



## FootfallCam M5

- Window conversion rate
- Dwell time tracking
- Returning customer tracker
- Cross store shopping
- Bi-directional video counting



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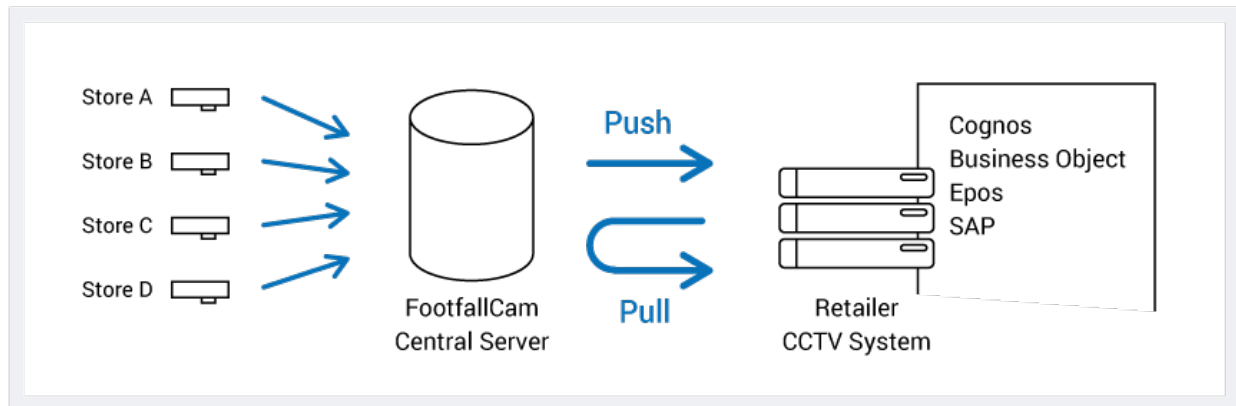
3.1 Push Data via API

3.1.1 ePOS Data

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## 1.0 Overview



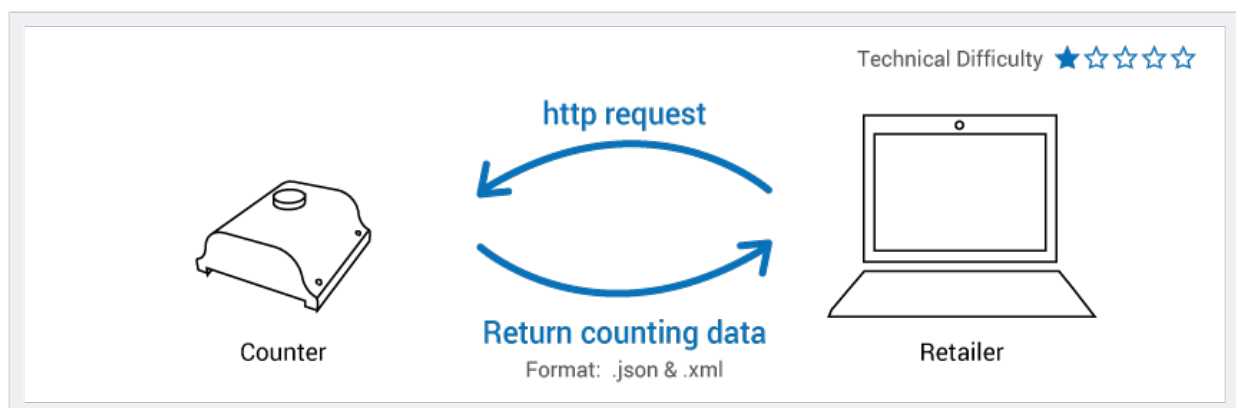
FootfallCam is a fully embedded software module, intended for any environment where store footfall counting is required. Business intelligence (BI) system extracts and analyses footfall data (from FootfallCam central server) together with ePOS data or staff labour hours (from retailer's ePOS system or staff management system) to produce management report for corporate strategic planning.

