Computer Programming and Software Engineers | Software Engineering | Engineering | Computer Programming

What is the importance of software engineering?

41 Answers

Gagan Kaur
Answered June 23, 2018

Importance of Software Engineering

1. Reduces complexity

Big softwares are always complex and difficult to develop. Software engineering has a great solution to decrease the complexity of any project. Software engineering divides big problems into several small problems. And then start solving each small problem one by one. All these small problems are solved independently to each other.

2. To minimize software cost

Software requires a lot of hardwork and software engineers are highly paid professionals. A lots of man force is requires to develop software with millions of codes. But in software engineering, programmers plan everything and reduce all those things that are not required. In turn, cost for software productions becomes less as compared to any software that does not use software engineering approach.

Anything that is not made according to the plan always wastes time. And if you are making big software then you may need to run many code to get the ultimate running code. This is a very time consuming process and if it is not well managed then this can take a lot of time. So if you are making your software according to software engineering approach then it will reduce a lot of time.

4. Handling big projects

Big projects are not made in few days and they require lots of patience, planning and management. And to invest six and seven months of any company, it requires lots of planning, direction, testing and maintenance. No one can say that he has given four months of company to the project and the program is still in its first stage. Because company has given many resources to the projects and it should be completed. So to handle big projects without any problem, company has to go for software engineering approach.

5. Reliable software

Software should be reliable, means if you have delivered the software then it should work for at least it's given time span or subscription. And if any bugs come in the software then company is responsible for solving all these bugs. Because in software engineering, testing and maintenance is provided so there is no worry of its reliability.

6. Effeteness

Effectiveness comes if anything has made according to the standards. Software standards are the big focus of companies to make it more effective. So Software becomes more effective in performance with the help of software engineering.

Top universities for Engineering:

BITS Pilani

Lovely Professional University, Punjab

Delhi College of Engineering

Jamia Millia Islamia, Delhi

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1 comment from Subhasish Aditya

Raul Castro, Ol' school guy. Learning the newest all the time. Because I have to.

Updated November 29, 2018

The use of SW engineering methodologies helps all along the SW life-cycle, from inception

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:

"The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software."

Let me present the importance of SW engineering by comparison with its absence:

- Requirements collection can be incomplete or not deep enough.
- The lack of methodical, quantifiable methods drives to non-comparable experience.
- The lack of systematic methods drive t ... (more)

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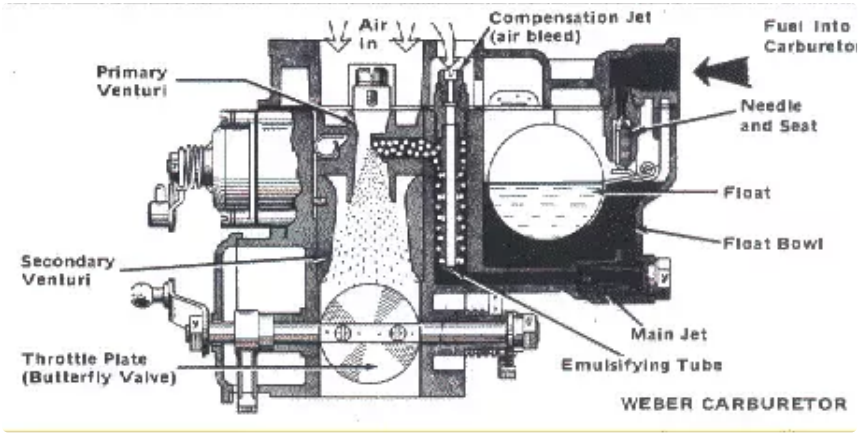
Answered January 12, 2018

