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【ask】

Please recall your recent or previous experience of learning a tool, software or technology. What was the whole process like from hearing about this technology to actually learning to use it to complete some development work?

will provide you with two tools . The first one was taken while I was studying.

【answer】

You are provided with two tools. One is that when I was learning python crawler in the first stage, I saw in the tutorial that python can be a crawler, so I went to learn about it, and learned what a crawler is. Next, I went according to the tutorial provided. A little example to implement a simple function, but it is limited to the function provided by this example, and it is not suitable for practical application scenarios. Later, I will use it in my work recently . Let's go to some of the needs of some crawlers, and then I started to study it seriously. In the process of learning, I mainly focus on the punishment of requirements. First, I need to sort out the requirements clearly, and then abstract the requirements into these functional points that are implemented, and then search according to the functional points. So the main help is still search, that is, Baidu or Google , so the main reason is that the frameworks or libraries provided by the crawler technology itself are relatively standard, and there are not too many difficulties, so It is relatively simple to directly search for it, or to obtain its usage directly from the example, so after about a week or two, you can basically meet the work needs. So this is a relatively simple case. Then the second one is learning, because my work is related to games, and then I study computer graphics in the second stage, or an example of graphics programming. Graphics programming involves the programming of the CPU, and the programming of the CPU can be abstracted into several sets of APIs. It implements the same function, but its implementation method is different, so when I first learned H LSL , which is a set of programming languages for GPU provided by Microsoft, I found that it lacked more friendly novice documentation. For example, if a novice lacks a certain foundation, it is very hard to learn his document, so it is difficult to get started, and its document lacks examples, which means that he only provides you with basic grammar, other As for the application at the upper level or the logical level, you still need to calculate it yourself. Then there are not many applications or tutorials for this C PU language in the entire Internet, or in various technical communities, and there are relatively certain thresholds, so in this case Next, um, considering the reason for this difficulty, I switched to another API at that time , called open GL. O pen GL provides a relatively friendly and beginner-friendly introductory course, and the threshold is relatively low. This course starts from scratch, from the receipt of a black window to drawing a very simple triangle, to the end You can import your own model, and then display a relatively complete game scene. For the process from 0 to some, it will provide a better teaching for novices. Then, through this round of teaching, I have a basic understanding of some concepts and usages of graphics, so I can simply build a game engine or a game development tool for myself, and then have a preliminary understanding of the whole graphics. Understand and understand, then in the next work, I also use the knowledge I learned from the open GL tutorial and some related books, and can really use it in daily work or development. These are probably the same, I don't know what questions you have about the details here.

【ask】

learning this open GL , in addition to reading his tutorial, will you read the documentation? Will he provide documentation?

【answer】

Well, this document is part of his tutorial, so the document may be of the example type, or the entry type, and there are other official grammar documents or official instructions. He also has them, but I rarely read them. , because the first hl SL I mentioned just now is the official document part of open GL , which is similar to the syntax description part of hl SL, both of which are not particularly friendly to novices, so I read the most at that time. The process of getting started with open GL .

【ask】

Video tutorial for getting started, right?

【answer】

No, yes, it's a text tutorial.

【ask】

Text tutorial, ah, text tutorial, it should be considered as part of its documentation, um, can you briefly talk about the parts of this tutorial? What does it usually say?

