

# INTELLIGENT ATTENDANCE SYSTEM

**Ministry Name : Ministry of Rural  
Development**

**Problem Statement : MK203**

**Team Name : Dev\_Warriors**

**College Code : 3124**



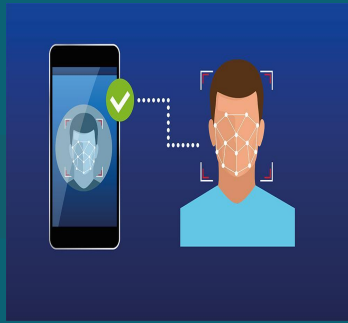
# SOLUTION

Our solution comprises of an INTELLIGENT ATTENDANCE SYSTEM for combating fraudulent activities in the MGNREGA scheme.

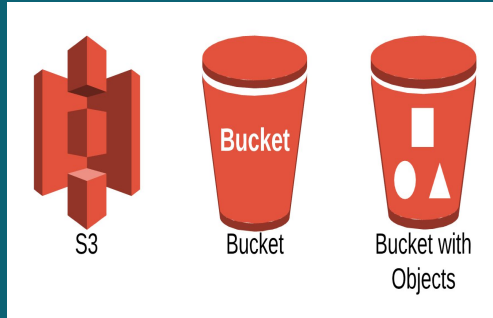
During the registration process, the image of the worker is captured and then with the help of AWS REKOGNITION API we are going to mark the attendance.

So for this we are accessing the official library of AWS which is the Boto3 and we will be passing the image in the S3 container and then we verify the image captured in the workplace with the worker's image in the S3 container,if matched the attendance is marked.

Later after 100 days of work is completed we are going to store the images in the S3 Glacier Deep Archive and can be retrieved when necessary.



The image of the worker is captured during the registration process and while taking attendance.

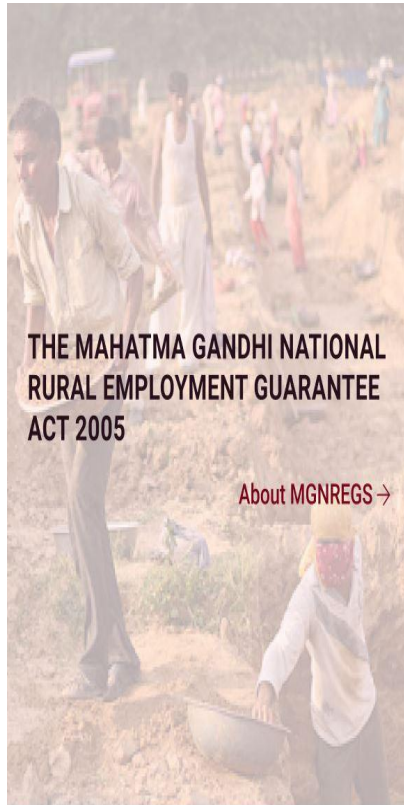


The image captured is made to store in Amazon S3 container for the entire 100 days of work.



After 100 days the images are transferred to S3 Glacier Deep Archive and remain in the archive for 365 days.

# Worker Login and Registration



## Login

User ID

Password

[Forgot Password ?](#)

Login

Login worker

Login gov

Register as Worker



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Ministry Of Rural Development, Government Of India



General Information

Contact Information

Face Data

Password

Mobile Number

Email ID

Flat no , Street Name

State

Select State

District

Select District

Panchayat  
Union

Select PU


Panchayat


Select Panchayat

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# Upload Worker Image to Amazon S3





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General Information

Contact Information

Face Data


Password

Make Sure all parts of your face aren't covered by objects and are clearly visible. Your face should be well-lit as well.







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# Project Details




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Panchayat : Tambaram

Search 

Ongoing Projects

Upcoming Projects

**Formation of new pond**

0/500

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris at semper quam, eget tristique quam. Quisque vestibulum nibh sit amet purus

22 May 2020 - 31 Dec 2020

Sholinganallur

**Renovation of existing Ponds**

100/100

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22 Jun 2020 - 12 Nov 2020

Chrompet

**Desilting and strengthening of bunds of irrigation tanks.**

198/200

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22 Jun 2020 - 12 Nov 2020

Medavakkam


**Formation of new roads.**

10/250


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22 Jun 2020 - 12 Nov 2020

Anna Nagar



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## Project Details

Name

Formation of new pond

Location

Sholinganallur

Duration

22 Jun 2020 - 12 Nov 2020

Registered workers

789/800

Salary per Day

Rs . 250

Status


OnGoing

Register


### About the Project

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris at semper quam, eget tristique quam. Quisque vestibulum nibh sit amet purus accumsan, sit amet rutrum odio egestas. Nam id lorem ut est mollis aliquet. Aliquam turpis massa, feugiat vitae faucibus et, tempus scelerisque nisi. Vestibulum et libero sed ante feugiat ornare. Morbi rutrum erat eget magna vulputate vehicula. Donec dictum ligula accumsan augue vestibulum vulputate.

# Worker Attendance



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Formation of new pond Sholinganallur

Date 14 / 07 /2020

Make Sure all parts of your face aren't covered by objects and are clearly visible. Your face should be well-lit as well.