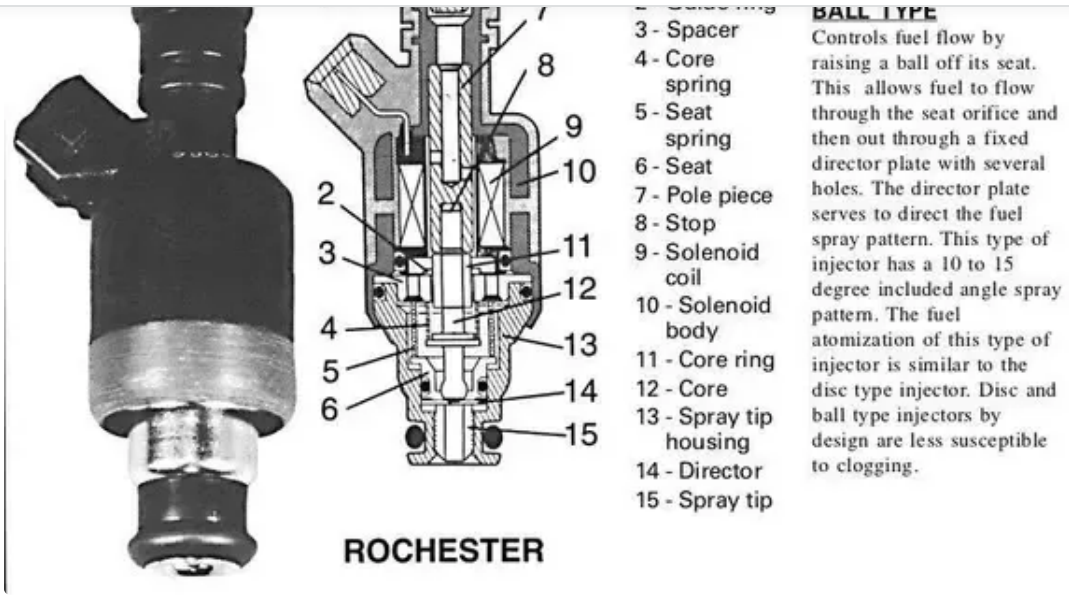
Originally Answered: What is the importance of software engineering?

What is the importance of software engineering?

The last half century has seen a huge change in the way that complex things are made. Before that the exemplar of a sophisticated machine was a watch. Since then it has been the computer.

Unexpectedly, computer technology has allowed us to make machines simpler. The computer has allowed engineers to replace complicated mechanical systems with simple electromagnetic actuators and a computer.





Example: Carburettor vs Fuel Injector. The Carburettor many moving parts that can jam, and depends on venturi to mix the fuel and air. The Injector has one movin ... (more)

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Why is software engineering important for the development of software?

What is the importance of software?

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University of Paris (1996)

Originally Answered: What is the importance of a software engineer?

Back in the day, software engineers were highly educated, mathematical individuals who had good understanding of the bits and bytes of computers. They wrote in low-level languages, such as Assembly, C or Pascal, with primitive CPUs and memory which required their code to be super efficient and well managed.

I would say that for most software developers today, the job is completely different. Most software applications are written in high level languages such as Python, JavaScript, C#, Java and many, many others. These languages allow developers to focus on the 'important' parts, without having ... (more)

1 comment from Mark Totten

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Originally Answered: What is the importance of software engineering subject?

working as a Full Stack developer, I got the answer of my question. Software Engineering subject is all about how software development is done. Whether it is about developing a prototype and then developing it, or developing the product by the waterfall model. I personally felt that this was one of those subject from B.Tech curriculum, which is useful for me. Basically it deals with research, planning , developing and maintaining a software. Following are the need of this subject:

1.

... (more)

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Software engineers of all kinds, full-time staff, vendors, contracted workers, or part-time workers, are important members of the IT community.

What do software engineers do?

Software engineers apply the principles of software engineering to the design, development, maintenance, testing, and evaluation of the software.

The economies of all developed nations are dependent on software. More and more systems are software controlled (transportation, medical, telecommunications, military, industrial, entertainment). Software engineering is concerned with theories, methods, and tools for professional s ... (more)

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Lets use an analogy of house building to answer your question:-

You can build a house by yourself if you want, but the quality of it would be sub-par. Work would be slow and messy, you may overlook certain things that can cause the house to be very uncomfortable for living in and you may accidentally skip parts of the process that cause you to slow down even more.

If you got a qualified person to build it, the house will ready faster than you could build it, be of higher quality and no steps would be skipped and you will be confident the house will last a long time. Same applies to software. Jus ... (more)

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Originally Answered: What's software engineering, and why is it important?

