We Claim:

1. A smart water management system based on the Internet of Things (IoT) technology, the system comprising a central cloud-based server and a plurality of water machines, each water machine comprising a controller unit communicatively coupled to the server, each water machine comprising one of more water dispensers, the system characterized in that~~;~~:

the controller unit is configured to:

control a flow sensor and a solenoid for dispensing of water from the water machine, wherein the controller unit is configured to put the solenoid in open state and counts the number of pulses of the flow sensor which is calibrated for millilitre per sec when a user selects a start dispensing option on a user interface of the water machine after payment and when the selected amount of water is reached the solenoid is put to an off state; and ~~operating in tandem with input data and conducting edge based analysis while communicating with a central cloud based server to enable transmission of data through GPRS or Wi-Fi connectivity that is processed and appears on the central dashboard to allow real time control and data visualization on the cloud based backend and generates further inputs for improved operating efficiencies and for data analysis and is connected to the flow sensor and the solenoid for controlling the water to be dispensed; the user selects the start dispensing option on the UI after payment, the controller puts the solenoid in open state and counts the number of pulses of the flow sensor which is calibrated for ml/sec and when the~~

~~selected amount of water is reached the solenoid is put to off state; the reader connected to the DC will get the unique number of the payment and then the DC will send the number along with the DC ID and SKU to the IoT cloud for authentication and once the authentication is received on the DC from IoT cloud dispensing screen will appear;~~

transmit operational and maintenance data of the water machine including the controller unit to the server, and

the server configured to:

track a geographic location of each of the plurality of water machines in real time using global positioning system;

control and operate each dispenser independent of other dispensers in the same water machine; and

update a firmware of one or more of the plurality of water machine remotely;

switch to a second communication protocol when a first communication protocol is unavailable;

wherein, the server comprises an authentication service, a device backend service, a data logger, an integration service, a user interface service, and a calibration services.~~water quality sensor unit (WQSU)~~

~~controlling and monitoring the sensors for the measurement of the quality of the water containing various sensor to monitor the water quality from the water outlet line which comes out of the chiller to the dispenser wherein WQSU is connected to the IoT cloud via Wi-Fi and will~~

~~publish the quality readings to the cloud in real time gathering the temperature, pH readings, TDS Readings and turbidity of water;~~

~~authentication service;~~

~~device backend service;~~

~~data logger;~~

~~integration services;~~

~~User Interface (UI) services; and~~

~~Calibration services.~~

2. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the authentication service authenticates the communication between message queue telemetry transport ~~MQ Telemetry transport~~ protocol (MQTT) broker and the devices with the use of device store consisting of information related to the devices ~~i.e. username, password, and client ID~~ and response from authentication service allows or rejects the request for connection from the devices through the MQTT broker.

3. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the device backend ~~Service~~ service while subscribing to the MQTT topics assigned to ~~devices~~the water machines, and on receiving the data packet from ~~devices~~the water machines, passes data packets and updates the dispenser status to ON or OFF~~,/ Update~~

updates ~~the ATM~~ status of an automated teller machine to ON or OFF~~/~~ and ~~Store the collection~~stores the collected

information in a time series database, and authenticates payment cards with the authentication~~Database~~ services and publish the status message to ~~devices~~ the water machines after successful authentication.

4. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the data logger logs the data packets received from the ~~devices~~ water machines and stores the same in a log store required for maintenance.

5. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the integration service exposes and connects through application programming interfaces~~API's~~ with the database to perform the functions.

6. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein ~~User Interface (UI) Service~~the user interface service provides access to a web dashboard to monitor one or more water automated teller machines~~the WATMs~~, access ~~WATM's~~ logs of the machines for maintenance purposes and survey the revenue collection and total water dispensed information.

7. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the calibration service provides access to ~~the~~ at least one of an Android application, a ~~as well as~~ mobile application,~~/~~ or a web application ~~required~~ to calibrate flow sensors of water dispensing unit to ensure a reliable and steady rate of water flow.

8. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the application programming interfaces gateway ~~API Gateway performs the tasks of authenticating~~ authenticates ~~the~~ accessing clients by validating ~~JWT token &~~java script object notation web tokens and redirects the requests from the clients to requesting services and send the response from the requesting services to the clients.

9. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the dispenser controller ~~(DC)~~ controls the water flow of the ~~Dispenser~~dispenser ~~gives a Touch Screen interface to the User and which is Wi-Fi Enabled, Touch Screen with User Interface to guide the customer, connectors for Coin Sensor and RFID for payment, flow sensor and solenoid connector, FOTA (Firmware Over The Air) and USB based configuration~~.

10. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein the tracking a geographic location comprises tracking of at least one of a water automated teller machines, a water on wheels machine, and an Ohiya community water plant ~~GPS tracker is integrated in the system which provides real-time location which helps locating the WATM on the map sitting in the central command centre in event of any failure or alert trigger at any WATM or WoW~~.

11. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein switching to a second

communication protocol when a first communication protocol is unavailable comprises operating using Unstructured Supplementary Service Data (USSD) protocol when a better connectivity between the water machine and the server is unavailable ~~provides for complete redundancy from 4G internet connectivity issues and operate in a 2G GPRS environment in a reliable manner~~.

12. The ~~smart water management~~ system ~~based on the Internet of Things (IoT) technology~~ as claimed in claim 1, wherein ~~it can be~~the system is accessed by users that use conventional mobile phone by making digital payments through text messaging based ~~OTP~~on one time password method.