

Independent Study Plan -Storage Research

Schedule

- Block device access and APIs (2 weeks)
- Partition schemes (2 weeks)
- Filesystem structure research and choice of initial FS (2 weeks)
- Research into file system meta-data layouts (3 weeks)
- File reconstruction (2 weeks)
- Journal inspection (2 weeks)
- Exploratory extensions (2 weeks)

Outcomes

- Initial tool for inspecting partition information: 4th week
- Extend tool to dump meta-data structures: 9th week
- File reconstruction: 11th week
- Full filesystem analysis with journal: 14th week
- Exploratory extension: 16th week
- Documentation of tool and file system findings

Written Paper

- Description of tool development: role in the project, interesting findings and challenges.
- Insights gained during development

Source Material

- Operating Systems in Three Easy Pieces. <https://pages.cs.wisc.edu/~remzi/OSTEP/>, particularly chapters 40, 41, 42, 43, and 45
- Linux kernel sources
- Papers related to chosen filesystem (TBD)