



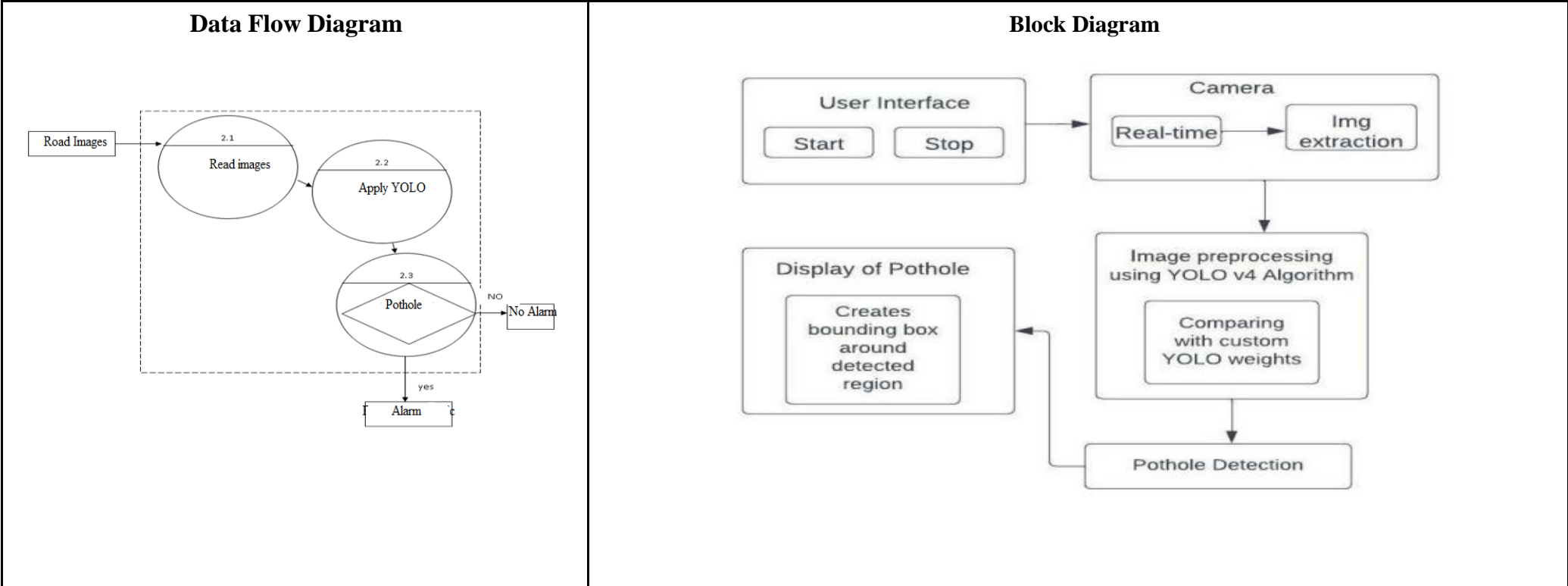


Identifying the location of potholes using computer vision				
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Abstract: On the road, there are a lot of potholes. Serious accidents may result from this. Over 3597 persons per year pass away as a result of these potholes. Potholes can result in damage including flat tires and damaged wheels, car collisions, and serious accidents; this has grown to be a frightening issue in modern times. The study on this topic entails finding potholes in the road and keeping track of the coordinates of that particular location in a database. Creating a device that is integrated into the vehicle is frequently used to accomplish this. The device scans with its ultrasonic sensor when a pothole approaches, alerting the driver in advance. Through this effort, we are attempting to address and identify such potholes. This project's objective would be to develop a device that can detect potholes was made exclusively to find potholes. For real-time object recognition, this model was created utilizing the "You Only Look Once" method. YOLO v4 is being used by a pretrained algorithm to find the pothole. Sequential CNN (Convolution Neural Network) Methodology had previously been employed, however after a comparison study, we discovered that YOLO offered better real-time outcomes. The model has a GUI (Graphical User Interface) such that we can use the beginning and ending buttons to emulate it. Such a system uses an optic for retrieve photos from a live camera that identify potholes when it’s engaged. Similar to real-time object detection systems, Potholes will be displayed in real time. With the boxed-off pothole highlighted. Our accuracy with this approach ranges between 80 and 85 percent. Additionally, when a pothole is confirmed, add a system that enables the detector to determine the pothole's location using the coordinates of that position are recorded by the GPS (Global Positioning System) and maintained in a database.



Result