There are several ways of integrating footfall data with the ePOS data or staff labour hours:

- Export footfall data to retailer system
- Import ePOS data or staff labour hours to FootfallCam central server

## 2.0 Export Footfall Data to Retailer System

### 2.1 Pull Data via API



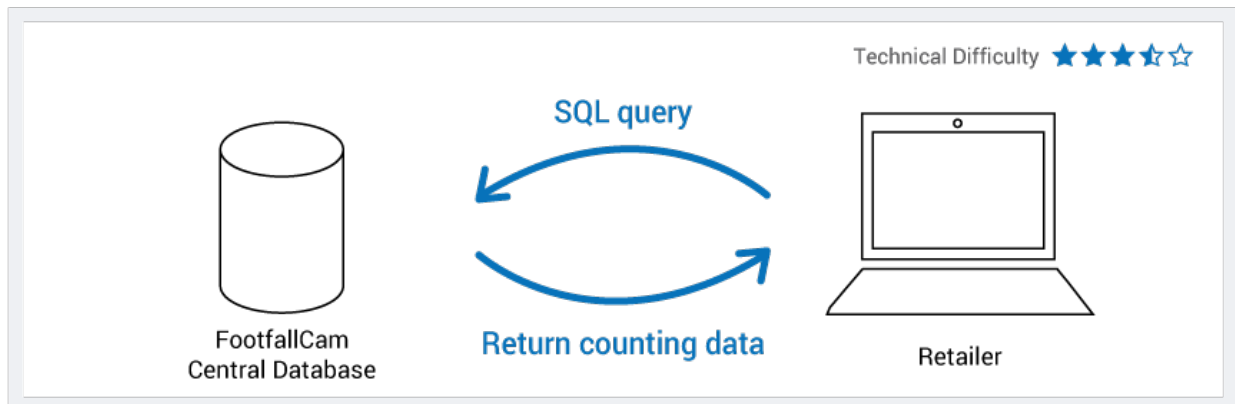
The camera automatically collects the traffic data and builds them into a convenient JSON/XML data file that can be retrieved easily via a web service API call, hence allowing seamless integration of the camera into any existing solution. Through an API call, the data file will be extracted from FootfallCam portal to the business intelligence system for further data processing in order to generate the management report.

<b>Title</b>	<p><b>Get Counting Data</b></p> <p><i>Description: API Function to receive counting data.</i></p> <p><i>Counting data includes Timestamp, number of In count per 15 minutes, number of Out count per 15 minutes</i></p>												
<b>URL</b>	<p><code>http://&lt;ip to counter&gt;:&lt;port&gt;/pi-cgi/data.json (JSON Format)</code></p> <p><code>http://&lt;ip to counter&gt;:&lt;port&gt;/pi-cgi/data.xml (XML Format)</code></p>												
<b>Method</b>	<p><code>GET</code></p>												
<b>URL Params</b>	<p>Optional:-</p> <table border="1" data-bbox="407 1010 1388 1348"> <thead> <tr> <th>Name</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>date</td> <td>omit</td> <td>omit – The current day data</td> </tr> <tr> <td></td> <td>Single day - &lt;YYYYMMDD&gt;</td> <td>Single day – Data on the specified day</td> </tr> <tr> <td></td> <td>Date range – &lt;YYYYMMDD&gt;- &lt;YYYYMMDD&gt;</td> <td>Date range – Data on the specified data range, both starting and ending is inclusive</td> </tr> </tbody> </table>	Name	Value	Description	date	omit	omit – The current day data		Single day - <YYYYMMDD>	Single day – Data on the specified day		Date range – <YYYYMMDD>- <YYYYMMDD>	Date range – Data on the specified data range, both starting and ending is inclusive
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	Date range – <YYYYMMDD>- <YYYYMMDD>	Date range – Data on the specified data range, both starting and ending is inclusive											
<b>Data Params</b>	<p>None</p>												
<b>Success Response (JSON)</b>	<p><b>Example:</b></p> <p><b>Content:</b> {</p> <p>  "cameraData": {</p> <p>    "companyCode": "&lt;Company Code&gt;",</p> <p>    "cameraName": "&lt;Counter Name&gt;",</p> <p>    "offset": &lt;offset&gt;</p>												