【answer】

Functionally, as I mentioned just now, it has been implemented. You can achieve more than most of the functions in this set of APIs, and then this basic function can draw a window, from a window with nothing, In the end, you can make a simple game scene and some more complex features. You can achieve such a function. Then each document will provide you with the basic knowledge you must first learn this document, and also That is to say, if you do not have this foundation, you will not be able to understand this document, and he will tell you clearly, which I think is better. Then secondly, it will explain the API it involves or some terms it provides at each step, which is especially good. This kind of problem is also involved when reading other documents. It is your term. If the terminology is not standardized, then it may increase some learning costs that we do not need to bear for those of us who study. This point 2. Then the third point is that in this document, when he reaches a certain stage, he will give you a summary, and in addition to the summary, he will also provide you with a little extra example, just say yes A small example at this stage, so his entire document is a big example, but it will provide a little small example at each stage to help you strengthen your memory, and then do some expansion, I will give you Explain your term. After I explain it to you from the literal meaning, I will expand it for you in principle. Of course, you can do without reading the explanation. It is enough to see the textual explanation of your term, but He will give you some extensions, and then help you understand the meaning of these terms he provides from the bottom up. Then after that, it will be yes, then I think the best thing to do is to talk about his examples, because his examples are roughly divided, and there may be more than 30 articles according to the directory structure, so between each article, It has a strong connection, that is to say, there is no fault in his logic, or there is rarely a fault. After you have learned the previous one, you can go directly to the next one. Well, it is probably these few In one respect I feel good.

【ask】

Well, can you break down the process of learning O pen GL this tutorial in stages? divided into

The early, middle and late stages of learning, and then please talk about each stage separately , you should learn a feature of this course, the characteristics of learning, and the goals of learning, and then divide it into stages.

【answer】

You mean from my personal learning point of view, right?

【ask】

Yep.

【answer】

In the early stage , the first thing is to know what this is called, that is, to know that there is an open Gl is a set of APIs , or a set of frameworks, and when you get information such as a tutorial, you will come into contact with a lot of the kind of preparation knowledge he provides you, or you need to master some skills first. Then, in the process of learning this knowledge, it is found that there are certain difficulties. However, after completing the learning of this knowledge, you can really enter his formal study. Then the first process is actually not part of his tutorial. In the content provided to you, you still need to learn and complete it yourself. So after completing this stage, this stage probably took a few days, not too much, and then in the second stage, that is, when we officially start learning, we must first understand open The composition of the Gl API, or the logic of its writing, the more abstract concept of this set is actually a little lacking in the open GL tutorial, and he has not experienced some of the use logic in it. I will give you a lot of introductions, but I will directly give you the code according to his code, and you can directly pick out a running result, but I have not introduced much about the logic of this use. For example, there is a term used in it called binding. The word binding is actually translated, so it is called bind in English, but there is no way to understand its true nature through binding and bind. After using the function, I found out that it has a specific function after reading a lot of Chinese and English questions, or blogs. If you don't know this function well, there may still be some use of the entire API. Difficulties. So this is an example that I focus on. In the second stage, or the stage of first knowing open GL , you will encounter some problems at the logic level or the use level. After all these problems are checked out, you can proceed to open very smoothly. The formal learning stage of GL is what it provides you. I can first expect it in this framework, what kind of position it is in, that is, what kind of level it is in the abstract level, then in a good After understanding this aspect, I can study more smoothly. This is the third level. The cost of the second level is still relatively large . Then for the third level, because the content provided by the open GL tutorial is still relatively rich, and then it can basically cover the needs of learning, so I think it is roughly divided into these three levels, which are almost the same.

【ask】

The first stage is equivalent to just getting started, that is, you have just had a general understanding, but have not yet gone deep into the understanding. Then the second level is that you start to read his documents, but you will also encounter some logical and technical problems, and some can't understand, then go back and check other blogs and other materials to read Understand. Then the third level should be able to be applied, right?

【answer】

Yes, yes, the third level can be said to be able to learn her set of documents fluently, and if you talk about application, it is still at the last level, that is, after you have learned this set of documents, you can really take the initiative. to apply.

【ask】

Well, then you can tell me how the application is applied, and you will do some functional development with reference to the documentation, right?

【answer】

Application, um, because the API of open g2 has some so-called functions or methods, it is more difficult to remember, and it is more difficult to remember for CPU programming. So you still need to refer to his usage when you use it. For example, its parameters, or how to cooperate with other functions, if it is not used for a long time, you still need to refer to it.

【ask】

Well, then he will also give some examples, in this document.

【answer】

Yes, yes, the whole document is a huge example, then there will be small examples, that is, for a certain function, it will give you a little code to tell you how to use it and what effect it has.

【ask】

Then when you go to the application, will you refer to the code given by his example?

