USER MANUAL

For FootfallCam 3D Plus

FootfallCam™

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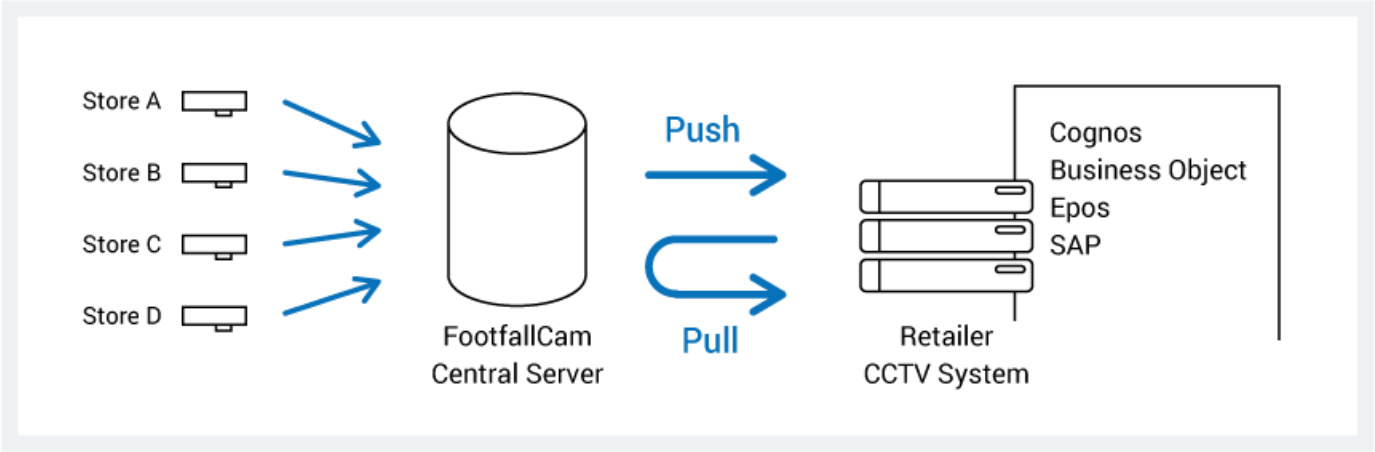
1.0 Overview



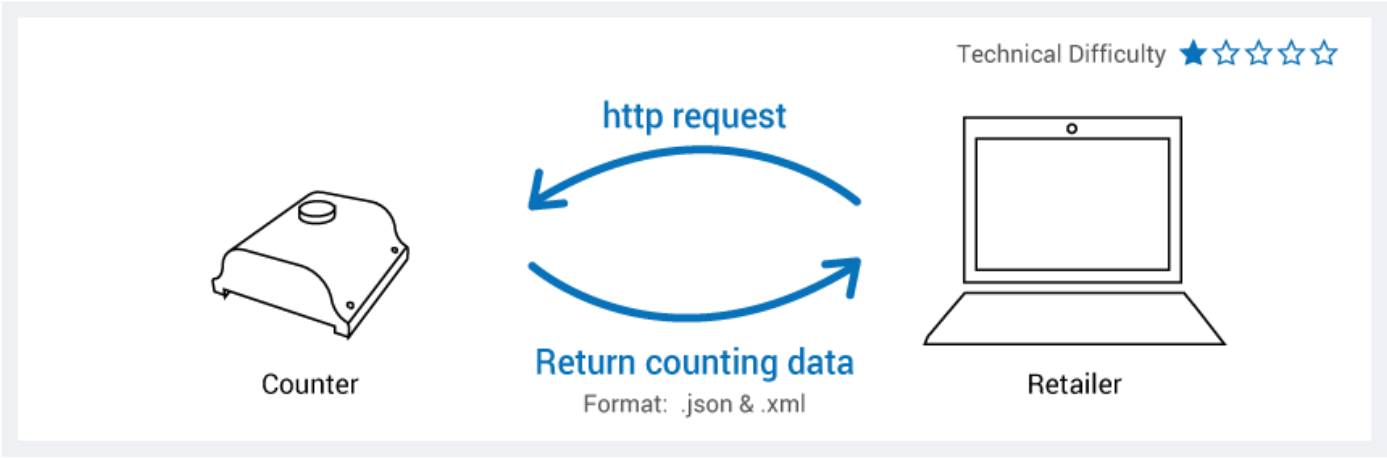
FootfallCam is a fully embedded software module, intended for any environment where store footfall counting is required. Business intelligence (BI) system extracts and analyses footfall data (from FootfallCam central server) together with ePOS data or staff labour hours (from retailer's ePOS system or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

