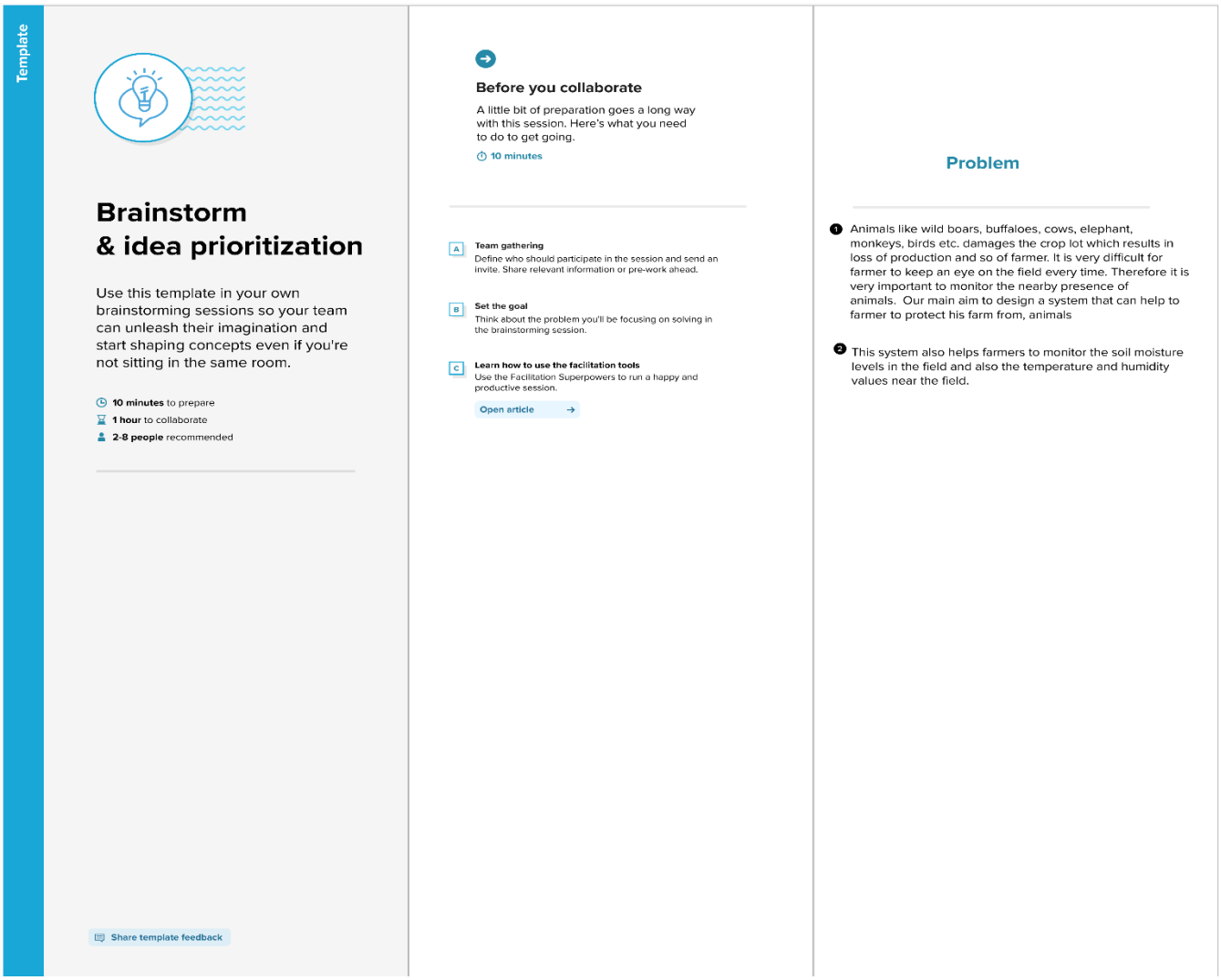
IDEATION PHASE
BRAINSTORM

DATE	16 OCTOBER 2022
TEAM ID	PNT2022TMID14113
PROJECT NAME	IOT-BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE
MAXIMUM MARKS	4 MARKS

https://app.mural.co/invitation/mural/ibmteam6597/1666073909760?sender=uc1b75701e93438003d944244&key=619d40a4-c9db-43a2-ae8c-b712be92e639

Step-1: Team Gathering, Collaboration and Select the Problem Statement



Step-2: Brainstorm, Idea Listing, and Grouping

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Brainstorm

M.GOKULAKANNAN

The speakers will be given the prerecorded audio input,which will give different kinds of sounds that can scare the bird and prevent the crop.it can also be accessed and turned off when not needed

the prpposed system uses a Raspberry pi board and the different sensors and cameras are interfaced with the puppet.As soon as the PIR sensors go High on detecting motion within a range of 10 meters,the camera will be turned ON which the first captures an image and then starts recording the video for about five to six minutes.

