Please provide the link to access your supporting document.(For more details, https://www.wikihow.com/Make-a-Google-Doc-Public). The supporting document needs to be a **single** document in pdf format in the following order for idea

1. Idea Introduction

2. Block Diagram

3. Hardware details

4. Process flow chart

5. Any other additional details

6. Approx Bill of Material (BOM) (Optional)

7. Authorization Letter from institute o(Format can be downloaded from https://community.arm.com/designing-and-modelling-of-iot-ai-ml-systems/p/the-inventors-challenge ----> Idea Submission)

1. Idea Introduction:

Estimation of the fish growth is manual and there is no connection between the fish growth and fish feed. As per the fish feed, the farmer would like to know the size of the fish he can produce. Our technique describes the fish size. For estimation of fish growth, we will create different data sets of fish with variable sizes. By using the CNN algorithm we shall train the data sets and the output is sent to the camera. Thus Fish growth can be detected.A similar procedure is done for fish health to detect any skin color changes and the prediction of diseases in fish.

2. Block Diagram:

3. Hardware details:
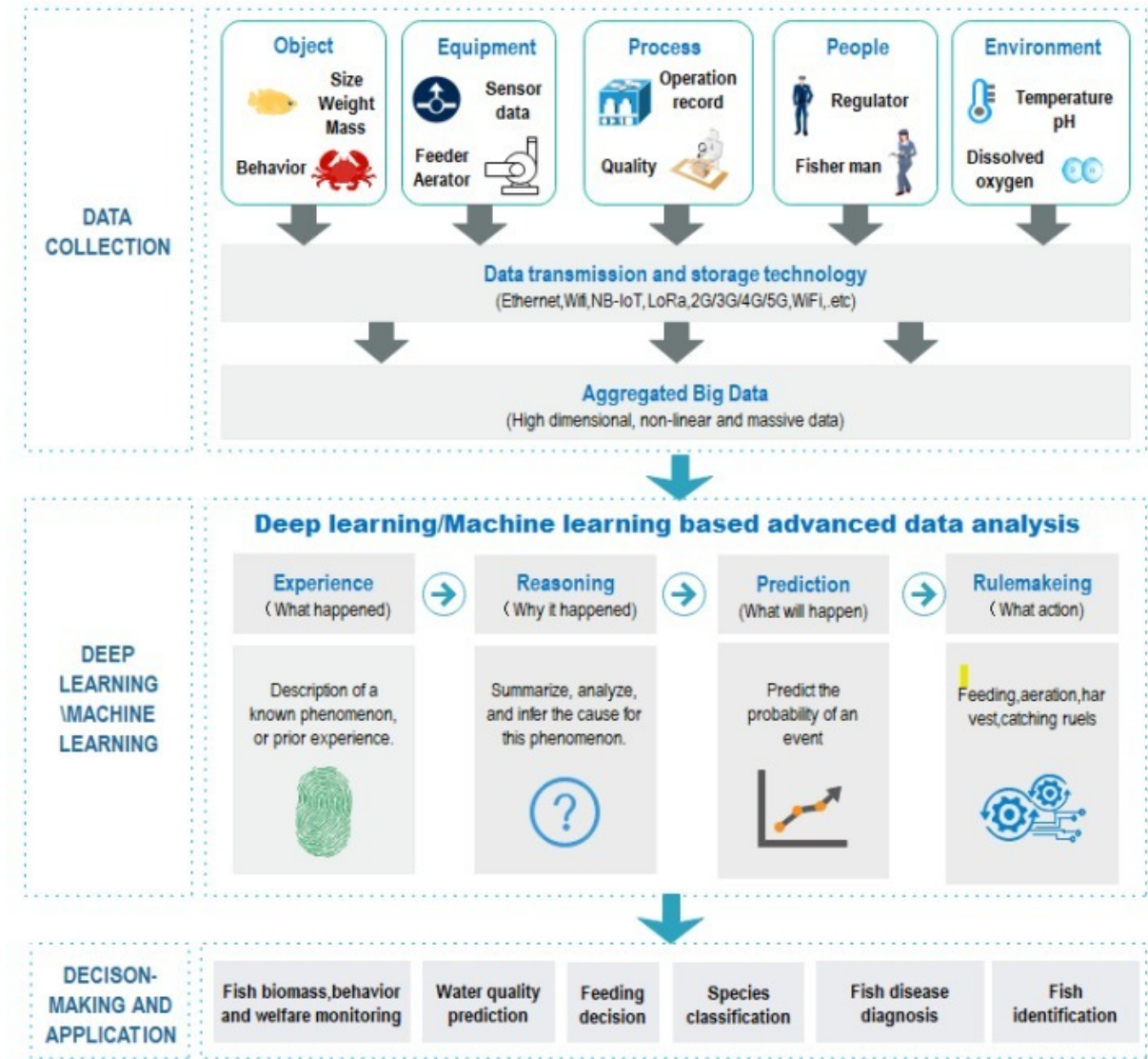
Microcontroller Board:-

STM32H747I-DISCO,

Camera Module:-

B-CAMS-OMV,

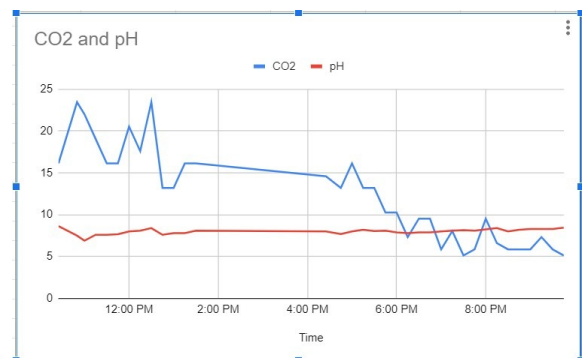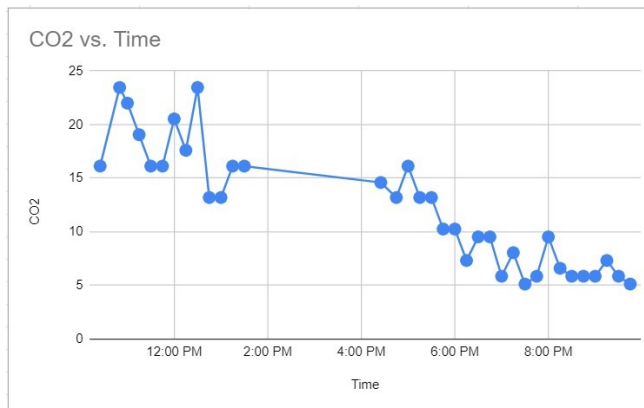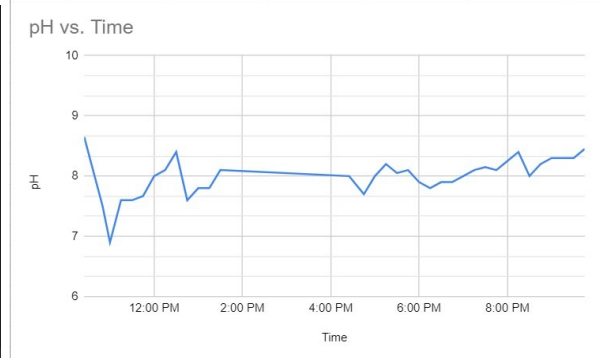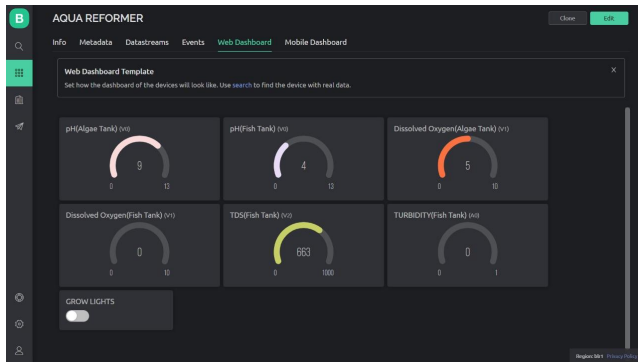Connectivity Board :

(ESP_X_BOARD   X-Nucleo-BNRG2A1)   *2

Sensor Board (Any One):-

X-NUCLEO-IKS02A1

4. Process Flow Chart:

DATA COLLECTION

Object	Equipment	Process	People	Environment
Size Weight Mass	Sensor data	Operation record	Regulator	Temperature pH
Behavior	Feeder Aerator	Quality	Fisher man	Dissolved oxygen

Data transmission and storage technology
(Ethernet,Wifi,NB-IoT,LoRa,2G/3G/4G/5G,WiFi,.etc)