Title	Get Counting Data Description: API Function to receive counting data. Counting data includes Timestamp, number of In count per 15 minutes, number of Out count per 15 minutes
URL	http://<ip to counter>:<port>/pi-cgi/data.json (JSON Format) http://<ip to counter>:<port>/pi-cgi/data.xml (XML Format)
Method	GET

<table>
<tr><td>URL Params</td><td>Optional:-<table>
<tr><th>Name</th><th>Value</th><th>Description</th></tr>
<tr><td>date</td><td>omit

Single day - <YYYYMMDD>

Date range – <YYYYMMDD>-<YYYYMMDD></td><td>omit – The current day data

Single day – Data on the specified day

Date range – Data on the specified data range, both starting and ending is inclusive</td></tr>
</table></td></tr>
<tr><td>Data Params</td><td>None</td></tr>
<tr><td>Success Response (JSON)</td><td>Example:

Content: {
"cameraData": {
"companyCode": "<Company Code>",
"cameraName": "<Counter Name>",
"offset": <offset>
},
"data": [
{
"timestamp": <timestamp>,
"inCount": <valuein>,
"outCount": <valueout>
}]
}</td></tr>
<tr><td>Success Response (XML)</td><td><?xml version=”1.0” ?>
<count data>

Where <count data> is

<countdata version="2">
<count set>
</countdata>

<typedesc> is description of count type, where 3 represent In, and 4 represent Out.

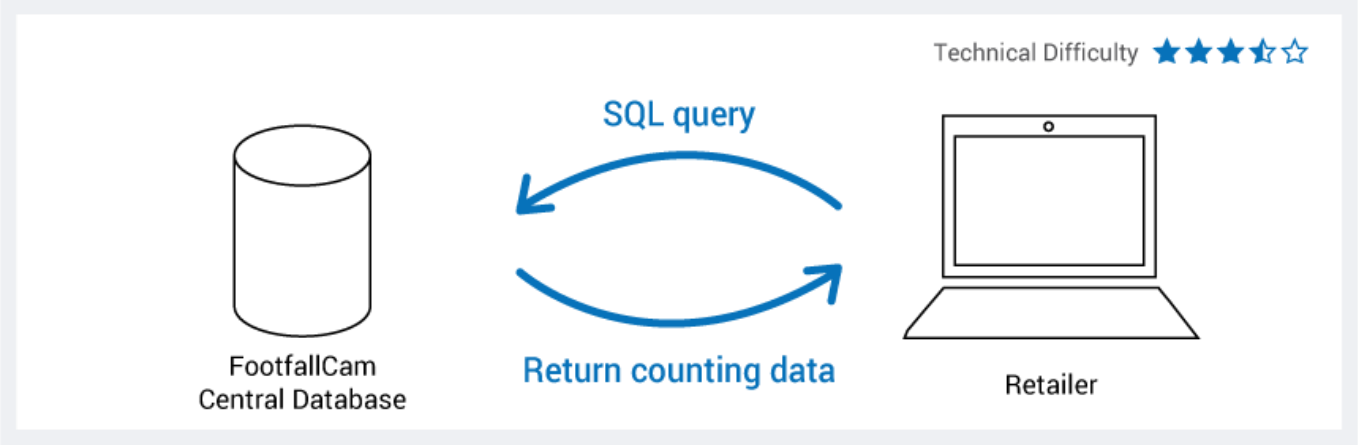
<typedesc>
<type typeid="3">Pedestrian coming in</type>
<type typeid="4">Pedestrian going out</type>
</typedesc>

