怎样学 fpga（How to learn FPGA）

First select a hardware description language, Verilog recommends beginners, a bunch of online tutorials, entry-level summer teacher "Verilog HDL from algorithm design to hardware logic implementation", Wang "Verilog_HDL programming guide", and proposed here to begin to maintain good habits of this code. Then you can save a bunch of unnecessary trouble.....

Secondly, choose a company's main products and development tools, Altera, Xilinx ISE Altera Quartus is relatively easy to use, easy to use nois2 than EDK, much more information than edk.....

Simulation tools, modesim is not to mention, if there is a development version, the use of online logic analyzer, the effect is better! Want to buy the development version of the words, it is recommended to buy more data, about 300-500 of the very good, and there is a pile of Taobao! Of course, there is not so much money on hand, for beginners, to write code, do simulation is also quite possible!

Finally, there is a plan, not afraid of hard training ah, write ah.....

How to learn FPGA (a blog worth learning from beginners)

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I was wondering if it would be nice to have someone to show me the way to FPGA! In order not to want everyone to go the curve I passed, so I take my own real experience as my reference!

How to learn FPGA, this should be beginners eager to know the problem, because people have a desire to take the shortcut mentality, that is, in the shortest possible time to achieve self.

Often said: "Haste makes waste."". I tell you how to learn FPGA in my own experience.

The road to FPGA: I walk by myself.

But how exactly should we go?

If a worker wants to be good, he must first sharpen his tools. Those who want to learn FPGA must first learn their tools well. This tool has to start at two:

Point 1: Language: Verilog: VHDL

At this point, perhaps there will be doubts again. What language should I learn?

In fact, most of the university can not open the VHDL language, after all, the first generation of teaching is

the first contact with the VHDL language, so this is not too much. But we must understand that we will face the market later, so we will live under the rigid arrangement of teaching.

In the beginning, I was the same as everyone else. The first contact was the VHDL language, but slowly I found that a lot of data was Verilog, which caused a lot of trouble in reading. So, I also slowly contact Verilog. Probably from VHDL towards Verilog learning will feel very uncomfortable, even not as good as Vhdl, although this is fine with you I think, because including me, a lot of people are feeling, because it does not Vhdl so standard, fixed format. Electronic learning usually has the foundation of the C language, and Verilog, that is, the C language has risen, so Verilog is still relatively easy to use. More importantly, Verilog's code is usually more concise. The same piece of code, for example, uses Verilog to achieve at least 1/3 less than Vhdl!

Just now we talked about the market. As far as the situation is concerned, the share of Verilog in the company is much higher than that of Vhdl, so what? I think it is necessary for us to learn Verilog well. But it's better to master two languages (as I actually do), which is not only more convenient for viewing information, but also helpful for design at times.

Language when I hope we do not see death books, because the book contains a lot of examples are often so can also try Its loopholes appeared one after another., compiling some

examples, which can deepen the impression, sometimes you can find out the mistakes, but also can be familiar with the use of software tools, Why not??

In addition, a lot of people learning the language is not valued, do things carelessly on the line, this is the study of taboo. The direct result is the problems encountered will not find answers in a book, but directly ask others, sometimes a little grammar above matter, hey beginners if you hold this attitude of learning is never good.

The second point: tool software? Altera:Xilinx

In fact, this point is still relatively clear, because software is actually interlinked, as long as the one side of the software to learn, and the other will be solved, and start quickly. In our china,

The use of Quartus II compiler software Altera developed more, while in Europe there Xilinx more, even in the United states. For the use of software, I want you to look at the help documentation or manuals, which is the best and most detailed navigator, more accurate than asking others. In peacetime, one of the best to try their own, do not encounter problems ask, otherwise, how to improve their self-learning ability. Ha ha, I don't know how English is done Otherwise, looking at these documents at first is more strenuous, but in your insistence, see more, and naturally used to it. English is too important for us to learn electronic, whether it is now using software as Handbook, or later look at the chip information, Datasheet, you know,

these are all in English! It's impossible. The company also has an English interpreter for everyone in the future! So why don't the company hire someone with a higher standard of English? Right. Can you see the importance of English ability?! As far as I know, electronic learning is usually based on science and engineering, and most of them are male students, so the average English level is not very good. But I don't feel sorry for you. If you don't want to be eliminated in the future, you have to learn English well. Guys, come on! Believe in yourself, nothing can beat us.