	<pre> }, "data": [   {     "timestamp": &lt;timestamp&gt;,     "inCount": &lt;valuein&gt;,     "outCount": &lt;valueout&gt;   } ] } </pre>
<p><b>Success Response (XML)</b></p>	<pre> &lt;?xml version="1.0" ?&gt; &lt;count data&gt;  <b>Where &lt;count data&gt; is</b>  &lt;countdata version="2"&gt;   &lt;count set&gt; &lt;/countdata&gt;  <b>&lt;typedesc&gt; is description of count type, where 3 represent In, and 4 represent Out.</b>  &lt;typedesc&gt;   &lt;type typeid="3"&gt;Pedestrian coming in&lt;/type&gt;   &lt;type typeid="4"&gt;Pedestrian going out&lt;/type&gt; &lt;/typedesc&gt;  <b>and &lt;count set&gt; is</b>  &lt;cntset name="&lt;Company Code&gt; - &lt;Counter Name&gt;" starttime="&lt;start </pre>

	<pre> <b><i>time</i></b>&gt;" delta="<b><i>&lt;delta&gt;</i></b>&gt;        <b><i>&lt;count group&gt;</i></b>  &lt;/cntset&gt;  <b>&lt;start time&gt;</b> is POSIX format (seconds since 00:00:00 UTC, January 1, 1970) for the day  <b>&lt;delta&gt;</b> is the time interval specified in seconds between each entry and <b>&lt;count group&gt;</b> is  &lt;cntgroup endtime="<b><i>&lt;end time&gt;</i></b>"&gt;        &lt;cnt typeid="3"&gt;<b><i>&lt;valuein&gt;</i></b>&lt;/cnt&gt;        &lt;cnt typeid="4"&gt;<b><i>&lt;valueout&gt;</i></b>&lt;/cnt&gt;  &lt;/cntgroup&gt; </pre>
<b>Sample Call</b>	
	curl http://<ip to counter>:<port>/pi-cgi/data.json?date=20140101-20140131
<b>Notes</b>	<i>None</i>

## 2.2 Pull Data from Central Database



Instead of using API, users may choose to extract the footfall data directly from FootfallCam Central Database. This involves establishing a remote connection directly to the database to extract the data from the relevant table to the business intelligence system.

<b>Title</b>	<p><i><b>Get Branch List</b></i></p> <p><i>Description: SQL Function to retrieve branch list.</i></p> <p><i>Branch data include Branch Id, Name, Region, City, Country, StoreType, Latitude, Longitude and Floor Size</i></p>																																																																																																																														
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<b>Sample Call</b>	<code>SELECT * FROM GetBranchList('username','password');</code>
<b>Notes</b>	<i>None</i>

<b>Title</b>	<p><b><i>Get Counter By Branch</i></b></p> <p><i>Description: SQL Function to retrieve counters filtered by branch.</i></p> <p><i>Counter data include Counter Id, Name, IP, Port, Serial</i></p>																								
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3	38	Cam2	NULL	NULL	XXXXXXXXXX7644																				
<b>Sample Call</b>	<code>SELECT * FROM GetCounterByBranch('username', 'password', 37);</code>																								

