

## Assignment Two

# System Design

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Set: 2nd of December 2010  
Due: 14th of December 2010 @ 23:55 CEST

**Synopsis:**

Design a versioning file system based on FUSE.

## Introduction

This is the second of three assignments in the *Principles of Computer System Design* course. In this assignment, you must write an article that describes the design of a versioning file system. You should start out with a broad description of your system, and provide specific details on the topics listed in the section *Your Design*. You should use the results from your previous article as arguments for the choices you make. Make sure that you reference your previous article, specific relevant articles, or articles written by the other students where appropriate. Even though the use of FUSE has been decided already, your article should mention any drawbacks or advantages FUSE has on your design.

This is a design project, so you should not include or write any code at this stage.

## Background

Softhelpers are satisfied with your literature review, and have hired you to assist in designing their new versioning file system. Based on your report and feedback from the internal IT team, Softhelpers have decided to base their implementation on FUSE. As with the research, the design specification will be published as an article, and must therefore be written using the ACM SIG Proceedings template. When you have written your design report, Softhelpers should be able to hire a team of software developers and have the product developed.

## Your Design

Your design must include:

- A description of the method used
- A description of the system limits
- A criteria for generating new versions
- A strategy for storing multiple version

## Your Report

Your reports should contain:

- An abstract, summarizing the article
- A system design for a versioning file system
- References to the relevant articles, backing up your choices
- A conclusion summarizing the design
- A bibliography containing references articles

## ACM template

The Absalon course page for *Principles of Computer System Design* has an ACM article template available for download. You are encouraged to use L<sup>A</sup>T<sub>E</sub>X to write your article, however, if you choose to use a word processor you should download the Word template directly from the ACM.

## More papers

You may find that your previous report already contains all the relevant articles needed to support your choices. If not, feel free to include any further articles that you find relevant. You can peruse the article reports from *Assignment One* on Absalon for further inspiration or refer to *Assignment One* for links to search engines where you may find more relevant articles.

## Deliverables for This Assignment

You should submit the following items:

- A single PDF file in ACM article format, A4 size, no more than 3 pages, including references.

## Handing In Your Assignment

You will be handing this assignment in using Absalon. Try not to hand in your files at the very last minute, in case the Intertube connecting the University breaks at the exact moment you are trying to submit. **Do not email us your assignments unless we expressly ask you to do so**

## General Notes

- Your report and referenced articles must be written in English
- You must use the supplied ACM L<sup>A</sup>T<sub>E</sub>X or Word template
- Submit your documents as PDFs. No Word, OpenOffice, L<sup>A</sup>T<sub>E</sub>X, or PS files
- Absalon allows you to attach any number of files to your submission. Please **do not** compress your PDFs into a single ZIP file

## Assessment

You will receive either a “pass” or a “fail” for this assignment along with a critique of your work to help you in the next assignment. You are encouraged to use the available ‘writing workshops’ to ensure that you produce a report of adequate quality.

To pass the course, you must pass all three assignments as well as the exam. The final grade for the course is based solely on the exam.