The crop field protection from the intrusion of animals using wireless technology which protect the crop from damage caused by animals and birds as well as divert the animal without any harm. the animal detection system is designed to detect the presnce to detect the presence of animals and offer a warning.

The APR board generate harsh sound to divert the path of ani8mlas.Due to this harsh sound animal will divert their path.The message and call will be given to the farm owner

P.PARTHASARATHI

The camera used in the ov7670 model which will take the picture of the intruder.once the movement is detected,the buzzers are activated.then the picture will be sent to the registered mobile number of the owner using GSm and the access is controlled

The picture which will be stored on boardas well as cloud, simultaneously a message will be generayed automatically to the registered number using SIM900A modulle to inform about the intrction along with the details of the temperature and humidity obtained by inteerfacing the dht11 temperature and humidity sensor

it includes the various sensors connected to the ardunio board such as motion sensor,ultrasonic sensor,LDR,etc and other components are APR board,L.C.D,DC motor,etc. when any animal tries to enter the farm then the ultasonic sensor detects the presence of the animal and sends a signal to the arduino board

In the message,there is a facility that,shows the direction of the intruded i.e.Animal is jus entered from the left side.also,if any animal tries to enter the farm then an electric fence is provided which will give a small amount of shock that will not cause any server harm to the animal.

T.SUNIL RAJ

once the sensor gets adapted to the surrounding,then any variation in the level of infrared radiations shall trigger thePIR sensor.

if the motion detection is due to an authorized person with a valid RFID,who is mostly a farm worker,his attendance gets recorded automatically.

then the agriculture sling starts to rotate to divert the path of birds.also there is a light facility at night time. when the resistance of LDR decreses then the flashlight will be turned on.due to the high intensity of light animals will not try to enter the farm at night time too.

the intension is only to divert the animals'path. similar when birds try to enter the farm then the motion sensor sense the presence of birds and gives a signal to the ardunio board

R.S.SRIDHARAN

The Ardunio uno also known as the ATmega 328p is an 8-bit RISC architeture microcontroller.Ardunio Uno is amain component of the system.other components which are important part of the system are PIR and ultrasonic sensors,a camera,GSM module,buzzers,and the speaker

the camera used in the system is the OV7670 model which will take the picture of the intruder

whereas if the motion detection is due to that of an unauthorized person without a valid RFID tag,the system further processes the image and video using Haar feature-based cascade classifiers for object detection,and decides if the entity is an animal or human intruder

A microcontroller (Ardunio UNO)is used for reading the inputs from PIR,a soil Moisture sensor .the GSM module is used for sending SMS to the farmer when movement is detected.

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Group ideas

IOT SYSTEM

The PIR sensors go high on detecting motion within a range of 10 meters, the camera will be turned ON which first captures an image and then starts recording the video for about five to six minutes.

Once the sensor gets adapted to the surroundings,Then any variation in the level of infrared radiations shall trigger the PIR sensor. camera used in the system is the OV7670 model which take the picture pf the intruder

the proposed system uses a rasberry pi board and the different sensors and cameras are interface with the puppet.

DETECTION AND SOUND

The camera used in the system is the OV7670 model which will take the picture of the intruder. once the movement is detected ,the buzzers are activated.

The speaker will be given the prerecorded audio input,which will give different kinds of sounds continuously that can scare the birds and prevent the crops. it can also be accessed and turned off when not needed.

The APR board generate harsh sound to divert the path animals.Due to this harsh sound animal will sound animal will divert their path.

INTRUDER'S ALERTY

in the message ,there is a facility that,shows the direction of the intruded i.e.'animal is just entered from the left side.Also ,if any animal tries to enter the farm then an electric fence is provided which will give a small amount of shock that will not cause any severe harm to the animal

Due to this harsh sound animal will divert their path the message and call will be given to the farm owner.

Once the movement is detected ,the buzzzers are activated.Then the picture will be sent to the registered mobile number of the owner using GSm and the access is controlled.

Step-3: Idea Prioritization

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Prioritize