

PRIMEGENSV2: A SERVICE BASED PLATFORM USING OBJECT ORIENTED MODEL VIEW CONTROLLER DESIGN PATTERN

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ABSTRACT

There are a number of tools and software packages dealing with the problem of efficient primer and probe design. In an era of fast paced research it is rather difficult for any researcher to change their favorite tool. So the question is how to bring different tools on a common platform and compare them for efficiency and level of accuracy.

In this thesis I tend to develop a structure which will provide biologists and software developers, a common platform for benchmarking their primer design application and pit them against already renowned systems for performance evaluation. This platform would be easy to use and will have ports where third party tools and software packages can be plugged. For a common set of requirements, this platform can provide comparison between tools' performances and for different functionalities it can provide best possible results of one tool to be passed on the other tool.

System is developed in Java language and uses latest Swing technologies which make it a lightweight application and mild in terms of system requirement. Application provides a very interactive graphical user interface for biologists. For computer scientists and developers, this application gives a combined approach towards service based architecture using object oriented methodologies of abstraction and encapsulation. Application release notes and its related manuals can be found on the webpage of Digital Biology Laboratory (<http://digbio.missouri.edu/primegens/>).