What is Software Engineering?

Software Engineering is the process of designing, constructing, and testing end user applications that will satisfy user needs, through the use of programming languages. As opposed to basic programming, Software Engineering is used in order to construct larger, and more complex software systems.

Why is it important?

Software Engineering is very important, as it is the backbone of all software systems. It links technologies and practices not only from computer science and engineering, but also management, telecom, and various other fields.

world without such a marvellous creation.

Conclusion

This answer was short and sweet. There is simply too much information about Software Engineering to properly fit into a few short paragraphs. Software Engineering is all about learning, and therefore, I recommend you do your own research. It's one of the greatest things on the planet, I promise!

6.6K views · View Upvoters


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Originally Answered: What is the importance of economics to software engineering?

Economics is a Domain. Which means that knowledge of Economics puts you in a good position to create software products that satisfy the needs of people whose work falls under the Economics label.

However, economics as it pertains to the process of software engineering? Well, that's different. Then Software Engineering becomes the Domain and Economics is part of a larger, over-arching business model in which Software Engineering either IS the business or is used within the business.

Unfortunately the difference between these two relationships is that while software engineers consider knowledge of ... (more)


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The answer is the same for all forms of engineering. For me engineering is the art, craft and science of designing things in a timely manner that will deliver desired capabilities in an easy to use, safe, reliable, economical and maintainable form. The importance of engineering is that it attempts to make design as scientific as possible while recognizing the importance of art and craft as well. The primary work product of engineering is the blue-print, circuit diagram, or for software any of a variety of other diagrams. A key element of engineering is the study of past failures to learn how t ... (more)


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Originally Answered: What is the importance of software engineering subject?

When taught in your college, it might seem theoretical and a bit boring! But it is certainly a **very important subject** from the **industry point of view**. I did an internship this past summer whereby I was exposed to end-to-end Software Engineering process. It covered all the steps right from Requirement Gathering, formal meetings, Design analysis to Testing! I could actually relate to whatever I had read and studied in the past semester!

Once you get some practical experience in the industry and have a project under your belt, you will get to understand the importance of the subject. In Engineeri ... (more)


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Originally Answered: What's software engineering, and why is it important?

the application will work in. This is a hard concept for many to grasp because very few people get to perform this role on a grand scale, just like very few movie directors get to direct 100 million dollar movies.

In the case of a large application, think of all the pieces that needed creating. Taxonomy, security, menuing, controls, databases, error trapping, process flows, just to name a few. Then you need to ... (more)

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Answered March 12, 2017

Look at it this way...

How do engineers work? They have laid down steps that guarantee success. That's exactly what the software engineering field is about.

Writing quality software is hard, challenging and can be overwhelming. However, if we follow the engineering principle, quality can be guaranteed, at least.

7.5K views · View Upvoters · Answer requested by Xavier Mukodi

1 comment from Rich Cohen

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workers, are important members of the IT community.

What do software engineers do? Software engineers apply the principles of software engineering to the design, development, maintenance, testing, and evaluation of software. There is much discussion about the degree of education and or certification that should be required for software engineers.

Software engineers are well versed in the software development process, though they typically need input from IT leader regar ... (more)


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To be honest none. The theoretical practices generally get in the way of real software development. Hungarian notation for example was a product of Software engineering and probably the worst idea to be inflicted on coders since COBOL.

4GLs are another major effort by the software engineering brain trust. They failed to consider the fact is, if you are going to program, you have to think like a programmer no matter what language you use. You can use languages that don't get in the way like 3GL languages or you can use overly verbose and imprecise 4GL languages that DO get in the way, but th ... (more)


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Software engineers build new applications based on industry requirements. No other engineer will be able to do this.

For example, if I would like to automate a portion of my manufacturing process in a way specific to the way my product is made, there would be no existing industry service for this. In this case, I will have to get my ideas on paper, work on the required parts and get everything in place for a test run. Now, I got the hardware part of things as I will k ... (more)


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Depends from the context.

In software industry, it is the bread and butter of everything. Without it you can't have software, design, solutions implemented, efficiency and profit, if you actually sell the software.