<b>Notes</b>	<i>None</i>
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<b>Title</b>	<p><b><i>Get Counter Counting</i></b></p> <p><i>Description: SQL Function to retrieve counting filtered by counter.</i></p> <p><i>Counting data include Counter (in hourly interval), ValueDateTime, ValueIn, ValueOut, OutsideTraffic, Day, CounterId</i></p>																																																																						
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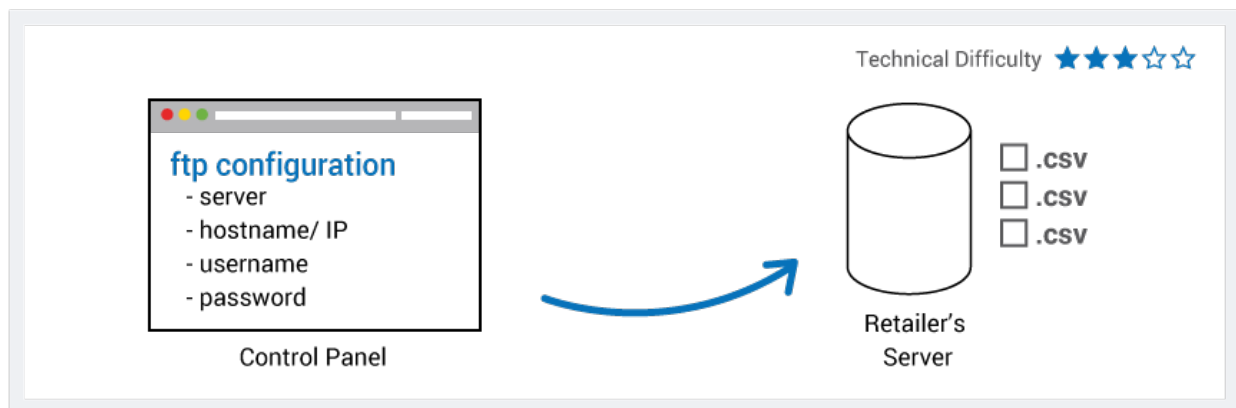


<b>Sample Call</b>	<code>SELECT * FROM GetCounterCounting('username', 'password', 410, '2015-03-20 00:00:00', '2015-03-20 23:59:59');</code>
<b>Notes</b>	<i>None</i>

<b>Title</b>	<p><b><i>Get Counter Daily Summary</i></b></p> <p><i>Description: SQL Function to retrieve daily summary filtered by counter</i></p> <p><i>Counting data include Date (POSIX Timestamp), CameraName, ValueIn, ValueOut, OutsideTraffic, TurnInRate, LessThanFifteen, LessThanThirty, OverThirty, NewCustomer, ReturnInWeek, ReturnInMonth, CounterId</i></p>																																										
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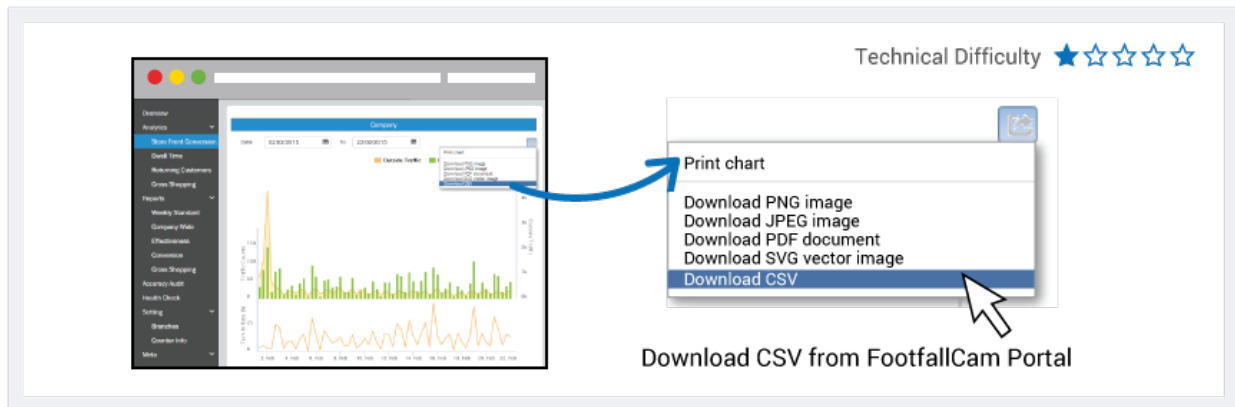
<b>Sample Call</b>	<pre>SELECT * FROM GetCounterDailySummary('username', 'password', 410, 1426809600, 1426896001);</pre>
<b>Notes</b>	<i>None</i>

## 2.3 Push to FTP Server



A dedicated FTP server will be provided by retailer as a 'shared folder' where access (link, username and password) will be given to FootfallCam technical team to dump the footfall data (.csv files) into it. These data will then being retrieved from the FTP Server to the business intelligence system for further data processing to generate the management report.