and <count set> is

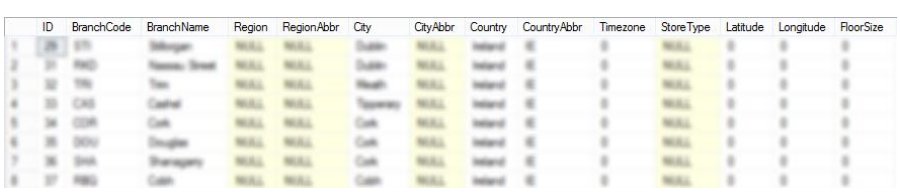
<cntset name="<Company Code> - <Counter Name>" starttime="<start time>" delta="<delta>">
<count group>
</cntset></td></tr>
</table>

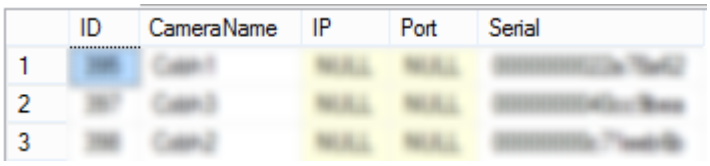
	<start time> is POSIX format (seconds since 00:00:00 UTC, January 1, 1970) for the day <delta> is the time interval specified in seconds between each entry and <count group> is <cntgroup endtime="<end time>"> <cnt typeid="3"><valuein></cnt> <cnt typeid="4"><valueout></cnt> </cntgroup>
Sample Call	curl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

2.2 Pull Data from Central Database

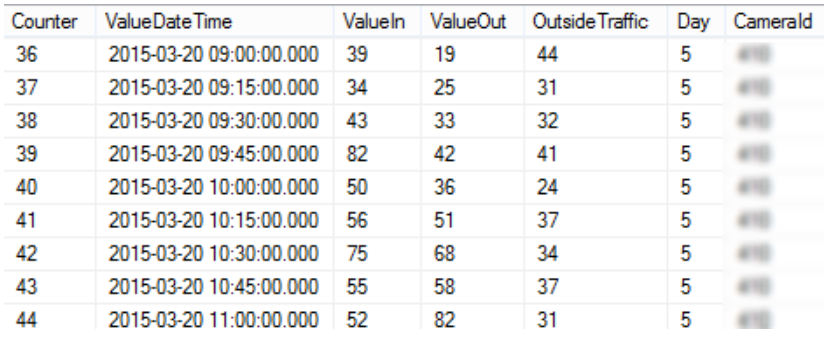


Instead of using API, users may choose to extract the footfall data directly from FootfallCam Central Database. This involves establishing a remote connection directly to the database to extract the data from the relevant table to the business intelligence system.

Title	Get Branch List Description: SQL Function to retrieve branch list. Branch data include Branch Id, Name, Region, City, Country, StoreType, Latitude, Longitude and Floor Size
Function Name	GetBranchList
Method	SQL
Data Params	Username [nvarchar] Password [nvarchar]
Success Response	
Sample Call	SELECT * FROM GetBranchList('username','password');
Notes	None

Title	Get Counter By Branch Description: SQL Function to retrieve counters filtered by branch. Counter data include Counter Id, Name, IP, Port, Serial
Function Name	GetCounterByBranch
Method	SQL
Data Params	Username [nvarchar] Password [nvarchar] BranchId [bigint]
Success Response	
Sample Call	SELECT * FROM GetCounterByBranch('username', 'password', 37);
Notes	None

ID	CameraName	IP	Port	Serial
1	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	[redacted]	[redacted]	[redacted]

