

SC Chatbot Survey

Hi there! Hope you all are safe!

Please kindly read everything carefully.

We have developed chatbot that helps users to work with blockchain without any prior knowledge. Yes, you heard it right!! Blockchain is surely the next big thing. It has been integrated into various applications recently. One of the main reasons behind it is "Smart Contracts". Smart contracts are self-executed program codes that are hosted on a blockchain platform, to enforce agreements when conditions are met. However, writing smart contracts is challenging due to the lack of tools and experience in the field.

Hence, we have developed this chatbot, aiming to abridge this gap between users and blockchain. While working with the chatbot, you just have to answer the questions asked by your guide.

So, why have we asked you to come here? Since we have developed this research tool, we need to evaluate it. This is where we need your help. All you have to do is use the chatbot to generate smart contract and let us know of your experience via this survey. We have also asked you some questions to know about your background. Don't worry we will guide you through the whole process. We have also prepared tutorials for you which will help you understand the working of the chatbot as well as smart contracts.

Lastly, we would like to let you know that this survey can prove to be a huge stepping stone for blockchain technology. Therefore, we request you to provide us with constructive reviews which would help us to gain important insights and improve the framework.

Thank you for reading this far,
Please proceed.

* Required

Demographics

We need some demographics to add to our research. Please kindly fill in these details

1. The continent you are from *

- ☐ Asia
- ☐ Africa
- ☐ Australia (Oceania)
- ☐ Europe
- ☐ North America
- ☐ South America

2. Age *

- ☐ Under 18
- ☐ 18-24 years old
- ☐ 25-34 years old
- ☐ 35-44 years old
- ☐ 45-54 years old
- ☐ Over 54

3. Gender *

- ☐ Female
- ☐ Male
- ☐ Prefer not to say
- ☐ Other: _____

4. Current Education Level *

- ☐ Pursuing Bachelor's in my field
- ☐ Completed Bachelor's and working in industry
- ☐ Pursuing Master's in my field
- ☐ Completed Master's and working in industry
- ☐ Pursuing Doctoral in my field
- ☐ Completed Doctoral and working in industry
- ☐ Other: _____

5. Field of study *

- ☐ Technology / Engineering
- ☐ Sciences (Physics, Biology, Chemistry, etc.)
- ☐ Arts
- ☐ Commerce

Programming Knowledge

6. Are you familiar with programming? *

- ☐ Yes
- ☐ No

Programming Requirement

7. How many times have you encountered the requirement of programming while working? *

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often

8. What did you do when you encountered the need for programming? *

- ☐ Never needed programming
- ☐ Asked a friend for help who knew programming
- ☐ Abandoned it
- ☐ Tried to learn the programming language but couldn't do it

Other: ☐ _____

9. How helpful do you think a tool that will generate code from your instructions in English prove be? *

	1	2	3	4	5	6	7	
Won't help much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very helpful

Programming Depth

10. How many programming languages have you worked with? *

- ☐ 1
- ☐ More than 1 but less than 5
- ☐ More than 5 but less than 10
- ☐ More than 10

11. Which programming languages do you use frequently for developing applications/systems?

- ☐ C
- ☐ C++
- ☐ Python
- ☐ Java
- ☐ Go
- ☐ JavaScript
- ☐ MATLAB

Other: ☐ _____

12. Generally, how long does it take for you to feel comfortable with a new programming language? *

- ☐ Less than 2 weeks
- ☐ 2 - 4 weeks
- ☐ 4 - 8 weeks
- ☐ More than 8 weeks

13. How troublesome is learning a new programming language for you? *

	1	2	3	4	5	6	7	
A cakewalk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very troublesome

14. How useful do you think a tool that can generate code from natural language prove to be? *

	1	2	3	4	5	6	7	
Won't help much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very useful

Blockchain Knowledge

15. Are you familiar with the concepts of blockchain? *

- ☐ Yes
- ☐ No

Smart Contract Knowledge

16. In which of the fields of blockchain, do you think you have in-depth knowledge? *

- ☐ I possess in-depth knowledge only in cryptocurrency
- ☐ I possess in-depth knowledge only in smart contracts
- ☐ I possess in-depth knowledge in smart contracts and other fields related to blockchain (like cryptocurrency, security, etc)
- ☐ Other: _____

Smart Contract Depth

17. In how many languages can you write smart contracts? *

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ More than 5

18. Which tools/languages do you normally use to develop smart contracts? *

- ☐ Solidity
- ☐ Hyperledger Fabric
- ☐ Hyperledger Composer
- ☐ Microsoft Azure
- ☐ Truffle
- ☐ Ganache

Other: ☐ _____

19. What are the problems that you have faced while writing smart contracts? *

- ☐ Too many errors
- ☐ Completely new syntax
- ☐ Lack of community support

Other: ☐ _____

20. How important do you think a tool that can generate smart contract code from natural language prove to be? *

	1	2	3	4	5	6	7	
Isn't necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very important

Model-Driven Engineering Knowledge

21. Have you heard of Model-Driven Engineering? *

☐ Yes☐ No

Now, you have to test use the chatbot. Please read all the instructions carefully.

