

# WebDAV implementation for MAEMO

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# Motivation

## **Common issues of file sharing on mobile devices:**

- No standard way to share data

- Most solutions offer send-receive style

  - Not permanently working server

  - Not permanently available shares

## **Main project goal (target):**

- providing tools for file sharing between mobile devices

# Project targets

## **To provide a program which allows:**

- Open access to files
- Setting access mode – read and/or write
- Using wide spread protocol

## **Program for acting with a server which allows:**

- Attaching remote share to local file system
- Transparent usage of remote files

# Current solutions comparison

Solution	Internet access	Security	Browsing ability	Upload/download abilities
Using external server (e.g. ftp, http)	+	Protected connection	-	+
Bluetooth	-	PIN checking	-	+
E-mail	+	Password checking	-	-/+

# Protocol alternatives

- **FTP**

- Pros: widely spread, supported by many software products
- Cons: too complex, not very fast, has no metadata support

- **HTTP**

- Pros: widely spread, adaptive
- Cons: no direct support of file operations and metadata

# WebDAV

- Universal protocol for remote working with documents
- HTTP-based and backward compatible
- Gives a big set of additional services
- Metadata
- Access control
- Versioning
- Simple

# Server backend selection

- **Apache**

- Full protocol support
- Fast but resource-intensive

- **lighttpd**

- Not so fast but low resource-intensive
- Only main file operations and properties manipulation support

- **nginx**

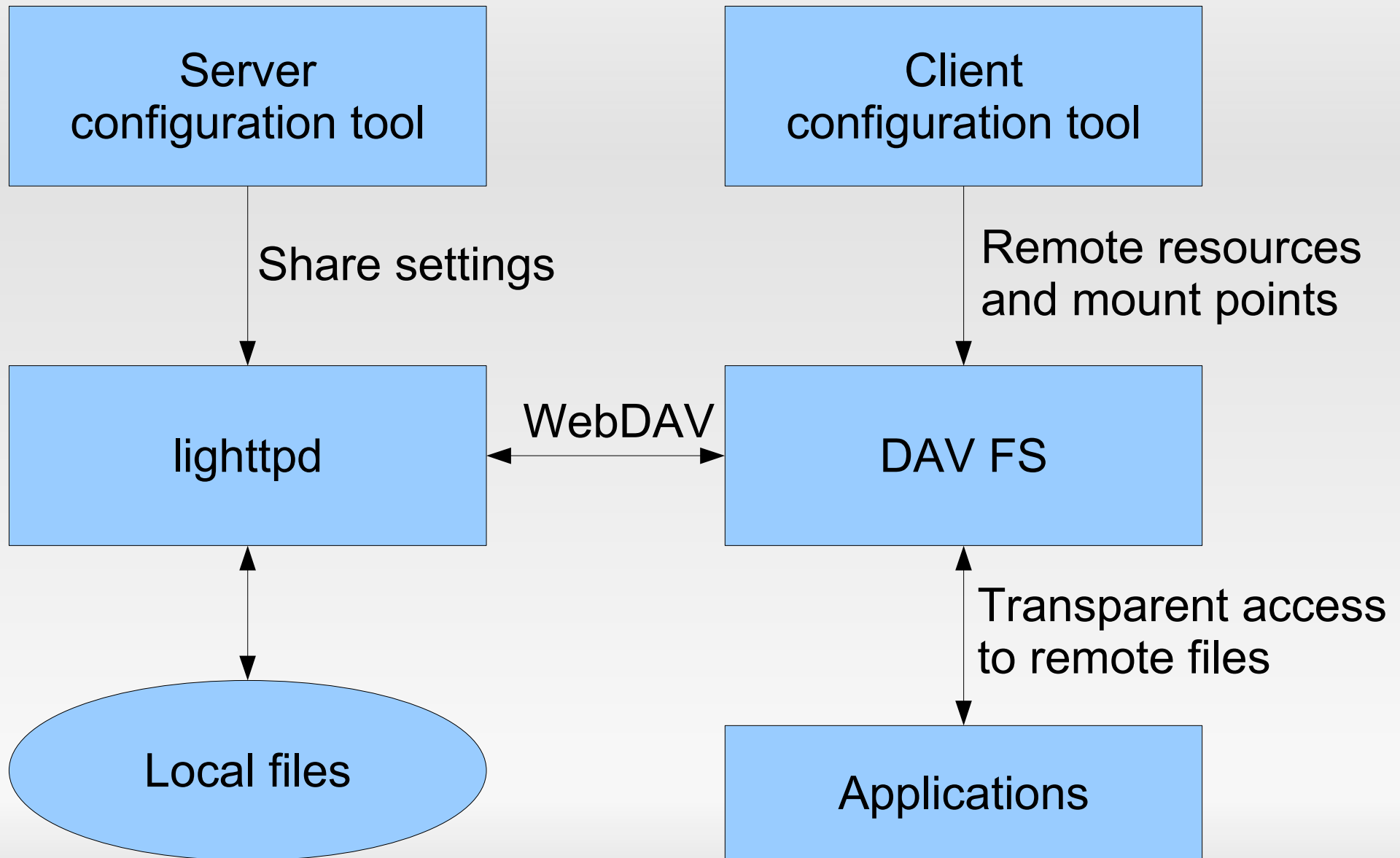
- Fast and extremely low resource-intensive
- Only file operations support

# WebDAV Clients

- **DavFs**
  - Integrates with built-in file browser
  - Allows to work with remote files as with local ones
- **Cadaver**
  - Command-line interface
  - Supports file operations and locks



# Solution architecture



# Solution architecture 2

- Adding WebDAV resources to local file system is possible because of using FUSE technology
- FUSE (Filesystem in Userspace) is a kernel module that allows unprivileged users create and mount their own file system (like DAVfs) without editing kernel code. In this case file system is set of executable binaries that are linked to the FUSE libraries and doesn't work with kernel directly.

# Project timeline

1. Review of existing WebDAV-servers and client-side libraries. November, 2008
2. WebDAV server porting to Maemo platform. December, 2008
3. GUI development for server customizing. January-February, 2009
4. Maemo WebDAV client development. February-May, 2009
5. Prototype creation. April, 2009
6. Developed software publication(on Maemo garage). Making decision about further project advancing. Summer, 2009
7. Preparing report and appear on FRUCT conference. Autumn, 2009

Team: 2 students

# Feature table

Protocol method	Currently used	Planned to support	Comment
GET	+	+	
PUT	+	+	
DELETE	+	+	
MKCOL	+	+	
COPY/MOVE	-	-	Not supported by lighttpd
PROPFIND / PROPPATCH	-	+	Requires additional lighttpd configuration
LOCK/UNLOCK	-	+	We are working on it now

# UI Sample



# Summary

A prototype of file sharing tools for mobile devices has been developed

Ported software to Maemo:

- Lighttpd
- DavFS
- Cadaver

Experience in fields:

- Python development on Maemo
- Qt using on Maemo
- PySide testing on Maemo SDK

# Perspectives

- Integration with Maemo services:
  - network management
  - powersafe
- Support of content annotating
- Support storage of groupware objects in WebDAV (GroupDAV)

# Resources

- Sources could be found here  
<http://osll.spb.ru/projects/show/maemo-webdav>
- Deb installation packages:
- [http://osll.spb.ru/projects/list\\_files/maemo-webdav](http://osll.spb.ru/projects/list_files/maemo-webdav)



# Contacts, links

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