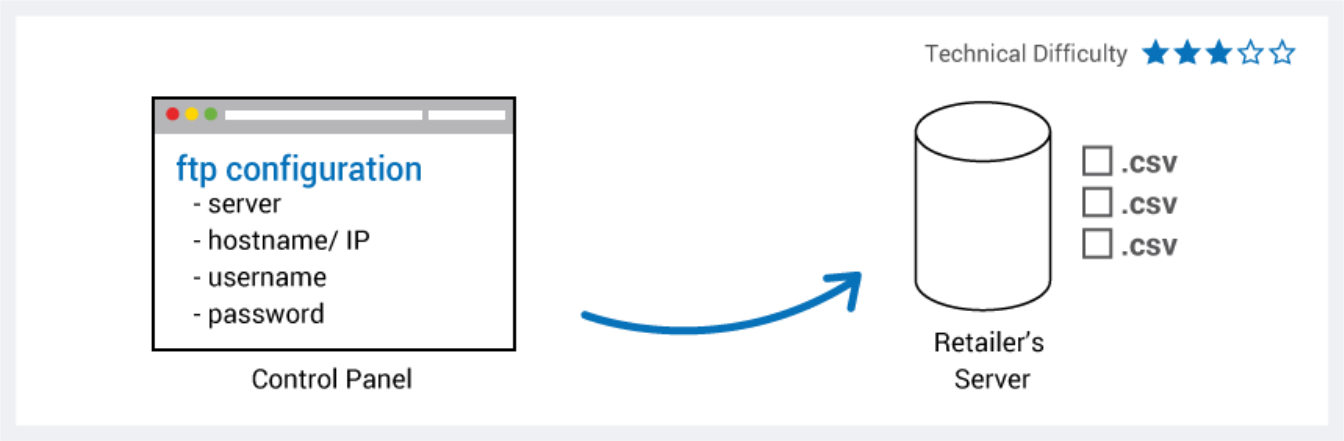
Title	Get Counter Counting Description: SQL Function to retrieve counting filtered by counter. Counting data include Counter (in hourly interval), ValueDateTime, ValueIn, ValueOut, OutsideTraffic, Day, CounterId
Function Name	GetCounterCounting
Method	SQL
Data Params	Username [nvarchar] Password [nvarchar] CounterId [bigint] StartDate [datetime] EndDate [datetime]
Success Response	
Sample Call	SELECT * FROM GetCounterCounting('username', 'password', 410, '2015-03-20 00:00:00', '2015-03-20 23:59:59');
Notes	None

Counter	ValueDateTime	ValueIn	ValueOut	OutsideTraffic	Day	CameraId
36	2015-03-20 09:00:00.000	39	19	44	5	[redacted]
37	2015-03-20 09:15:00.000	34	25	31	5	[redacted]
38	2015-03-20 09:30:00.000	43	33	32	5	[redacted]
39	2015-03-20 09:45:00.000	82	42	41	5	[redacted]
40	2015-03-20 10:00:00.000	50	36	24	5	[redacted]
41	2015-03-20 10:15:00.000	56	51	37	5	[redacted]
42	2015-03-20 10:30:00.000	75	68	34	5	[redacted]
43	2015-03-20 10:45:00.000	55	58	37	5	[redacted]
44	2015-03-20 11:00:00.000	52	82	31	5	[redacted]

Title	Get Counter Daily Summary Description: SQL Function to retrieve daily summary filtered by counter Counting data include Date (POSIX Timestamp), CameraName, ValueIn, ValueOut, OutsideTraffic, TurnInRate, LessThanFifteen, LessThanThiry, OverThirty, NewCustomer, ReturnInWeek, ReturnInMonth, CounterId
Function Name	GetCounterDailySummary
Method	SQL
Data Params	Username [nvarchar] Password [nvarchar] CounterId [bigint] StartDate [bigint] (POSIX Timestamp) EndDate [bigint] (POSIX Timestamp)
Success Response	
Sample Call	SELECT * FROM GetCounterDailySummary('username', 'password', 410, 1426809600, 1426896001);
Notes	None

