Sentence

Virtual Calculator (using OpenCV Python & Computer Vision Technology) Divy Patel Department of Information TechnologyC S Patel Institute of Technology, CHARUSATChanga, India20it090@charusat.edu.in Sandip patel Department of Information TechnologyC S Patel Institute of Technology, CHARUSATChanga, India , sandippatel.it@charusat.ac.in Abstract: The objective of work to make a software to reduce the task. Main scope of this project is we don’t need to touch calculator or screen. We can calculate the problem without touch using finger moment. With the help of finger moment on camera we can calculate the problem in calculator. Introduction (Heading 1) My idea is that to make a one type of software that name is Virtual Calculator. Which is possible with computer vision technology and OpenCV python and tool is PyCharm. Main scope of this project is we don’t need to touch calculator or screen. We can calculate the problem without touch using finger moment. With the help of finger moment on camera we can calculate the problem in calculator. Application Desing My software name is Virtual calculator in that software when we run the program in our system then camera is automatically open in our system. And we can see the calculator at upper corner which is created by our code. In that Calculator I Provide Numbers Like 0 to 9. And provide buttons like multiplication (*), division (/), minus (-), plus (+). And two more additional buttons Is their which is decimal point (.) and for the calculation (=) button is their. And one more slot is empty which is for answer after the calculation. With the help of C button on keyboard we can erase all the answer or Numbers. Working of the Application In that calculator when I doing finger moment in front of camera calculation is automatically done without touch on screen or calculator. And answer is print on above of the Calculator. When I press C on keyboard answer or Number or Operator is Erase Automatically. When I click on any Numbers (0 to 9), Numbers is automatically print on above of the calculator which is slot of the answer. When I click on Operator (+), Addition of Numbers is automatically print on above of the calculator which is slot of the answer. When I click on Operator (-), subtraction of Numbers is automatically print on above of the calculator which is slot of the answer. When I click on Operator (*), multiplication of Numbers is automatically print on above of the calculator which is slot of the answer. When I click on Operator (/), division of The Numbers is automatically print on above of the calculator which is slot of the answer. When I click on Operator (=), calculation of Numbers is automatically print on above of the calculator which is slot of the answer. Advantages of virtual calculator: Main scope of this project is we don’t need to touch calculator or screen. We can calculate the problem without touch using finger moment. With the help of finger moment on camera we can calculate the problem in calculator. we can use this type of technology in online examination or anywhere. We can use in any online examination software like PEXA Conclusion In conclusion, we don’t need to touch calculator or screen. We can calculate the problem without touch using finger moment. With the help of finger moment on camera we can calculate the problem in calculator. References Samet Akc¸ay, Amir Atapour-Abarghouei, and Toby P Breckon. Skip-ganomaly: Skip connected and adversarially trained encoder-decoder anomaly detection. In 2019 International Joint Conference on Neural Networks (IJCNN), pages 1–8. IEEE, 2019. Matt Angus, Krzysztof Czarnecki, and Rick Salay. Efficacy of pixel-level OOD detection for semantic segmentation. CoRR, abs/1911.02897, 2019. Andrei Atanov, Arsenii Ashukha, Dmitry Molchanov, et al. 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Sentence wise detail:

Application Desing My software name is Virtual calculator in that software when we run the program in our system then camera is automatically open in our system.

And we can see the calculator at upper corner which is created by our code.

In that Calculator I Provide Numbers Like 0 to 9.

And provide buttons like multiplication (*), division (/), minus (-), plus (+).

And two more additional buttons Is their which is decimal point (.

) and for the calculation (=) button is their.

And one more slot is empty which is for answer after the calculation.

With the help of C button on keyboard we can erase all the answer or Numbers.

Working of the Application In that calculator when I doing finger moment in front of camera calculation is automatically done without touch on screen or calculator.

And answer is print on above of the Calculator.

When I press C on keyboard answer or Number or Operator is Erase Automatically.

When I click on any Numbers (0 to 9), Numbers is automatically print on above of the calculator which is slot of the answer.

When I click on Operator (+), Addition of Numbers is automatically print on above of the calculator which is slot of the answer.

When I click on Operator (-), subtraction of Numbers is automatically print on above of the calculator which is slot of the answer.

When I click on Operator (*), multiplication of Numbers is automatically print on above of the calculator which is slot of the answer.

When I click on Operator (/), division of The Numbers is automatically print on above of the calculator which is slot of the answer.

When I click on Operator (=), calculation of Numbers is automatically print on above of the calculator which is slot of the answer.

Advantages of virtual calculator: Main scope of this project is we don’t need to touch calculator or screen.

We can calculate the problem without touch using finger moment.

With the help of finger moment on camera we can calculate the problem in calculator.

we can use this type of technology in online examination or anywhere.

We can use in any online examination software like PEXA Conclusion In conclusion, we don’t need to touch calculator or screen.

We can calculate the problem without touch using finger moment.

With the help of finger moment on camera we can calculate the problem in calculator.

References Samet Akc¸ay, Amir Atapour-Abarghouei, and Toby P Breckon. Skip-ganomaly: Skip connected and adversarially trained encoder-decoder anomaly detection. (0)

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Andrei Atanov, Arsenii Ashukha, Dmitry Molchanov, et al. Uncertainty estimation via stochastic batch normalization. (3)

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Controlled false negative reduction of minority classes in semantic segmentation. Liang Chieh Chen, Yukun Zhu, George Papandreou, Florian Schroff, and Hartwig Adam. (8)

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Encoder-decoder with atrous separable convolution for semantic image segmentation. Marius Cordts, Mohamed Omran, Sebastian Ramos, et al. (11)

The cityscapes dataset for semantic urban scene understanding.

In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016.

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11: https://towardsdatascience.com/weakly-and-self-supervised-learning-part-3-b8186679d55e

Keywords Density

One Word	2 Words	3 Words
calculator 4.15%	finger moment 1.62%	automatically print calculator 1.08%
answer 1.81%	calculate problem 1.44%	slot answer click 0.9%
number 1.81%	print calculator 1.26%	problem touch finger 0.72%
touch 1.62%	calculator slot 1.08%	calculate problem touch 0.72%
moment 1.62%	automatically print 1.08%	touch calculator screen 0.72%

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