Interactive Display of Population Soybean Genomic Data with Shiny

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# Abstract

# Interactive Display of Biological Data

* Literature review?

<http://kbroman.org/qtlcharts/>

Interactive CNV viewer (UK lab)

<http://www.ncbi.nlm.nih.gov/pubmed/23729504>

* Discuss size of the data
  + Applet design - dplyr, preprocessing data, drawing CNV=2 as the default to reduce drawn objects
* What is Shiny, how does it work, etc.

## Why Shiny?

Explain interactivity, server backend, advantage of serving up data over the web.

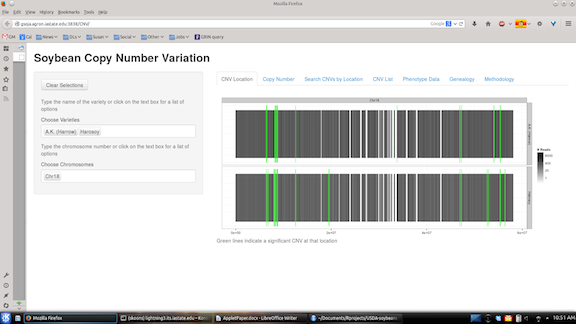
# Data

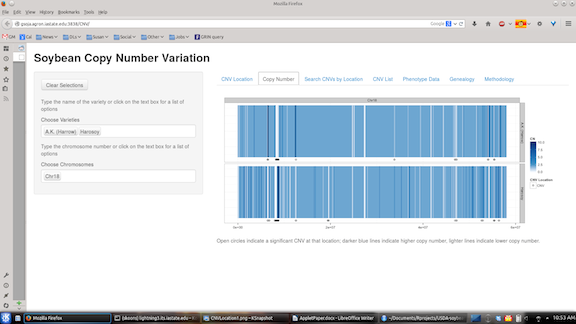
Describe magnitude of data, CNV analysis steps, etc.

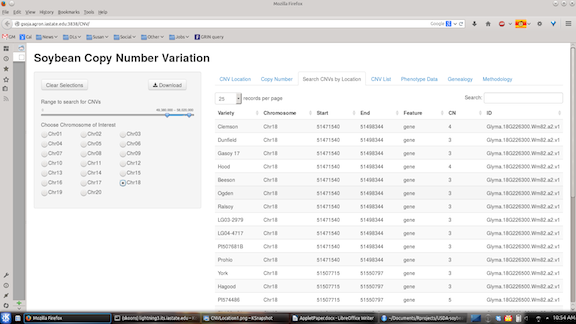
# Basic Usage

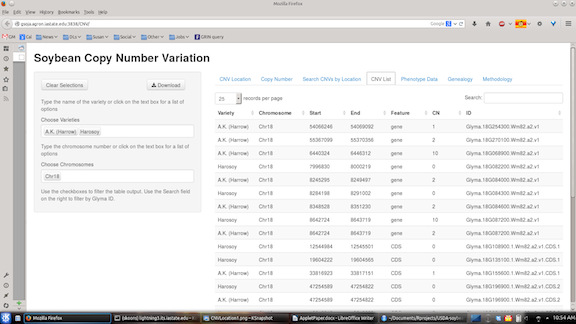
## Copy Number Variation

* Describe different tabs in the applet, explaining the CNV methodology in minimal detail? Discuss the inclusion of genetic data and phenotype information (for reference purposes).









* Include example video of Michelle using the applet.
* [Applet Link](http://gsoja.agron.iastate.edu:3838/CNV/)

## Single Nucleotide Polymorphisms

* Describe tabs, data workflow
* Include example video of Michelle using the applet
* [Applet Link](http://gsoja.agron.iastate.edu:3838/SNP/)

## Genealogy and Phenotype Reference

* Describe spin-off of CNV applet - genealogy of (most) soybean varieties
* [Applet Link](http://gsoja.agron.iastate.edu:3838/Genealogy/)