



# REAL TIME OBJECT CAPTURE AND TRANSFER

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## ABSTRACT:

Augmented Reality can be the perfect tool to quickly grab objects from the real world and paste them into digital documents. Just point your phone at what you want to copy, and drag it over to your desktop. No fiddling around emailing images to yourself or cutting out objects in Photoshop which can be done using Deep learning or Machine learning. Direct transfer of recognized object can be done when both are connected to local server. It reduces the work load of editing and transferring image.

## 1.INTRODUCTION:

Augmented Reality is a technology that enhances the user's view of the real world with computer-generated content. Machine Learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. With the use of both AR and ML allows cutting elements from your surroundings and pasting them in an image editing software and with the help of local server which can be configured easily and facilitates in transferring object.

### 1.1 Object Detection can be achieved in high accuracy with following techniques:

#### 1.1.1 Object Detection Using Deep Learning:

Using a variety of techniques to perform object detection. Popular deep learning-based approaches using convolutional neural networks (CNNs), such as R-CNN and YOLO v2, automatically learn to detect objects within images.

You can choose from two key approaches to get started with object detection using deep learning:

- **Create and train a custom object detector:** To train a custom object detector from scratch, you need to design a network architecture to learn the features for the objects of interest. You also need to compile a very large set of labeled data to train the CNN. The results of a custom object detector can be remarkable. That said, you need to manually set up the layers and weights in the CNN, which requires a lot of time and training data.
- **Use a pretrained object detector:** Many object detection workflows using deep learning leverage transfer learning, an approach that enables you to start with a pretrained network and then fine-tune it for your application. This method can provide faster results because the object detectors have already been trained on thousands, or even millions, of images.

### 1.1.2 Object Detection Using Machine Learning:

Machine learning techniques are also commonly used for object detection, and they offer different approaches than deep learning. Common machine learning techniques include:

- Aggregate channel features (ACF)
- SVM classification using histograms of oriented gradient (HOG) features
- The Viola-Jones algorithm for human face or upper body detection

## 2.Modules:

1. **The mobile app :** This mobile application uses camera with which the user can locate the object. And this application is also connected to the local server.It helps to transfer the identified object.
2. **The local server:** Establishing connection with the help of local server helpsto transfer image directly to desktop.
3. **The object detection / background removal service:** In this software module the object is detected when the user shows object with mobile application and the background of the object is trimmed.

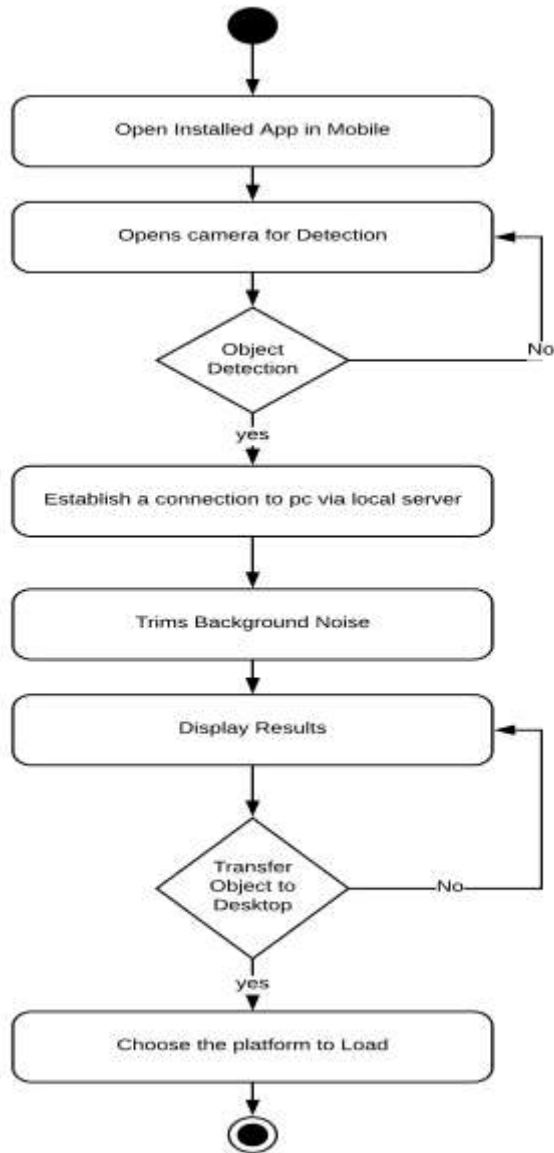
## 3.Implementation:

- Setup the external salience object detection service which helps us to detect the object accurately.
- Configure and run the local server.
- Configure and run the mobile application.

## 4.Future Modification:

This application can be implemented directly as a mode in mobile camera application. This specification helps their user to edit their photo more easily and efficiently and connecting phone to desktop helps in transferring identified objects.

## 5.SYSTEM ARCHITECTURE :



When user opens the installed mobile application which contains mobile camera usage permission of the user. The camera detects the object shown by the user until it identifies specific object needed for user which can be confirmed by user then it trims the background of object and display results. If the user want to transfer the obtained image the mobile is connected to the local host server. Then the user can point the image where he want to paste on desktop.

## CONCLUSION:

This project entitled “Real Time Object capture and transfer” is beneficial for any user to start detecting object from his mobile application and can be transferred directly to desktop by displaying. Mainly this type of application can be used to the editors or photographers who can directly capture real time objects and use them which reduce the strain of capturing and cropping.