



e-Yantra IoT Platform and eYFi-Mega Kit for IoT Education

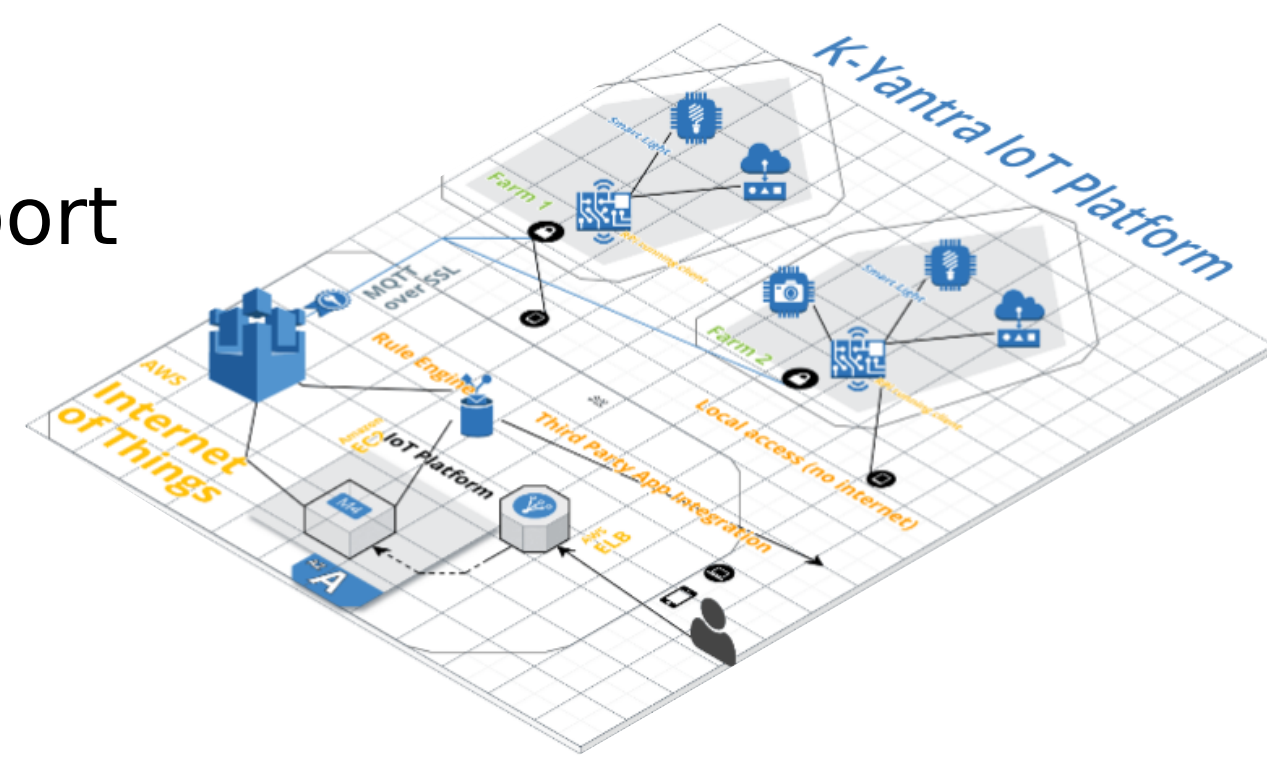
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e-Yantra IoT Platform

A general purpose IoT application development framework

1. Open source platform
2. Uses AWS for infrastructure support
3. Support activities under K-Yantra
4. Available to 380 e-Yantra labs



Highlights

1. Easily connect a thing to internet and start publishing data right away
2. Control all registered devices
3. Store your data for later analysis or building reasoning models

