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Live Animal Detection For Wildlife Safety And Conservation

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Abstract: *"*Live Animal detection for wildlife safety and conservation" is a tool which is best and convenient for wildlife safety it detects the unknown person going inside the forest and animals coming out of forest it is very convenient tool for detecting animals ,the purpose behind this tool is to save wild animals and endangered animals from getting killed by poachers and peoples living beside the forests they usually go inside the forest for hunting animals and cutting the tress. The animal detection system alerts the forest officers about the movement going inside the forest.

Index Terms: Animal detection system, Notification System, Animal safety, Human safety

I. INTRODUCTION

In past few decades we have saw the problem of deforestation increasing day by day the wild animals come out of forest because they don't have forest anymore the people are threatened by wild animals and there is risk to the life of people but on other side we can see the peoples are killing wild animals and sell them which cause extinction of wild animals species the problem is the forest officials can't have 24/7 overview in the forest it would increase the cost of labour for forest security and it would be still not convenient, this process on the other hand requires a operator and labour force till we check the animal details the animal is already out the forest and their would be harm to the animal and might be to the person their animals such as cow, buffalo to whom the wild animal had attacked so there is a need of technology in this field to have a active real time monitoring system. The population of animals are decreasing day by day the hunting is still going on in the forest regions it might be protected or unprotected when we talk about unprotected areas or forest where there is no security and safety there is hunting of endangered animals is going on and deforestation is also going on and in protected area there is also same condition but better than the unprotected area but the maintenance cost of it is huge ,such as payment for forest officers its budget would go to peak if they appoint officers inside the forest for wildlife safety and conservation but still it wouldn't be worthy and it's impossible to monitor it 24/7 so what's the outcome of this much spending money and still not getting results , so to tackle this problem our web application can do it 24/7 without so much cost its cost would be less than a average one month salary of labour and a permanent and cheap one time solution for this problem..

1.1 AIMS AND OBJECTIVES

The primary aim of the "Live animal detection for wildlife safety and conservation" is to set up a real-time observing system for wild animals safety because there is not such type of tool available right now and it would guarantee save forest guard cost to actively do patrolling in the forest area to watch animal it is perfect tool for saving cost and it would be efficient and accurate in spotting animal and unknown people who go for hunting animals. In future our goal from this project is to minimize the cost of labour in the jungle and make it worldwide to use this technology to help people and to know what's going inside a forest area and to stop

the poachers and safeguard the animals and detect the current location of the animals whether they are safe or not It is the best technology we have ever saw and it would help to decrease the forest security cost and it is also efficient and to spread Our technology in all forest reservoirs and to make the software to use in every jungle now its made for solving the problem and add more tools and features for convenience for the forest officials and local people so that their wouldn't be loss of life of nor the animals and nor the people. Our main goal is to make this more and more convenient and easy to use and make it popular and make people aware about the software.

1. To ensure safety to the wild animals from people and same to ensure safety of people from wild animals come out of forest.
2. To create a tool to monitor the activity inside the forest to ensure wild animals safety to watch the entry point of the forest and constantly storing data and notify the forest officials.
3. To create a efficient tool with and convenient to use and understand and make it more and more accurate.
4. To reduce the cost of labour and efficiency in monitoring the wild animals and keep the records of animals coming outside the forest and any unknown person going inside the forest without any authorization.

II. RELATED WORK

Till date in india no such model is used in the forest ,the forests and wildlife sanctuaries hire forest guards still the number of tiger is decreasing so where they are going they are just being hunted and lost and there is attack on the local people so the government of india has to pay money to those persons who are killed by wild animals ,The forest officials have to do patrolling in the forest to monitor the animals and have to check frequently this takes so much time and efforts to do and also it requires a labour force to do that, so on a large research and survey we found out that there is still lack of technology usage in the forest area and the technology is not being used because of high technology cost or might be less accuracy and guidance among the government about such technology driven tools . In past few years there were study about the animal detection system but it was not upto the mark mostly the detection systems were not that efficient and the work very totally different and the setup cost was high for that models and still there is no accuracy the animal detection for forest is not invented till now there are different models available for farm monitoring and some studies have find animal detection but they capture images and process the image and then give the outcome of the animal detection there is no live detection system available right now, this animal detection model does not detect unknown person going inside the forest our system scans the animal real time and makes a alarm sound when danger animal like tiger bear is detected in the live System and our web application stores the data in with time stamp . And our web application is easy and cheap to setup is is made to reduce labour cost and increase convenience in the forest safety and conservation.

III. RESEARCH METHODOLOGY

3.1 System Design :

The system is designed in such a way that the web application would be easy to handle and not complex ,its controls must be easy if the user can read its more than enough and its should be active 24/7 and the system is easy to use and understand.

3.2 System Model and UI:

The system scans the animal and person got detected in the live camera when the forest official or the system operator clicks on start monitoring it starts camera and detects whatever we say it to detect but we have to train our model or that to detect the things we say to either tiger ,human or anything.

3.3 Dataset :

In this web application we are using python models tensorflow.js and COCO-SSD from here we are building model and training our dataset to detect particular animals live without any mistakes and errors. These are the trained model which are fetched when we start the camera and its logics helps us to detect the animals accurately. And for alarm audio we are storing the beep.mp3 sound the buzz when the animal is detected.

