Update SBGN-ML and LibSBGN





- Community project started in 2009
 - facilitate development of SBGN supporting tools
 - increase interoperability between these tools
- Electronic implementation of SBGN
 - exchange format for SBGN maps: SBGN-ML
 - XML schema based
 - express semantics, relationships and geometry
 - software library to interact with SBGN maps: LibSBGN
 - object model and API (C++, C#, Java)
 - key features: reading, writing, validation, conversion and layout

M.P. van Iersel, A.C. Villéger, T. Czauderna, S.E. Boyd, F.T. Bergmann, A. Luna, E. Demir, A. Sorokin, U. Dogrusoz, Y. Matsuoka, A. Funahashi, M.I. Aladjem, H. Mi, S.L. Moodie, H. Kitano, N. Le Novère, F. Schreiber: **Software support for SBGN maps: SBGN-ML and LibSBGN**. Bioinformatics, 28(15):2016-2021, 2012.

- Wiki http://www.sbgn.org/LibSBGN
- SourceForge project http://sourceforge.net/projects/libsbgn/
- Mailing list sbgn-libsbgn@lists.sourceforge.net
- Tools supporting SBGN-ML http://www.sbgn.org/LibSBGN/ClientTools
- Databases supporting SBGN-ML
 Path2Models, PANTHER Pathway, Reactome, MetaCrop
- Rendering comparison pipeline http://libsbgn.sourceforge.net/render_comparison/





- Milestone 1 (released January 2011)
- Milestone 2 (released December 2011)
 - support for all three languages
 - exchange shape, position, size
 - exchange edge routing
 - extensions and notes
 - validation based on Schematron





- Milestone 3
 - external references (SBML, BioPAX)
 - complete support for submaps
 - proposal accepted
 - implementation not finished yet
 - complete support for (any) compartment shape
 - proposal compiled during HARMONY 2013
 - support for color and line thickness
 - proposals by Martijn van Iersel and Frank Bergmann
 - level and version attribute for a map
 - update for latest version of SBGN specifications





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