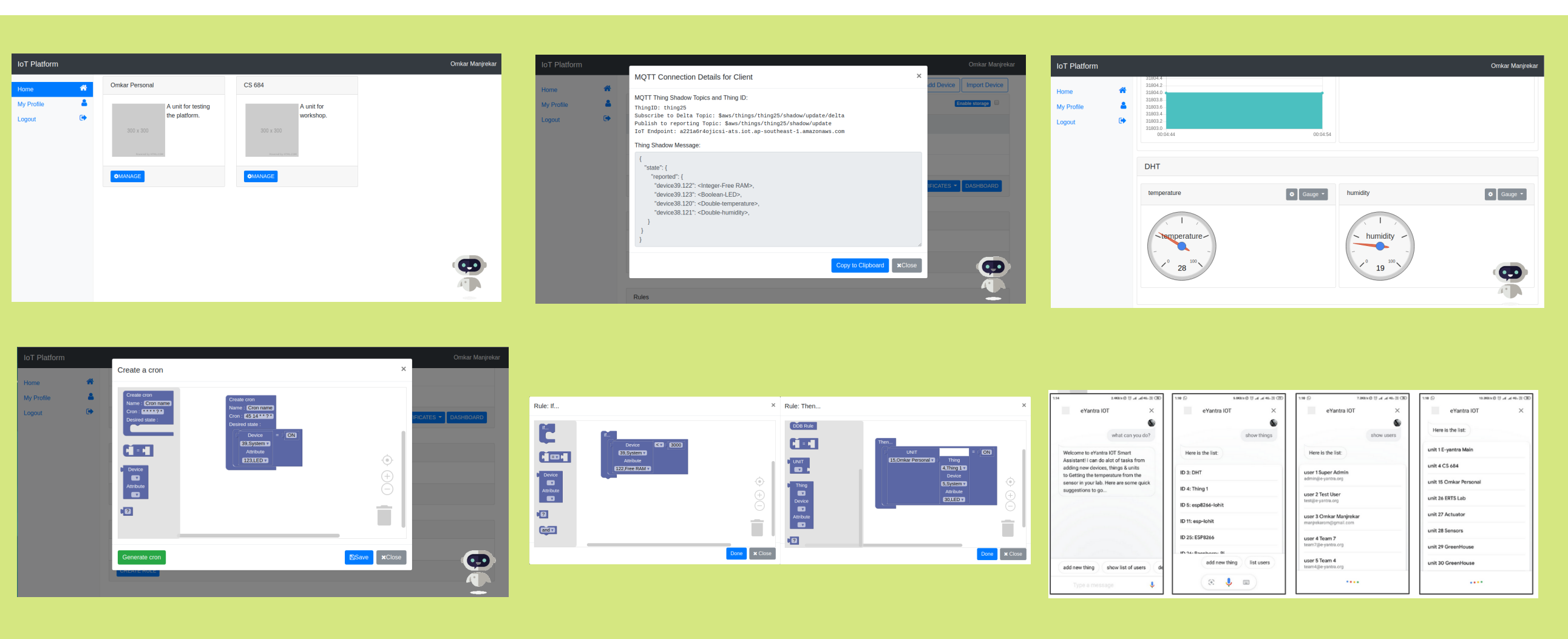
Features



Other benefits

1. Secure data transfer with TLS mutual authentication
2. Independent of devices used (Arduino, ESP, RPI)
3. Easy organization and role based access

