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This week, most of our time was spent on searching HDL and SPICE over the Internet.

Emin ÖZCAN

This week, I am very busy with my other course's assignments, so I couldn't spend much time to our project. However, I made some researches about our official site design. So, I found some image materials for the future usage and I got some beneficial script codes. But I have not used them yet. In addition to this, I and my friend made some researches about HDL and Spice. Also we searched a HDL library for Java. We have achieved to find a HDL library for Java but we couldn't download it. After all, I joined to the meeting for discussing the HDL and Spice.

Eren YILMAZ

This week, I focused on finding VHDL libraries for Java. I searched through the internet, and came across a useful tool, named "Java VHDL Parser". That could be good for our project, however, the application package was removed from the server. I tried to contact to the author of the package, again, the e-mail address was out of use. After this failure, I found another interesting tool, JHDL! This tool was developed in Brigham Young University, for their Configurable Computing Laboratory. But, this is not an industry standard tool, and not so liked by users of www.slashdot.com. More than these, I had a chance to look at Java development environments, NetBeans and Eclipse. I looked at Eclipse both under Windows and Linux, and I think that it would be good to produce a cross-platform application.

M. Ergin SEYFE

Last week, I prepared a table which shows the features of every program that we searched and examined in the past weeks. I had organized this table from the literature survey report. This week I reorganized this table and explained every feature in the explanation part because some parts are not understandable for people who are not specialist in this field.

Moreover, I decided the features of our application and construct this table for our application.

I made a research about SPICE last week, and then this week I searched and gather information about HDL (Hardware Description Language) to compare these two languages. Then I read some documents about VHDL and Verilog which are two much known types of HDL. But I could not decide that which of these languages will be useful for our project. We decided in our team meeting to search and gather more information about both SPICE and HDL.

I also looked at programming languages and development tools that we will use in this project. C#.NET will be not very useful for us because of its incompatibility with Linux OS. Thus, I mostly searched about Java and C++ development tools.

İlgin YARIMAĞAN

This week I mainly focused on examining HDL (hardware description language) which is mainly any language from a class of computer languages for formal description of electronic circuits.

My studying process began with obtaining general overview about the HDL concept. I mainly focused on HDLs that are used in digital circuit design. Since Verilog and VHDL are the most common ones we are planning to use one of them in our project. First I downloaded a documentation related to Verilog and got a general idea about its syntax. I considered about what could be done for our project using Verilog and concluded that Verilog could be very useful while implementing both the simulation and scripting part.

After examining both SPICE and HDL, I concluded that using HDL would be more useful in our project in the sense that it is similar to a programming language so it could provide much power. Since SPICE is more like a Netlist language using SPICE we only will have the connectivity information of the circuit. In the scripting part the SPICE netlist can be taken as an input from the user but SPICE wouldn't do any good in simulation part since it has no programming effect. On the other hand, if we can find the related libraries and parser for HDL to use in our program, we would also be able to implement both the scripting and simulation part in HDL.

In our weekly meeting we mainly discussed about using either SPICE or HDL and mostly decided to use HDL in the sense that it is more suitable in digital circuit design and it is more powerful. We also discussed how to integrate HDL to our project. Basically we thought that for example in the simulation section when the user runs the simulation the circuit would be generated using HDL and then would be converted to native language of our program using a parser. So we decided to continue doing our researches about HDL in the next week and make a decision between Verilog or VHDL. We will also continue to do some research about libraries and parser about HDL.

Mehtap Ayfer PARLAK

This week, we started to search several hardware description languages in order to determine the programming language we will use for implementing the components. Mainly there are two programs that are used in circuit simulation applications: HDL and Spice. Spice is generally used for analog circuit designs whereas HDL is used for digital circuits. According to my opinion, HDL is more suitable for our project. The most well-known hardware description languages are VHDL and Verilog. Both have some clear advantages, and no definitive winner between the two will be known for a few more years.

Verilog versus VHDL

Verilog is easier to understand and use. It is chosen for industrial applications that required both simulation and synthesis. It lacks, however constructs needed for system level specifications.

VHDL is more complex, thus difficult to learn and use. However it offers a lot more flexibility which is both its advantage and a disadvantage due to abundance of permissible coding styles. Since VHDL is better suited for handling very complex designs, it is now gaining popularity.