



Final project proposal

Type	Undergraduate/Master
Title	<i>Semantic HDL IP Cores Search Engine</i>
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Department / Group	
Computer science and engineering	
Topic(s)	
Hardware description language, Semantic web,	
Project can start from	01.04.2014
Project duration	4 months
Short description	
<p>Recently, many systems on chip designers started writing their own HDL components and made them freely available on the Internet. The idea of searching for a couple of prewritten cores and building your own system on chip only by connecting them seemed so time saving and necessary. But, the statistical search engines available today are not good enough in terms of finding a prewritten HDL component with a specific port interface and architecture. Working on the idea of an improvement of the search abilities, we have developed a system that enables upload and an automated semantic description of VHDL components, and allows a search for specific components, based on the unambiguous semantic description, through a repository of prebuilt VHDL cores. The application built around the system is published here and the idea is to focus on the benefits that the application user gains, during the process of System on Chip design.</p>	
Results and assessment	
<p>The plan is to improve the search engine, extend it with an automated composition module, improve the web site and develop an Eclipse plugin that will enable an interaction with the system directly via the client-programming environment. The plugin will nicely integrate with the Sigasi environment, which besides the existing intelligent features will offer a direct interface to a large repository of prewritten VHDL components and interaction with many SoC developers around the world. Your task will be to participate in the plugin development and give additional proposals for the whole system improvement.</p>	
Other (additional) information	