【answer】

Yep.

【ask】

Well, do you think this is a benefit?

【answer】

Well, for the most part, it is still possible, but a small part is actually due to the reasons I mentioned earlier about the second stage, that is, when the logic of his use of this framework is not particularly clear at the time, there may be some difficulties. .

【ask】

Hmm, okay, okay, the next question is the type of documents. You mentioned the tutorials just now. Are there any other documents besides the tutorials in the documents you usually use?

【answer】

Well, the tutorial should be provided by the official, so in addition to the official one, the blog just provided , or this kind of question and answer, are all produced by the user, so this part also provides a lot of help Yes, but it will also bring you some misunderstandings, because sometimes the content you produce unofficially cannot be guaranteed to be correct. This is the 2nd type. Then the other possibility is to consult the API directly. From the point of view of API function names, he gives you the most direct and simplest explanation, which may be another kind, but I think you can make it the official function document. Then another one is practical. It may also be considered user-generated. In order to complete a larger or more complex function, he will write a practice or experience summary of various usages.

【ask】

Well, is there anything else besides this ?

【answer】

others. I think it can probably be divided into these categories.

【ask】

The next question is about the source of information, that is, where did the documents and materials you mentioned just now come from?

【answer】

The first is through search engines, Baidu or Google, and then there are some personal sharing, which can be mentioned in the blog , and a series of introductory materials are organized for you. This is the second one. Then the others are its official documents, such as open GL , I know that the API of open GL may be passed through the mouth of other friends and colleagues, and then I went to visit his official website, and found that he has such a set The tutorial, probably these three ways.

【ask】

blog do you mean some blog like csdn ?

【answer】

Well, yes, at present, it may be csdn or blog garden or almost more. The quality of CSDN is relatively poor, and plagiarism is also relatively serious. I don't see much, but sometimes small problems will still be referred to.

【ask】

That is the main thing is that Zhihu and the blog garden , right?

【answer】

Maybe Zhihu is a little more, and the acceptance of Zhihu may be a summary or a little better for my own observations.

【ask】

Well, okay, well, you also mentioned search engines, that is, you will also use search engines to search for information, so can you give some examples? It is how you searched and how did you construct the search expression?

【answer】

Generally speaking, in two ways. One is demand, just say what kind of function I want to achieve, then I will search, for example, python implements crawler, which is python space crawler, which is the simplest, on the other hand, it may be the problem you encounter. To describe it, I think this may not make much difference for everyone, in terms of search.

【ask】

Okay, um, the next question is about reading style, that is, how do you generally read after you open a document?

【answer】

Well, if there is a directory, you will first look at the directory. After reading the directory, you will roughly read the title inside the document, or first look at the structure of the entire document from a visual perspective. If what I want is a specific problem, a very specific solution to a problem, then I will directly search for this keyword in the document to see where the keyword appears. If there is a keyword route in this If it can be solved nearby, then I will not read other content, unless I encounter others, I will go back and look at some of the background or principles he said earlier. So if you want to learn a concept or principle expressed by the entire document, you will still start from the structure, first from the structure, and then read it a little bit.

【ask】

Well, okay, well, then you should also encounter some problems during the development process, some bugs or technical problems, so how did you solve the problems when you encountered them?

【answer】

If I encounter a problem, if I have a sufficient understanding of the technology or framework I use, I will give priority to checking it myself, from the logical level or the calling level of this API to check the problem. If it is such a technology that is newly applied, then I will still search or ask others as soon as possible, so as to avoid this misunderstanding of my own, or the extra time cost caused by unfamiliar use.

【ask】

Searching is to search for some other people's answers through a search engine, right?

【answer】

Mmmm yes.

【ask】

Is there a situation where you will go back and check the documentation to see if there is a solution in the documentation?

【answer】

If the search results of the search engine are not satisfactory, I will go to the document again, because the search engine is the fastest, and then the official documents in various technologies, because of its degree of organization and structure, or the convenience of consulting Sex is still different, the difference is still quite big. Therefore, in this habit of mine, the official documents are placed in the second place, which means that it is not convenient for him to check, and you may not be able to check them if you check them.

