BitHoc: Tracker-less BitTorrent for Mobile Ad Hoc Networks *

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**BitHoc: Tracker-less BitTorrent for Mobile Ad Hoc Networks**

**Goal & Motivation**
- Internet content sharing applications cannot directly be used in mobile environments.
- Designing and implementing an open-source software solution for content sharing in mobile wireless ad hoc networks.
- Adapting BitTorrent to the wireless ad hoc network environment:
  - A global distributed membership tracking service.
  - Adapting the peer neighbor and piece selection strategies to account for the topology of the network and the scarcity and shared nature of resources.

**Components deployed on handhelds:**
- **BitHoc tracker**: a fully distributed membership tracking service. It provides the BitHoc client with up-to-date information on Torrent members.
- **BitHoc client**: it organizes the data transfer between devices. It mainly decides of the neighbors with whom a peer exchanges pieces of content and the right piece to select. The used algorithms are adapted to the constraints of mobile wireless environments.
- **OLSR routing daemon**

**Environment**
- 14 mobile devices including 7 PDAs and 7 smartphones (HP iPAQ 214, 614c) equipped with IEEE802.11b wireless cards
- Windows mobile OS.
- OLSR daemon ensures ad hoc routing.
- BitHoc tracker and BitHoc client developed in C++ and installed in devices.

BitHoc web site: [http://planete.inria.fr/bithoc/](http://planete.inria.fr/bithoc/)

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BitHoc tracker screen shots

BitHoc client screen shots

Other features:

• Choosing between two versions: The classical BitTorrent and BitHoc.

• Configuring and personalizing the different parameters (addresses, ports, timers, etc ...) of the tracker and the client.

• Real time monitoring of sharing sessions.

• Logging and tracing of events.

Some results:

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