

My Responsibilities in the Virtual Plant Project

First Draft

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I want to clarify my responsibilities and objectives in the Virtual Plant project. The table below enumerates my understanding of 1) my broad responsibilities, 2) the main current tasks within each responsibility, and 3) some training that I believe I need in order to perform those responsibilities and tasks. My plan will be to obtain the training by reading, experimentation, and consulting with experts, both inside and outside the lab. I've tentatively assigned priorities to these tasks. I look forward to your feedback and clarifications. I hope that this document and our discussions about it will speed my training and transition to becoming an active contributor to the project.

Broad responsibilities	Corresponding tasks	Priority	Training
Support on-going, reliable execution of VirtualPlant's Perl implementation	With Rebecca, complete installation of VP Perl on OS X; verify documentation of the procedure	High	Learn more about the implementation of VP Perl, cpan, and about fink and macport
	Create a script to automate – as much as possible – installation of VP Perl on OS X	?	Same as above
	Put 'comment' box I wrote during my evaluation into production	?	Learn more about design and implementation of VP Perl, and about svn and mod_perl
	Understand and improve network security and firewall configuration*	Medium	Learn about Linux firewall configuration in iptables
	Investigate VirtualPlant's performance problems with large gene sets*	?	Improve expertise with mysql; learn about sql stored procedures; learn about tools for debugging Perl and investigating Perl memory leaks
	Improve my workstation's performance; install new RAM when it arrives	Medium	
	Improve my productivity with Mac OS X	Medium	Continue to learn about Mac OS X
	Improve backups	?	
	With Rebecca, complete build and installation of VP Java on OS X;	High	Learn about ant and svn
	Support development and evaluation of VP Java (aka		

Broad responsibilities	Corresponding tasks	Priority	Training
VP Flex)	Learn how to build a VP Java plug-in	High	Learn ActionScript
	Provide guidance on allocation of responsibilities between CBUC and NYU*	?	
	Develop procedures for automated testing of VP Java*	High	
	Assist Manny in survey and analysis of user experience with VirtualPlant*	?	
Enable parallel execution of VirtualPlant and/or some genetic analyses on our cluster	Tasks are unclear, but I would recommend an initial experimental and educational step that parallelizes some compute-intensive analyses (perhaps normalizing data, correlation, or rank product) which I understand are implemented in R*	?	Learn about R, Rocks, MPI, snow, and possibly other tools
	Analyze and pro-actively address security risks for running VirtualPlant, its database and analyses on the cluster	?	
Obtain better understanding of genetics and computational genetics	Have Manny, Gabriel, Rebecca and others demo VirtualPlant to me	High	
	Learn about the lab's genetic research*	High	
	Audit <i>Bio Core 1: Molecules and Cells</i> , Fall 2009 Thursdays 04:55pm – 07:35pm, DESPLAN, and <i>Bio Core 2: Genes, Systems, and Evolution</i>	Medium	
	Attend “Genome Symposium “Evolving/Technology...”	Medium	
	Read “Web-Queryable Large-Scale Data Sets for Hypothesis Generation in Plant Biology”	Low	Need someone to explain it to me

Broad responsibilities	Corresponding tasks	Priority	Training
	Read the “Pipelines for analysis of next-generation networks for RNA and & ecotypes” section of <i>N2020.revised.v22</i> grant	Low	Need someone to explain it to me

* These tasks are especially interesting to me.