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Ignore the installation part if you have completed it.

This is the file for installation where we have provided instructions for the various OSes -

<https://docs.google.com/document/d/1lOsdLW4EVbYCRfS2sm18DEBE0IL1AWnkTU4swAVBFs/edit?usp=sharing>

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Video Tutorial

We will strongly encourage you to watch the complete video tutorial. This will help you to understand the working of smart contracts and also, how to use the chatbot to generate smart contracts. (If you are bored, run it with 2x speed :D)

Please use the chatbot with the instruction which are quite similar to the ones in the video. Hence, please take a look at the video.

Here is the link to the video:-

<https://youtu.be/JybbTgtat5M>

Note: If you have issue with the chatbot, kindly refer to the video and follow the syntax used there.

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Running the chatbot

After you have seen the video, please run the chatbot. We request you again to keep the instructions as similar as possible to the ones specified in the video.

This is the file for running the chatbot where we have provided instructions for the various OSes -

<https://docs.google.com/document/d/1lv7aladT-3EwYNeoGLimUkSk3CVNsU2GsB5TorRniVA/edit?usp=sharing>

The chatbot will open in - <http://localhost:5000/admin> . Please go to this link on a web browser and start

Use the chatbot

using the chatbot.

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What you have to do?

After running the chatbot, you will see various tabs in orange colour stacked vertically. Scroll to the bottom in the website.

1) You will see a tab named "Use Case". Go through the "Use Case" once. The smart contract for the use case has been generated in the video tutorial.

2) Then, you can see the tab named "Test Case". Go through it. Try generating the smart contract in the "Test Case". We request you to generate the smart contract first.

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Some instructions while using the chatbot

1) There are concepts and instructions given in the website. (The orange boxes have all the important instructions and concepts) We will encourage you to go through it. If you have watched the video, many concepts and instructions have been covered.

2) Please try to be elaborate.

3) While using the chatbot, please try providing inputs which are very close to the inputs provided in the video tutorial.

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What if you can't generate the smart contract?

There's no reason to panic here. It's not at all your fault. If you are unable to generate the smart contract because of numerous errors that occur while using the chatbot, then you can leave using it and proceed to the survey.

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The survey further

Next, you will have to fill provide us with the details of your experience with the chatbot.

Thanks a lot for helping us out!

Please tell us how you felt while using the chatbot

Chatbot Survey

22. Were you able to generate the smart contract given in the test case? *

☐ Yes

☐ No

23. The interaction with the chatbot was clear and understandable *

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

24. I have the resources necessary to use the chatbot *

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

25. The chatbot is compatible with other platforms I use *

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

26. How many times did you have to refer to the tutorial while interacting with the chatbot? *

- ☐ Once
- ☐ More than once but less than five times
- ☐ More than five times but less than ten times
- ☐ More than ten times

27. How helpful was the video tutorial? *

	1	2	3	4	5	6	7	
Didn't help much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very helpful

28. What do you have to say about the amount of information that had to be typed for generating the code? *

	1	2	3	4	5	
It was just right	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	It was too much

29. How many times did the chatbot respond in the wrong way? *

- ☐ Once
- ☐ More than once but less than five times
- ☐ More than five times but less than ten times
- ☐ More than ten times

30. How would you rate the chatbot in terms of the interest instilled by the chatbot? *

	1	2	3	4	5	6	7	
Very interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very boring

31. What were the reasons behind the chat being boring? *

- ☐ I didn't find chatting with the bot boring
- ☐ I had to type a lot
- ☐ I had to type the same things multiple times
- ☐ I faced many errors while interacting with the chatbot
- ☐ I couldn't understand what I was doing

Other: ☐ _____

32. How useful do you think the chatbot is? *

	1	2	3	4	5	6	7	
Useless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very useful

33. How good was the chatbot in giving some clarity about the working of smart contracts? *

- ☐ I already knew about smart contracts before
- ☐ I didn't know anything about smart contracts and the chatbot gave a a lot of clarity about smart contract
- ☐ I didn't know anything about smart contracts and the chatbot gave only some clarity about smart contract
- ☐ I didn't know anything about smart contracts and I can't get a hang of it even after using the chatbot

34. How likely is it that you are going to use the chatbot in the future? *

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

35. On a scale of 10, how good was your overall experience with the chatbot? *

	1	2	3	4	5	6	7	8	9	10	
Very bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very good

36. Anything else that you would like to comment about your experience with the chatbot

37. Any suggestions to improve the chatbot

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