Ad-hoc NDN Relay with MicroForwarder

- Motivation and problem statement
  - Many constrained environments have a good LAN but low-bandwidth Internet connectivity.
  - Use the NDN-JS MicroForwarder to communicate with multicast peers and relay to the Internet.

- Contribution to NDN
  - Enable "locally promiscuous" communication from the browser
  - A protocol to leverage NDN to optimize communication to the Internet

- Tasks
  - Design/implement a protocol for local computers to discover the relays and for multiple relays to coordinate who should be responsible for forwarding local packets to the Internet.
  - Implement a content store in the MicroForwarder suitable for the relay.
  - Implement a demo application that allows local computers to stream large files (videos, images) from the NDN testbed over the relay.

- **Jeff Thompson,** Wentao Shang

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- Required knowledge for participants
  - JavaScript
  - Basic understanding about ad-hoc networks
  - Experience in browser extension development is a plus

- Expected outcome
  - Demonstrate multiple computer browser apps fetching the same large content through one connection to the Internet.
  - Collect basic measurement of the MicroForwarder throughput to evaluate the feasibility of video streaming using the JavaScript MicroForwarder relay and Python multicast app.
  - Demonstrate cross-browser compatibility (Firefox and Chrome, at least)
  - Extra bonus: Demonstrate multiple computer browser apps fetching from NDNFS on the LAN.

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