grassroots Systems: Concept ...
I. Keidar, O. Naor, E. Shapiro	2022	Cordial Miners

- Identify critical enablers of resilient decentralized communication for minimal grassroots social networks

1. **Communication:** How are messages broadcast in a distributed network?
  - 1.1 **Methodology:** Investigate the efficiency of traditional p2p unicast communication and explore multipoint communication alternatives.
  - 1.2 **Goal:** Enhance network resilience to faults and improve efficiency in terms of latency, storage, and bandwidth.

- Create infrastructure for grassroots, information-centric networking
- Enable large-scale offline communication
- Facilitate access to education contents in areas without centralized infrastructure