## 2.4 Download CSV from FootfallCam Portal



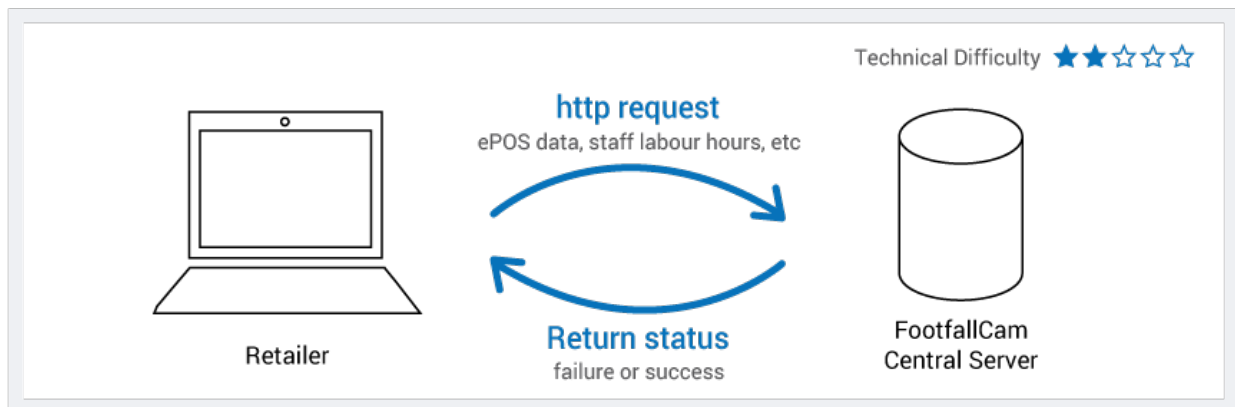
Footfall data will be stored and updated to central server every 15 minutes automatically. Retailer will be given access (link, username and password) to access FootfallCam portal to access these data and download it in .csv, PDF format, etc.

### CSV Sample Data

Name	Symbol
Separator	, (comma)

## 3.0 Import Data from Retailer System

### 3.1 Push Data via API



Through an API call, retailer system sends a http request (containing ePOS data, staff labour hours, etc.) to FootfallCam central server. FootfallCam central server returns a status to retailer’s system, indicating if the request is successful or fail. The data received from retailer’s system will be further processed to integrate with the footfall data and generate reports in FootfallCam portal.

### 3.1.1 ePOS Data

<b>Title</b>	<p><b>PostTransaction</b></p> <p><i>Description: API Function to receive Transaction data.</i></p> <p><i>Transaction data including timestamp, number of transaction per 15 minutes, average amount per 15 minutes.</i></p> <p><i>Each data entry must be in 15 minutes interval.</i></p>
<b>URL</b>	<p><code>http://controlpanel.retailcam.co.uk/api/Action/PostTransaction</code></p>
<b>Method</b>	<p><code>POST</code></p>
<b>URL Params</b>	<p>None</p>
<b>Data Params</b>	<p><i>SecretKey : [String] Secret key provided by footfallcam for authentication purpose.</i></p> <p><i>Data: Array of data entries as below:</i></p> <div data-bbox="363 1194 1343 1419" style="border: 1px solid black; padding: 5px;"> <p>Timestamp : [long] Timestamp for every 15 minutes</p> <p>TransactionCount : [int] Numbers of transaction withinin 15 minutes</p> <p>AverageAmount : [double] Average amount of transaction within 15 minutes</p> </div> <p><b>Example:</b></p> <pre>{   SecretKey : "0E6A48F765D0FFFFFF6247FA80D748E615F91DD0C7431E4D9",   Data : [{     Timestamp : 1418688000,     TransactionCount : 10,</pre>

	<pre> AverageAmount : 500.00 }, { Timestamp : 1418688900, TransactionCount : 8, AverageAmount : 420.00 }, { Timestamp : 1418689800, TransactionCount : 14, AverageAmount : 530.00 }] } </pre>
<b>Success Response</b>	<p><b>Example:</b></p> <p><b>Code:</b> 200</p> <p><b>Content:</b> { Response: "OK" }</p>
<b>Error Response</b>	<p><b>Example:</b></p> <p><b>Code:</b> 401 UNAUTHORIZED</p> <p><b>Content:</b> { error : " UNAUTHORIZED " }</p> <p>OR</p> <p><b>Code:</b> 422 Unprocessable Entry</p> <p><b>Content:</b> { error : "Invalid Structure" }</p>