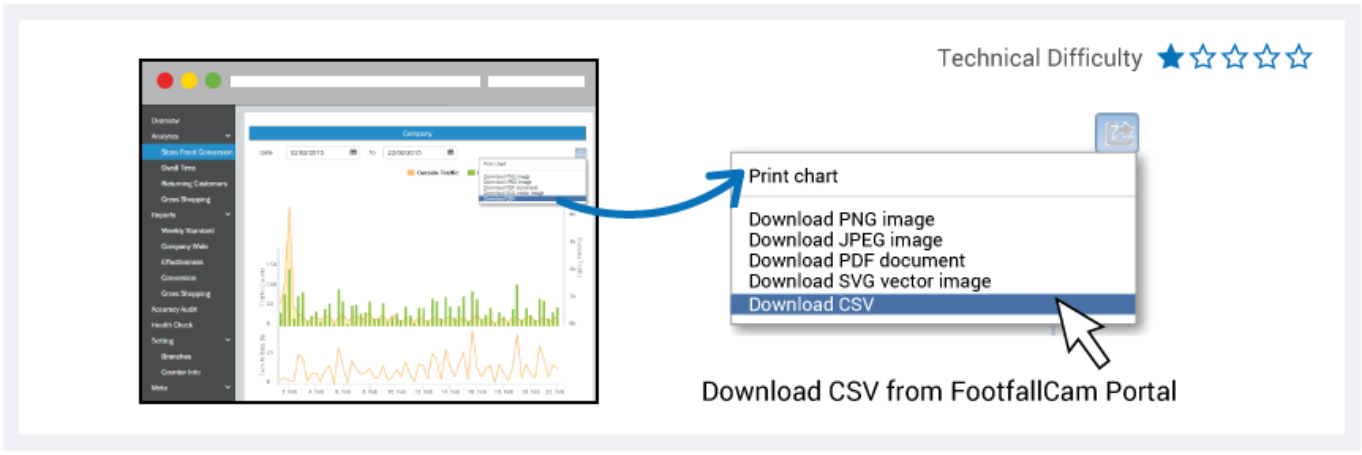
	Date	CameraName	ValueIn	ValueOut	OutsideTraffic	TurnInRate	LessThanFifteen	LessThanThirty	OverThirty	NewCustomer	ReturnInWeek	ReturnInMonth	CameraId
1	1426809600	NassauStreet	2496	2549	2763	73.73	11	0	0	30	3	1	[illegible]
2	1426896000	NassauStreet	2410	2307	2452	77.59	7	1	2	28	3	0	[illegible]

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



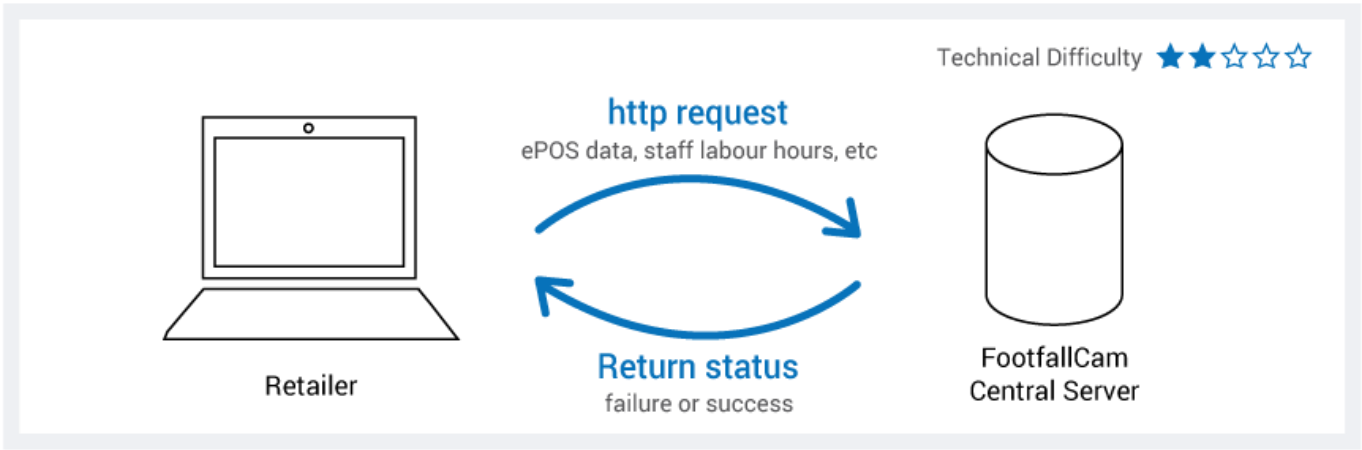
Footfall data will be stored and updated to central server every 15 minutes automatically. Retailer will be given access (link, username and password) to access FootfallCam portal to access these data and download it in .csv, PDF format, etc.

