

## CS167/69 Capstone Abstract

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This semester, I undertook the task of implementing a simple Operating System, Weenix, in CS169. Specifically, the semester-long project consisted of writing ‘processes’ (wrappers for tasks), a fully-functioning file system and virtual memory to allow user-level programs to be executed. The majority of the work was put into the latter 3 of the assignments, taking around 3 months to implement. By the end, all features were used to run a variety of C executables as if they were running on a proper Linux system.

The biggest problem I faces was working for the first time with such a massive, existing codebase. While a large amount of functionality was provided, navigating it at first, as well as seeing how functions spread across dozens of files, was a big challenge. This also meant that debugging the code proved difficult at many points, where bugs in one place would manifest in strange ways much later in completely different functions. Nevertheless, by the end, I was able to successfully run programs (such as Hello World), and this time understand every single step that went into running a seemingly simple piece of code.