Formal methods of web-development

It is said that 70% of the bugs in an application are seen due lack of proper understanding of that application. Meeting the requirements of an application is always a tough task as there is a need to understand them and their relations properly and also there may be new requirements added for every meeting with the client. Seeing that the newly added requirements do not break the constraints of the previous requirements is a tricky job. But modelling our app in a specification language like Alloy helps us to do the above things without actually writing the real code. This helps us a lot because we start writing the real code without any doubts or doing changes all the time when there is an error. Thus this helps in reducing the bugs.

An application should be flexible which means that, it should not restrict us to do only one operation at a time. The code written should be used for various operations in order to achieve pipelining.Here comes Modular Programming. Modular programming is a technique where the code is written in different modules where each module is independent and works on its own. To perform an operation, these modules should be called in a particular which forms a workflow. A workflow of an application where there are users with email, name and role, and there are 2 components, the guard, which checks the correctness of the instruction that is to be performed and the engine which does the actual operation is shown in Fig 1.

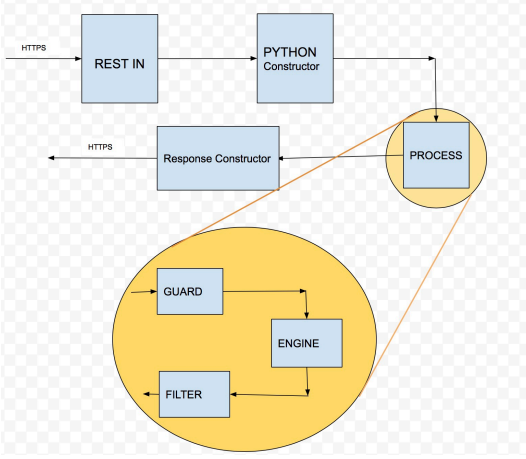

Figure 1

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