Methodology :

HTML : The html(hypertext markup language) is been used for the frontend of our web application . The html provides a structure to our web application we are using it because it is the most convenient and easy to use and main it doesn't take load on the system.
The html works perfectly fine for web application the main reason using it is decreasing time to process the application and enhancing look to the front page and creating a easy set up for using the further web application and make it more convenient to use .

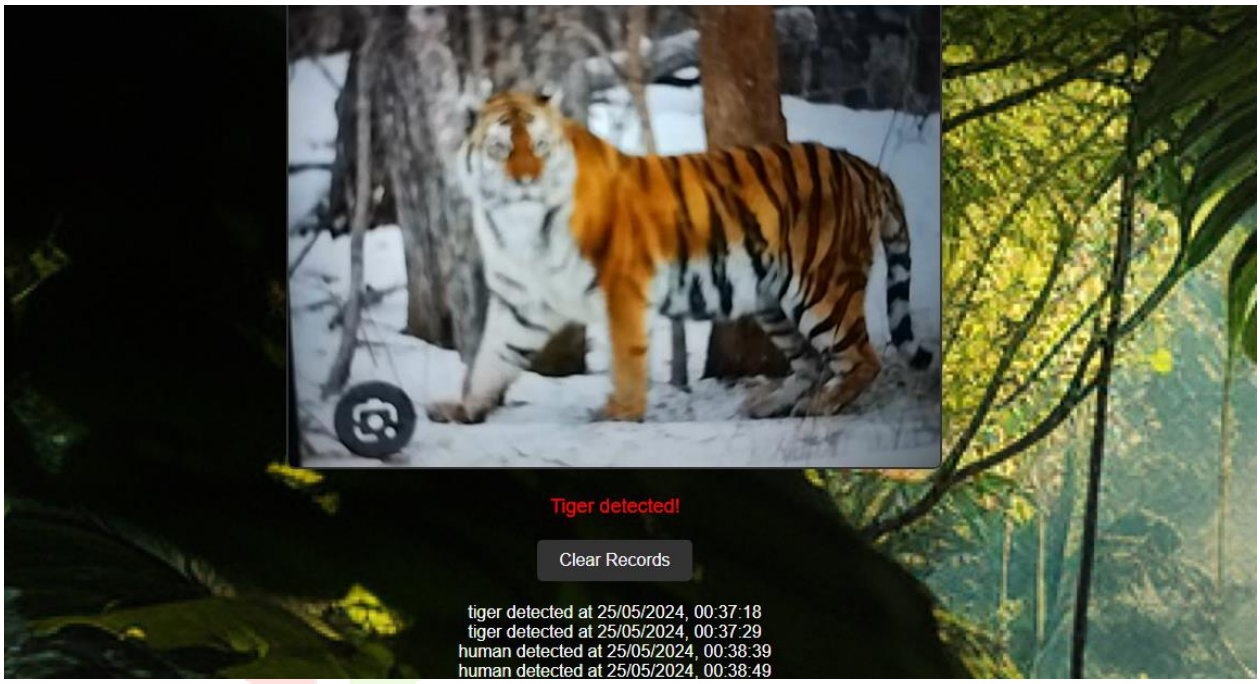
CSS : The Css (cascading style sheet) is been used **to** give the web application a better look and design and make it more easy and convienient to use and make it look simple to use .The css is used because of its less load on the web application and make it enhanced look and it offers so many animation and design features as compared to another styling libraries.

JAVASCRIPT : The javascript is used in our web application to build logic to our web application using python libraries such as tensorflow and coco-ssd. The javascript offers a lot of functionality and is a famous language and it us fast and made or web application a lot faster and efficient , the javascript is a advanced language and it has also a less load on the web application the other languages libraries give load on the web application and on the operating system our web application can be easily run on low end pc.

Tensorflow : The tensor flow is a python library used for detecting objects and it is widely used library because of its efficiency and accuracy, it offers functionality to detect the objects and it is also fast and efficient library as compared to another object detection library it has less loading time and setup timing it is easy to setup.

COCO-SSD : The coco-ssd is python machine learning model in which we have to train the model to detect the object it might be animal , person and a non living thing also it is a model which stores data and then we have to join it our model to use it. The model is used to store the object specification so that the tensor flow used its dataset to recognize the object.

IV. RESULTS AND DISCUSSION



The live animal detection system for wildlife safety and conservation is working very well as you can see above its results are accurate and detection animals and humans efficiently and it can exactly distinguish between animal and human and it is making beep sound when it the animals is detected in the camera of the web application our algorithm is also working as we want the system is proved to be efficient and accurate and main factor the cost efficient there is no spent of money and our model is now working our model just requires a decent internet connectivity that's all our model would work perfect and fine in any pc or laptop , the model is trained accurate and is working as the needs without any errors**.**

V. Conclusion

The live animal detection for wildlife safety and conservation is providing a value to the users and would definitely be a famous and successful model or tool to be used in forest and here we can conclude that the system is working as we want and is doing its work perfect and fine without causing any errors and is storing live data of the monitoring going on keeping the records of the animals come outside of forest and any unknown unauthorized person trying to go inside the forest for illegal activities. So we can finally say that we create a good solution for a problem going on and its perfectly resolving the problem.

local people living in were in danger because in such areas there is a huge danger of animals coming outside the forest which attacks common people and eat them and their animals such as cow, goat, buffalo ,dogs on which the people have their earnings it identifies animals and give information to forest guards and make a alarm sound and it also stores data of at what time the animal is detected.

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