

FUSE impl

FILE-related interfaces

```
* read(const char* path, char *buf, size_t size, off_t offset,
      struct fuse_file_info* fi)
* write(const char* path, char *buf, size_t size, off_t offset,
      struct fuse_file_info* fi)
* truncate(const char* path, off_t size)
* fsync(const char* path, int isdatasync, struct fuse_file_info* fi)
```

DIR-related interfaces

```
* getattr(const char* path, struct stat* stbuf)
* open(const char* path, struct fuse_file_info* fi)
  [do nothing]
* readdir(const char* path, void* buf, fuse_fill_dir_t filler, off_t offset,
      struct fuse_file_info* fi)
* mkdir(const char* path, mode_t mode)
* unlink(const char* path)
* rmdir(const char* path)
* rename(const char* from, const char* to)
(optional)
* chmod(const char* path, mode_t mode)
* chown(const char* path, uid_t uid, gid_t gid)
```

File mappings

```
* using C
* they are: (1) extent tree, (2) radix tree, and (3) cuckoo hashing
  (from the paper "Rethinking File Mapping for Persistent Memory")
* they are **per-file** mapping
  (NOTE: cuckoo hashing is also per-file here)
* interfaces:
  typedef uint64_t saddr
  saddr get(uint64 offset)
  void set(uint64 offset, saddr block, len size)
* expecting 4K-aligned:
  (offset%4096 == 0) & (saddr%4096 == 0)
```