**Sample  
Call**

```

$.ajax({
  url: "http://controlpanel.retailcam.co.uk/api/Action/PostTransaction",
  dataType: "json",
  data : {
    SecretKey : "0E6A48F765D0FFFFFF6247FA80D748E615F91DD0C7431E4D9",
    Data : [{
      Timestamp : 1418688000,
      TransactionCount : 10,
      AverageAmount : 500.00
    },
    {
      Timestamp : 1418688900,
      TransactionCount : 8,
      AverageAmount : 420.00
    },
    {
      Timestamp : 1418689800,
      TransactionCount : 14,
      AverageAmount : 530.00
    }
  ]
},
  type : "POST",
  success : function(r) {

```

	<pre> console.log(r);  }  }); </pre>
<b>Notes</b>	<i>Timestamp must be in 15 minutes interval for each record.</i>

### 3.1.2 Staff Labour Hours

<b>Title</b>	<p><i><b>PostStaffLabourHour</b></i></p> <p><i>Description: API Function to receive Staff data.</i></p> <p><i>Data including timestamp, number of staff per 15 minutes</i></p> <p><i>Each data entry must be in 15 minutes interval.</i></p>
<b>URL</b>	<a href="http://controlpanel.retailcam.co.uk/api/Action/PostStaffLabourHour">http://controlpanel.retailcam.co.uk/api/Action/PostStaffLabourHour</a>
<b>Method</b>	<b>POST</b>
<b>URL Params</b>	None
<b>Data Params</b>	<p><i>SecretKey : [String] Secret key provided by footfallcam for authentication purpose.</i></p> <p><i>Data: Array of data entries as below:</i></p>

	<div style="border: 1px solid black; padding: 5px;"> <p>Timestamp : [long] Timestamp for every 15 minutes</p> <p>StaffCount : [int] Numbers of Staff withinin 15 minutes</p> </div> <p><b>Example:</b></p>
	<pre> {   SecretKey : "0E6A48F765D0FFFFFF6247FA80D748E615F91DD0C7431E4D9",   Data : [{     Timestamp : 1418688000,     StaffCount : 1   },   {     Timestamp : 1418688900,     StaffCount : 1   },   {     Timestamp : 1418689800,     StaffCount : 2   }   ] } </pre>
<p><b>Success Response</b></p>	<p><b>Example:</b></p> <p><b>Code:</b> 200</p> <p><b>Content:</b> <span style="border: 1px solid black; padding: 2px;">{ Response: "OK" }</span></p>
<p><b>Error Response</b></p>	<p><b>Example:</b></p>



	<p><b>Code:</b> 401 UNAUTHORIZED</p> <p><b>Content:</b> { error : " UNAUTHORIZED " }</p> <p>OR</p> <p><b>Code:</b> 422 Unprocessable Entry</p> <p><b>Content:</b> { error : "Invalid Structure" }</p>
<p><b>Sample Call</b></p>	<pre>\$.ajax({   url: "http://controlpanel.retailcam.co.uk/api/Action/PostStaffLabourHour",   dataType: "json",   data : {     SecretKey : "0E6A48F765D0FFFFFF6247FA80D748E615F91DD0C7431E4D9",     Data : [{       Timestamp : 1418688000,       StaffCount : 1     },     {       Timestamp : 1418688900,       StaffCount : 1     },     {       Timestamp : 1418689800,       StaffCount : 2     }   ] }</pre>

	<pre> type : "POST",  success : function(r) {    console.log(r);  }  }); </pre>
<b>Notes</b>	<i>Timestamp must be in 15 minutes interval for each record.</i>

### 3.2 Push Data to FTP Server



A dedicated FTP server will be provided by FootfallCam as a ‘shared folder’ where access (link, username and password) will be given for retailer to dump the ePOS data, staff labour hours, etc. into it. These data will then being retrieved, further processed to integrate with the footfall data and generate reports in FootfallCam portal.