



# Audience Measurement through Anonymous Video Analytics

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## Abstract

Digital Signage is pervasive in our everyday lives. No matter the vertical market industry, large format screens with relative images and live messaging are being deployed at an almost exponential rate. These screens are being installed for the most part in a form over function manner.

In many instances very little thought is given to screen position versus dwell time and content engagement. Much to the detriment of the technology projections on audience viewership is speculated at without any real measurement technology being applied.

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## Introduction

Anonymous Video Analytics (AVA) is a technology that solves the Audience Measurement problem. The technology utilizes a camera mounted above the screen to track faces. No images or personal data of any kind is ever recorded.

The camera simply measures certain biometric data and compares it to a database to generate a specific value. This value translates to the various parameters of gender, age etc.

The technology is non-invasive and can be used to not only measure screen views but also any kind of situation whereby an understanding of attendance is required. There is a version of AVA that will allow an image to be recorded and then used as a trigger to show specific content to a specific person.

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## Problem

In the real world, soon after the screens are turned on the question arises of who is looking at them or, why is nobody looking at them. Thus the need has arisen for a method of Audience Measurement that will deliver the following specifics:

How many people looked, how many were men, how many were woman, what time did the most views occur and how many possible views occurred without any views ie. how many people walked past the display and did not look at the content.

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## Case Study

A marketing company placed screens above the package collection carousel at an international airport. The formula for screen viewership was to take the number of aircraft landing each day, totaling the number of passengers and putting that forward as the total number.

Upon investigation the actual number of viewers was proved via Anonymous Video Analytics (AVA) to be far lower than the original estimate. Nobody was looking at the screens. This proved that content needed to be much more engaging and it gave greater accuracy in calculating Advertising Sales based upon accurate figures and not just counting aircraft.

## Solution

In order to gain a metered understanding of Audience Measurement an installed screen would require a small USB camera supporting low light and at least a resolution of 1920x1080 to be installed. The camera is then plugged into the media player already driving the signage, or in the case of SoC a small PC would need to be installed.

The solution is cloud based with live reporting occurring on a remote browser based dashboard. Multiple parties can view this data in a live environment.

DC Media Headcount is a lightweight AVA solution that counts how many people viewed the displayed content, and at what time. Gender is catered for as well as possible views that did not translate. This data can then be used to trigger content.

The benefits of are that the software can be loaded onto an existing media player without impacting the existing processor overhead. Unlike other AVA systems that are super heavy and compromise the signage portion of the technology.

The system determines hits and potentials by use of an advanced algorithm to determine which facial features are in view in every frame of an input stream. This is then classified as a hit or a potential and then tracked within the view of the camera, once the subject is no longer in view the report back is sent to the cloud service with the length of duration the subject was in view of the camera.

For specific applications whereby the need to identify specific individuals is required, this version of headcount is an extension of the basic People Counting version but with the addition of a locally stored database of specific individuals the system should look out for, this system will then trigger an alert, either on screen, email or sms when an individual comes into view.

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## Conclusion

Audience Measurement by way of Anonymous Video Analytics is a stable, reliable and non-invasive method. It allows for not only accurate and relevant data collection but for timely content displaying via biometric triggering mechanisms.

The information collected can be used to profile screen positions, dwell time and content engagement. It will deliver accurate metrics for advertising campaign planning that can now not only include date ranges but specific time ranges as well.

Digital Signage is a dynamic display platform that allows more content to be shown more often. The use of AVA allows that content to be even more specific and completes the technologies abilities.

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## About CPC

Established in 1997 as a developer of communication software, Central Point Communications (CPC) has evolved to become a global digital communications provider, and is currently supplying and managing the digital signage solutions for customers in over 30 countries.

As a provider of digital signage solutions, we are committed to providing companies with the most versatile and appropriate communication solutions which can scale as a client's needs change.

[www.cpc.co.za](http://www.cpc.co.za)

[info@cpc.co.za](mailto:info@cpc.co.za)

*Author: Trefor Brock, Managing Director, Central Point Communications (Pty) Ltd.*