GMOD for Evolutionary Biology

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The Generic Model Organism Database (GMOD, http://gmod.org) project provides interoperable, open source software tools for managing, visualizing and annotating biological data. GMOD is also a community of people addressing common challenges with biological data. Some well known software in GMOD includes GBrowse and JBrowse for genome browsing, Apollo for genome annotation, Chado for managing data, CMap for comparative map viewing, Galaxy for workflow creation and persistence, and BioMart for warehousing biological data.

This talk will focus on three areas of particular interest to iEvoBio participants.
1) GBrowse_syn comparative genomics viewer
2) Natural Diversity Module of the Chado database schema
3) GMOD evolutionary biology hackathon

The GBrowse_syn comparative genomics viewer displays synteny between a reference and any number of related species. It shows inversions, duplications, and indels, and can show synteny across non-contiguous regions. It is built on the widely used GBrowse genome viewer. The Natural Diversity Module is an extension to GMOD's Chado database schema to enable Chado to support natural diversity, population genomics, individuals, breeding, phenotypes and geolocation information. This module is the first extension to Chado to be designed by the community, rather than at one institution. We will close by soliciting nominations and ideas for a GMOD Evolutionary Biology Hackathon. This hackathon will be held November 8-12, at NESCent, which is sponsoring the envent. There will be an open call for participation in August.

Licensing and Download Links:
GMOD's general open source licensing requirement:
   http://gmod.org/wiki/GMOD_Membership#Requirements

GBrowse_syn is released with GBrowse under GPL 1 or later, and the Artistic License 2.0:
   http://gmod.svn.sourceforge.net/viewvc/gmod/Generic-Genome-Browser/trunk/LICENSE?view=markup
   http://gmod.svn.sourceforge.net/viewvc/gmod/Generic-Genome-Browser/

The Natural Diversity Module will be released with Chado under the Artistic License 2.0:
   http://gmod.svn.sourceforge.net/viewvc/gmod/schema/trunk/chado/LICENSE?view=markup
   http://gmod.svn.sourceforge.net/viewvc/gmod/schema/branches/integrate_natdiv/
   http://gmod.svn.sourceforge.net/viewvc/gmod/schema/

Any products of the hackathon will be made available under an OSI compliant license:
   http://gmod.org/wiki/GMOD_Evo_Hackathon_Proposal#Hackathon_Procedures