Web Interface



Projects made on e-Yantra IoT Platform

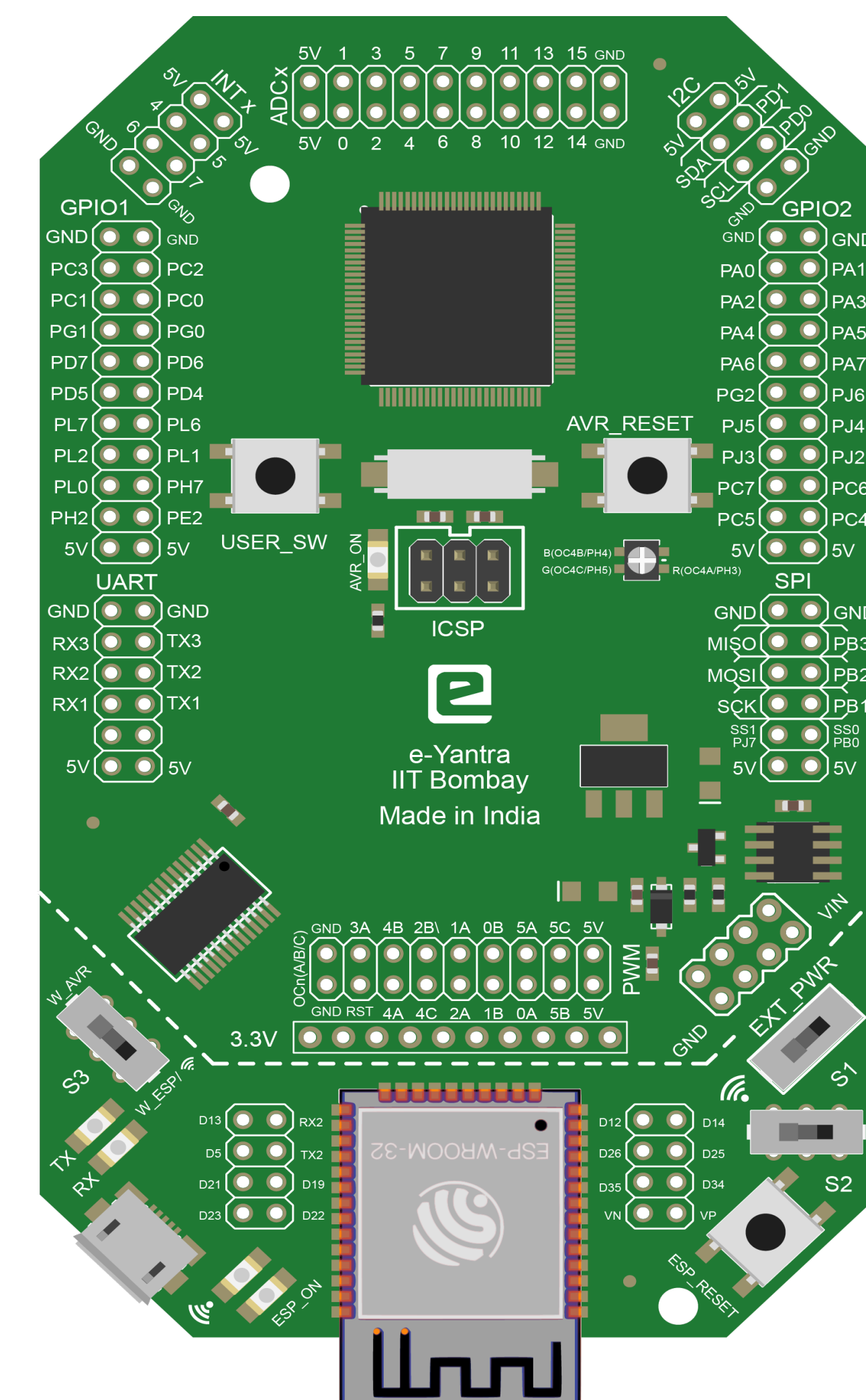
1. Smart Cycle Lock
2. Smart fault monitoring device
3. Next-Jan transport system
4. Interactive data visualisation

Future Work

1. Aggregating unstructured data
2. Better visualization engine
3. Logging every activity on the platform for the user to analyse
4. Improved user interface design
5. Pluggable backend (AWS, EMQx, Hive MQTT)

eYFi-Mega Kit

A general purpose development board



Features



Other benefits

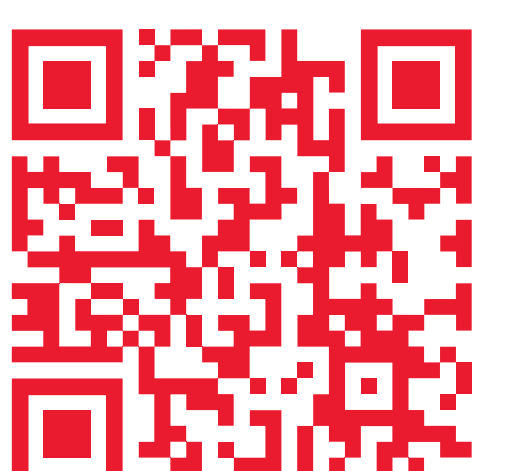
1. Cross-platform custom IDE for development
2. Wireless Serial Terminal
3. Over-The-Air (OTA) programmable
4. ESP-IDF, Mbed and Arduino compatible

Projects made on eYFi-Mega Kit

1. Bluetooth controlled robot
2. Micromouse robot solving maze (360 students in eYRC 2019-20)

Future Work

1. Platform for Embedded Systems Course (CS-684)
2. Platform for training faculties in TechQuip programme
3. For projects in 380 e-Yantra labs
4. Robotic platform based on the dev-board
5. ARM architecture based dev-board



Motivation

Teaching IoT
Precision farming
Scalable IoT Platform
Low cost dev-board