Aggregated Big Data
(High dimensional, non-linear and massive data)

DEEP LEARNING \MACHINE LEARNING

Deep learning/Machine learning based advanced data analysis

Experience (What happened)	Reasoning (Why it happened)	Prediction (What will happen)	Rulemakeing (What action)
Description of a known phenomenon, or prior experience.	Summarize, analyze, and infer the cause for this phenomenon.	Predict the probability of an event	Feeding,aeration,harvest,catching ruels

DECISON-MAKING AND APPLICATION

Fish biomass,behavior and welfare monitoring	Water quality prediction	Feeding decision	Species classification	Fish disease diagnosis	Fish identification

5. Any other Additional Details:

6. Approx Bill of Material (BOM) (Optional):

7. Authorization Letter from the Institute:

Authorization letter for participation in "The Inventors Challenge 2022"

(To be obtained in Institute letter head from any of the institute authorities-
HoD/Principal/Dean/Director)

To whom so ever it may concern

Subject: Authorization of Participants for "The Inventors Challenge 2022" jointly organized by All India
Council for Technical Education (AICTE), Arm Education and ST Microelectronics.

I hereby certify/authorize that the below listed faculty and students are enrolled in
Hyderabad institute of technology and management.

Name of the Faculty	Designation	E-mail	Department
Dr. P. Padmaja	Professor	Podmajap.cse @hitam.org	CSE

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2. K. Supriya	Btech	2-2	20c51a0539@hitam.org	CSE
3. Sainath Reddy	Btech	2-2	20c51a0541@hitam.org	CSE
4. G. Yuvaraj	Btech	2-2	yuvaraj.g@kephiinnovations.com	CSM

Name of the idea: Fish growth and health prediction using ML and IOT.

Abstract of the Idea:

K.S. Prasad.

~~HoD/Principal/Dean/Director~~

Assistant Director Dom

HoD/Principal/Dean/Director   Engg

Institute Seal

Date: 22/08/2022

Name: L. Geethika

Signature: L. Geethika.