

Discussion of benefits and drawbacks in relation to Essence kernel

For the scope of this assignment, the two most interesting areas of the Essence kernel are *solution* and *endeavor*. Since the *endeavor* area has already been analyzed in every assignment, only the *solution* area will be discussed in this text.

The solution area contains two alphas: *requirements* and *software system*. Since the project requirements were already defined by the assignment, the group was not involved in the stages *conceived*, *bounded*, *coherent* and *acceptable*. Thus, the group mostly worked with the *addressed* stage. At this stage, a benefit with our work is that all of the P requirements as well as a majority of the P+ requirements have been addressed, which is considered an acceptable amount. However, a limitation of our work is that there are still several P+ requirements that haven't been addressed. This means there is room for improvement. The last stage, *fulfilled*, will be entered once the assignment has been accepted by a TA.

Regarding the software system alpha, the *architecture selected* stage was already pretty much set in stone by the time the group had chosen the issue. For instance, the programming language had to be Python in order to be consistent with the rest of the open-source project. One potential drawback with our project is that the order of the next two stages, *demonstrable* and *usable*, was reversed, seeing as some of the tests were implemented before the functions themselves. This meant the *demonstrable* and *usable* stages were met roughly simultaneously, which does not align with the software engineering practice according to the Essence kernel. Another drawback concerning the usable stage, is that the tests did not achieve 100% coverage (although the coverage was close to 100%). Nevertheless, a benefit with the work is that all of the tests passed, which implies that the produced code has acceptable performance. Now that the issue is fully implemented, the system has entered the *ready* stage. A benefit with our work at this stage is that we have added thorough documentation for the new code. However, a drawback is that we don't know whether the new code is wanted by the stakeholders, since the code patch hasn't been communicated to the owners of the repo. Theoretically, if the new code were to be submitted to the open-source project and accepted, the system would enter the *operational* stage.