**WEEK 1**

**Dheeraj Progress Report,** Feb 17th,2014

- Carrying out research on developing FUSE file systems at user level and a disk based file system at kernel level

- Drawing out careful conclusions that impact the file system design

- Thinking of ways to make the file system platform independent.

After significant research, I found out the following points on FUSE:

Pros

-it doesn’t necessarily take down the entire OS during file system crash.

-Easy code distribution

-Update to file system can be quick

-Easy programming

-Debugging is easier since a bug fix doesn’t need a system re-boot every time.

-Doesn’t need admin privileges compared to in-kernel file systems which need superuser privilege for mounting.

- No significant changes needed for porting compared to the amount of changes needed while porting an in-kernel file system to a different flavor of the OS.

Cons

- There will be an impact on performance when compared to kernel drivers when the workload consists of a relatively large number of metadata operations,such as those seen in Web servers and other systems that deal with small ﬁles and a very large number of clients.

-FUSE does not give you a simple facility to implement ACL\’s on your filesystem. As a result, most FUSE systems don\’t implement ACL\’s at all, and that makes them undesirable for multi-user setups

-file systems can only use FUSE API’s whereas kernel file systems can use a richer kernel API.