【ask】

Well, so I give priority to using a search engine to search.

【answer】

Yes, also faster.

【ask】

That search engine you Baidu Google will use, right?

【answer】

Yes, Google uses a little more.

【ask】

Well, the next question is about what kind of documentation is a good developer documentation. You can answer it according to your own situation. It can be answered from several aspects, such as its content, its organizational structure, its interaction design, and its update degree, etc. You can talk about it roughly.

【answer】

Because my department also maintains several scenes, so this scene also needs to write documents, and in fact, I have done a little homework in this area before. So what do I think is a good document? First of all, the most original starting point is that it needs to meet the needs of users. If it is written from the perspective of developers, it may not fit the actual usage scenarios of users . You Although the products and documents are all made by developers, I think there is such a problem, so we generally write documents first to investigate the users who come and use our products, and what are their original requirements . We write documents and cover your most original needs. Even if we want to write other documents, we will not spend time and cost to write them, so this is the first one. That is, the first document should meet the user's most original needs for using this product. Then the second one is above the content. The documents should be divided into several types, that is, which types of documents do you want to provide to users, and what are their functions? For example, if I provide official API documents, that is to provide For users to look up from a search point of view. If it is the second introductory or tutorial-like document, it is completely provided to the novice or user without foundation, and let him learn step by step according to the things you set. Then another aspect of the content is the organization of official documents. I think this is also a more important aspect. In a series of official documents, whether your overall structure or overall hierarchy is logical enough, and whether users can quickly find what they want through your directory structure. Then is there any logic between your documents that is relatively close? Whether the logic involved in the article is consistent with the logic of other documents, in terms of content or logic. Because it is often encountered before that different authors have very different behavioral styles when writing their own documents. This question is also, um, I think it is necessary to do more consideration in terms of content. Then another one may also need to consider visual effects on the document, because your typesetting and layout also have a format, and the format of the text is also more important. It is the same content. We have actually done some research here. For example, um, you write the same content with different HTML, for example, or you use markdown to write. For authors with different writing skills , its final effect is still different. I think it's about this.

【ask】

Hmm, okay, then there is a question about the language of this document. I just want to ask if you usually read more Chinese documents or English documents?

【answer】

There are more Chinese, but if English is valuable, I will read it myself.

【ask】

Do you find it difficult to read English?

【answer】

It will be a little difficult. My own learning efficiency is definitely not as high as Chinese. Sometimes I will use the software to translate it first. If something doesn’t seem right, then I will read the original text by myself. This is how I am.

【ask】

Then you have read the document whose original text is in English, and then someone translates it into Chinese. Have you read the document with this translation?

【answer】

of the open GL I mentioned is actually like this. The original text is in English, and then some domestic developers have translated it. This is okay to read. Basically, it is relatively accurate. Then, if there are some translated books, after the translation of the original English books, I have read some poor ones, which will constitute a certain amount of your reading or learning. Impact.

【ask】

Well, okay, oh, then let me just ask a simple question. It is also one of our research questions. Well, do you think the developer's study and work have any characteristics compared with other professions? Is there anything different?

【answer】

If the developer simply refers to program development, then its biggest feature, I think, is that it requires more rigorous logical thinking, which is more important, whether it is reading, whether it is writing code by yourself or reading other people's The code, that is, the logic level, needs to be strict, otherwise, it is difficult for your entire development to have long-term value, I think so. Well, for other designers or product personnel, of course, logic is also very important, but because you are not dealing with machines, you may not need to be so strict, I think so.

【ask】

Well, what about this way of learning? Are there any features?

【answer】

The way of learning is according to my understanding, that is, if you receive a task or a requirement, then you have to convert this requirement into the function you want to achieve as soon as possible, and then start from the function, and then To find your own learning needs, I think you need to go through several stages of the process, right, and then in terms of learning, one needs to be developed quickly, so you need to improve efficiency when learning. Then the second one is to ensure the quality, so when you study in it, you need to choose the correct learning method or some materials to learn.