If you start to broad the scope, you will find out that many companies, even the ones that does not make software, need IT solutions. Imagine online retailers, they sell "stuff" but they need an IT infrastructure for payments, orders, inventory and so on. They need software engineers to make that happen, because the 3 piece suit person, may often not know how to operate software, and ... (more)


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To ensure that once the system is working it stays working... namely the perfectly engineered system would have following characteristics:

1. 100% secure
2. Complete ease of use for novices and experts including experts getting frustrated about lack of functionality
3. It is impossible to crash the system or get it to print giberrish answers
4. It can handle change at any level with relative ease
5. It can scale upto any reasonable size

Software engineering is the craft of making systems that show the above characteristics.

10.6K views · View Upvoters

1 comment from John DiCesare

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Originally Answered: What's the importance of software engineering this present time?

Software engineering is the discipline that helps companies like Google, Facebook, and Amazon generate hundreds of billions of dollars every quarter. Without us there will be no Google Maps, no Youtube, no Twitter, no Quora, no WiFi, no mobile phones applications, etc...

We are the people that design these systems, build them, and make them run without interruption. We are the forefront of technology developing applications that make the world work faster, smarter, and more efficient. Our skills are difficult to find. Around the world, at any given point in time, there hundreds of thousands of pe ... (more)

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The intelligently layer which will reside over the Sensors, Switches, Routers, Servers et... will be Software driven. In this so called 4th Revolution, enormous amount and data is available, being exchangeg and generated it is the time now to extract the relevant and Knowledge out of it.

That is why we keep hearing about Artificial Intelligence, Learning Machines Who are supposed to enter in each and every industry and draw its Knowledge impact,

But even then , during this transional period, integration with legacy is important and expect software patches to enable such an integration.

Another crit ... (more)


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As the saying goes: Software is eating the world.

Just look at the Internet of Things, Industry4.0. 3D Printing, Quantum Computing, Big Data, Data Science, Digital players, Automation, Cloud, SDN/NFV, etc..They all need Software to run and to create a fully fledged Network of Networks.

To make this happen the Software is the Kernel and Software Engineering is the science that will be used to craft scalable, functional components that can be coupled as a Software solution.

858 views


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Answered June 26, 2016

SW engineering is the formalization of what good/great programmers have been doing since the 1960's. It allows us to create processes that emulate these great programmers. Unfortunately, processes do not write code - bad programmers in a great process will create bad code. Hopefully, the process will catch the bad code and help them correct the code. Sometimes no process helps and bad code gets into the product.

5.2K views


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Originally Answered: Why is software engineering required? What is the main purpose of it?

Software engineering is the necessity of the fast pacing world across the network based life where everything is gradually transforming into machine learning as well as artificial intelligence..... When talked about Internet of Things Iot and Internet of Everyone it totally conveys the Fact that it's importance and people getting indulged in it are taking our country's development to a new horizon... So building a career in IT sector is one of the biggest achievements of the current generation...

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Answered June 22, 2018

323 views


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Originally Answered: Why is software engineering important?

Because we have machines that can do anything.

Machines that don't understand "approximately" or "abstractly".

And it's extremely hard to describe one of those "anythings" to the machine in a language it would understand. Because you have to describe every single detail.

That's what engineers do. Take something described in human language, fill in the gaps, and translate it to a language machine would understand.

Case to the point, you want machine to "draw a circle". Simple, right? But...

- what color?
- what color exactly?
- how big?
- on paper? where on paper? through which printer? at what time? what to do

... (more)


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Why is software engineering important for the development of software?

What is the importance of software engineering in technology?

What is the importance of software?

What is the importance of software engineering in our daily lives?

What important and successful software engineering methods have taught you?

When you know programming, what is the need to learn software engineering concepts?

What is software engineering and some examples?

What is the most important thing you learned as a software engineer through experience that nobody taught you?

Why do we need software engineering?

Why is studying economics important for software engineers?

What is the future of software engineering?

Why is experience important in software engineering?

What are the advantages of software engineering?

What is the importance of taking software engineering?

Is it necessary to be good at programming to become a good software engineer because software engineering typically does not need programming?