Name


Seetha Raman

Aadhar number

9087 6754 4532



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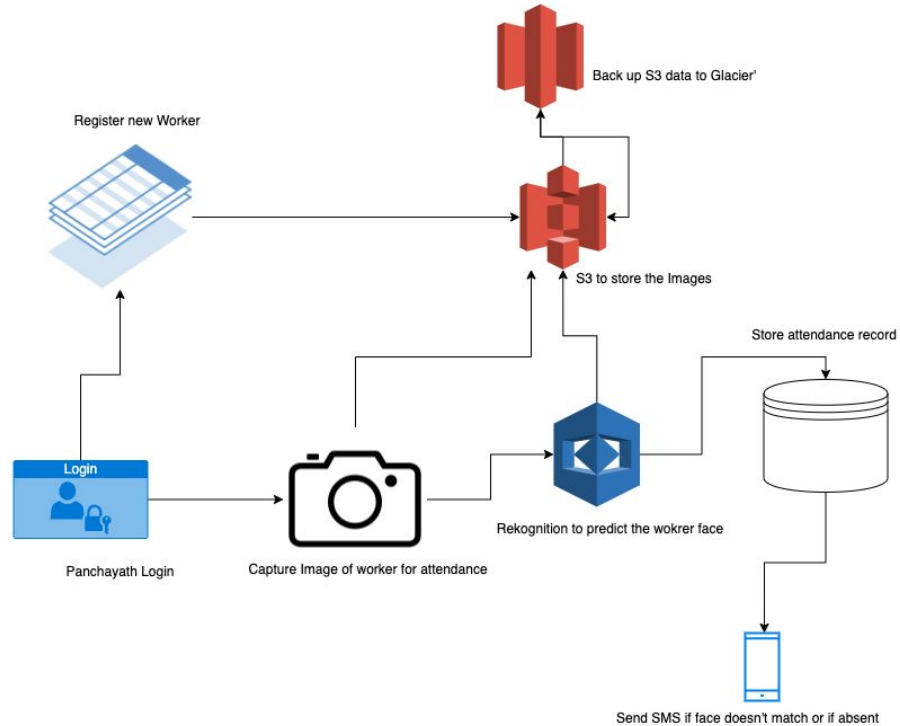
Formation of new pond , Padur

Date

Sl No	Name	Aadhar number	Entry Timestamp	Exit Timestamp
1	Seetha Raman	9012345678	8.00 am	5.00 pm
2	Ramanan	9000345678	8.05 am	5.05 pm
2	Ramanan	9000345678	9.30 am	5.15 pm
2	Ramanan	9000345678	8.10 am	4.55 pm
2	Ramanan	9000345678	7.55 am	5.18 pm
2	Ramanan	9000345678	8.12 am	5.00 pm
2	Ramanan	9000345678	8.17 am	5.09 pm

Mocks: <https://www.figma.com/proto/rc6ML40znYyhUKdpq22eOi/Sih-Final-mock?node-id=107%3A1594&scaling=scale-down>

# Architecture







# Technology Stack

**Front-end:** React Js

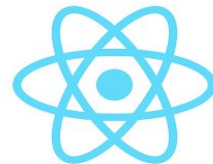
**Back-end:** Django

**Database:** PostgreSQL

**Image Storage:** AWS S3,

**Image Archive:** S3 Glacier Deep Archive

**Facial Recognition:** AWS Rekognition



**django**



Postgre**SQL**



Cost for storing the images in the AWS S3 container

First 50 TB / Month      \$0.023 per GB

S3 Glacier Deep Archive

All Storage / Month      \$0.00099 per GB

No of days	No of workers	Size in KB	Size in Gibibyte	Size in Tebibyte	Cost in Dollars	Cost in INR
1 day	100000	50,00,000	4.656	0.00454	0.3212	22.5
30 days	100000	15,00,00,000	140	0.136	3.22	241.27

**Cost for AWS S3 (100 Days) = Rs.723.81(approx)**

**Cost for Glacier = 140gb \* 9 months \* 0.00099 = \$1.2474 = Rs.873(approx)**

## Advantages of S3

Scalability

Reliable Security

All time availability

Simplicity of Management

Low Relative Cost

## Practical Benefits of AWS

Manipur is the first state government in India to transition its IT services to the cloud. The DIT's capital and operating expenses have been drastically reduced when compared to the on-premises data center costs. The DIT has experienced other benefits as well. **“Provisioning servers in the cloud is far easier than deploying a server in an on-premises data center. This migration has saved us time as well as costs,”**

### Benefits of Amazon S3 & Amazon Glacier



Durable, Available, and Scalable



Security and Compliance



Query In Place



Flexible Management



Ecosystem

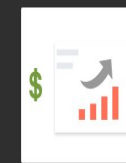
aws re:Invent

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aws

### Cloud Cost Optimization

Regular Cloud Bill

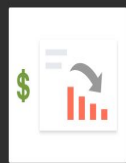


Right Sizing

Reserved Instances

Storage

Reduced Cloud Bill





# Future

## Human Resource Requirement Prediction Scope

The human resource requirement to complete a task issued by Gram Panchayat is determined using the Multiple Linear Regression Algorithm.

The work area dimensions and the allotted time frame for completion are taken as input parameters to calculate the number of workers required to complete the job.

The details of the required number of workers are fetched from the database.



# Future

## Work Progress Verification Scope

Images of the work site are captured periodically and are compared using Image Comparison to verify the amount of work completed by the workers.

Linear Regression is used to cross-check whether the predicted number of workers was sufficient to complete the work.

An analysis report will then be generated and automatically sent to the Panchayat for review.