Ha ha, said so much, nothing more than want everyone to tie the foundation, and not necessarily solid, as for the benefits will be in the later process of experience.

Now society is a team of competition, no longer heroes dominate the times. So we should pay great attention to the cooperation between the teams, and I don't think I need to emphasize it any more!

In addition, in the process of learning, if not a team, a person will learn slowly behind closed doors, so, although sometimes is compelling, because many schools in a professional can have so few learning technology has been very good, so in this case we do?

When I want to learn is a groping forward, to rely on the help of students, can't count on is the guide, so go half a semester, will also only so much, too slow, this is for a very efficient I can't answer by the. So, I suggest you if there is no partner, but more to the forum, (this point I

will recommend to you), don't spend all your time in love who went in the electronic game with, learn to endure loneliness, which I just contact electronic teacher for me. Say, still in my mind. Learning electronic needs is a hard study of the spirit, heart can not be too impetuous, otherwise I advise you to change careers earlier, because if you change careers, perhaps your road will be a little easier.

The words mentioned above may only serve as a guide to the novice, and the master will not have to understand. Because of these, I wrote from my own experience, the reality, so I hope to be able to guide a beginner who has just come into contact with FPGA.

Strongly recommend:

Forum: electronic top development network (there are many China, but we do not recommend to participate in the forum too much, because we don't have so much experience to stay online, the site should be present in one of the best Chinese Forum)

Altera official website forum

Blog (this is not a forum, but the information is very rich, there are many good people's blog is written very well)

Books: ALTERA, FPGA/CPLD design, basic articles, advanced articles

Verilog digital system design tutorial, Xia Yu smell

VHDL and digital system design

Note: the above mentioned are mostly based on the number of electric power mode, if these two people don't salau then have grabbed time Luo

Let me introduce myself:

Now engaged in LED display industry (mainly outdoor large screen etc.), the main content of the work is to write the code, with ARM and FPGA to control for the ARM is now still in the learning stage, so, now back on the original study FPGA path, is to learn to learn.....

Net name: tdyizhen1314 (this everyone Google know, write Bowen, hope to help everyone)

Mailbox: 495567585@qq.com

Continued (2011-3-12):

Recently received a lot of beginners questions, mostly related to how to learn the shortcut FPGA, I want to say is: shortcut is not detours, even detours, but also to see the scenery on the bend!

Here I sum up a few ways of learning (personal opinion only):

1, look at the information, the first choice is the original, it is best on the official website. The official website provides a wide variety of information,

No books are more authoritative than this, and there are plenty of videos and examples of tutorials on it.

2, some people write blog information and so on, also is not only these, including most of the books published in Chinese, to carefully consider data read, to verify its correctness can be absorbed, otherwise may absorb diarrhea.

3, write the code to have a hardware thinking, you write every statement corresponds to a real circuit.

4, ask questions, discuss more, record more and think more.

Ask questions, as I mentioned above, many on the official website forum to ask questions, do not think that their English is not good, otherwise, how will the Google translation market, slowly, we say that those English although foreigners can understand Its loopholes appeared one after another., but, like the old foreign told us that Chinese are the same, the forum above get answers to your wonderful. More discussion, learning the best thing is to have a team of specialist (the team may be in the school which is more difficult to find, we all understand a situation in the university to learn something), but now the network so developed, so the way is still there, and when the discussion can also learn the knowledge points knowledge, Why not?. Many records, you often have to feel

useful things down, although the large capacity of the brain, but a long time not to see if the estimate will slowly strange, forget it, what things are there is a depreciation rate of knowledge a year do not look at it, the loss will be 80%. This is now known as the loss of knowledge. Think more, a code is written, not to say that the result even finished the experimental board, there is no better save resources, its working frequency can be high, and so on, is a rigorous engineer to consider.

Another problem besides a code style, you write code in the shortest possible time to let people understand, this is the best style (so you have to keep some of their predecessors accumulated style, this can not need innovation).

Well, that's all for the method! The process of learning FPGA is long, but the market is broad.

There are also many people asked me to learn FPGA and ARM which is the most promising, this I can not, because I learned FPGA say FPGA is good, of course, including DSP, see personal interest! It's like a sheet of white paper (FPGA) and a piece of paper (ARM) that has been painted to make you paint. Which style would you choose? For now, ARM's market is much bigger than FPGA, but now FPGA's annual development is surprising, haha