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

Title	PostTransaction Description: API Function to receive Transaction data. Transaction data including timestamp, number of transaction per 15 minutes, average amount per 15 minutes. Each data entry must be in 15 minutes interval.
URL	http://footfallcounter.com/api/Action/PostTransaction
Method	POST
URL Params	None

Data Params	SecretKey : [String] Secret key provided by footfallcam for authentication purpose.
	Data: Array of data entries as below:
	Timestamp : [long] Timestamp for every 15 minutes
	TransactionCount : [int] Numbers of transaction withinin 15 minutes
	AverageAmount : [double] Average amount of transaction within 15 minutes
	Example:
	{
	SecretKey : “0E6A48F765D0FFFFF6247FA80D748E615F91DD0C7431E4D9”,
	Data : [{
	Timestamp : 1418688000,
	TransactionCount : 10,
	AverageAmount : 500.00
	},
	{
	Timestamp : 1418688900,
	TransactionCount : 8,
	AverageAmount : 420.00
	},
	{
	Timestamp : 1418689800,
	TransactionCount : 14,
	AverageAmount : 530.00
	}]
	}

Success Response	Example: Code: 200 Content: { Response: “OK” }
Error Response	Example: Code: 401 UNAUTHORIZED Content: { error : '' UNAUTHORIZED '' } OR Code: 422 Unprocessable Entry Content: { error : ''Invalid Structure'' }

Sample Call	$.ajax({
	url: ''http://controlpanel.retailcam.co.uk/api/Action/PostTransaction'',
	dataType: ''json'',
	data : {
	SecretKey : “0E6A48F765D0FFFFF6247FA80D748E615F91DD0C7431E4D9”,
	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) {
	console.log(r);
	}
	});

Notes	Timestamp must be in 15 minutes interval for each record.

3.1.2 Staff Labour Hours

Title	PostStaffLabourHour Description: API Function to receive Staff data. Data including timestamp, number of staff per 15 minutes Each data entry must be in 15 minutes interval.
URL	http://footfallcounter.com/api/Action/PostStaffLabourHour
Method	POST
URL Params	None

Data Params	SecretKey : [String] Secret key provided by footfallcam for authentication purpose.
	Data: Array of data entries as below:
	Timestamp : [long] Timestamp for every 15 minutes
	StaffCount : [int] Numbers of Staff withinin 15 minutes
	Example:
	{
	SecretKey : "0E6A48F765D0FFFFF6247FA80D748E615F91DD0C7431E4D9",
	Data : [{
	Timestamp : 1418688000,
	StaffCount : 1
	},
	{
	Timestamp : 1418688900,
	StaffCount : 1
	},
	{
	Timestamp : 1418689800,
	StaffCount : 2
	}]
	}

Success Response	Example: Code: 200 Content: { Response: "OK" }
Error Response	Example: Code: 401 UNAUTHORIZED Content: { error : " UNAUTHORIZED " } OR Code: 422 Unprocessable Entry

	Content: { error : "Invalid Structure" }

Sample Call	$.ajax({
	url: "http://controlpanel.retailcam.co.uk/api/Action/PostStaffLabourHour",
	dataType: "json",
	data : {
	SecretKey : “0E6A48F765D0FFFFF6247FA80D748E615F91DD0C7431E4D9”,
	Data : [{
	Timestamp : 1418688000,
	StaffCount : 1
	},
	{
	Timestamp : 1418688900,
	StaffCount : 1
	},
	{
	Timestamp : 1418689800,
	StaffCount : 2
	}]
	}
	type : "POST",
	success : function(r) {
	console.log(r);
	}
	});

Notes	Timestamp must be in 15 minutes interval for each record.

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.