

Smart Lightning Prediction and Alert System

Theme- Environmental Challenge.

Team Name: Dexterous Squad.

Member Details:

Member 1- Ankit Pandey

Member 2- Archana Prajapati

Member 3- Amrit Chandra Kumar

Member 4- Swati Kumari Gupta

PROBLEM STATEMENT :

01

Lightning accounts for most of the casualties caused by natural calamities as claimed by IMD statistical data-
death
rate: 0.25 per million
population per year in
India. (1979-2021).

02

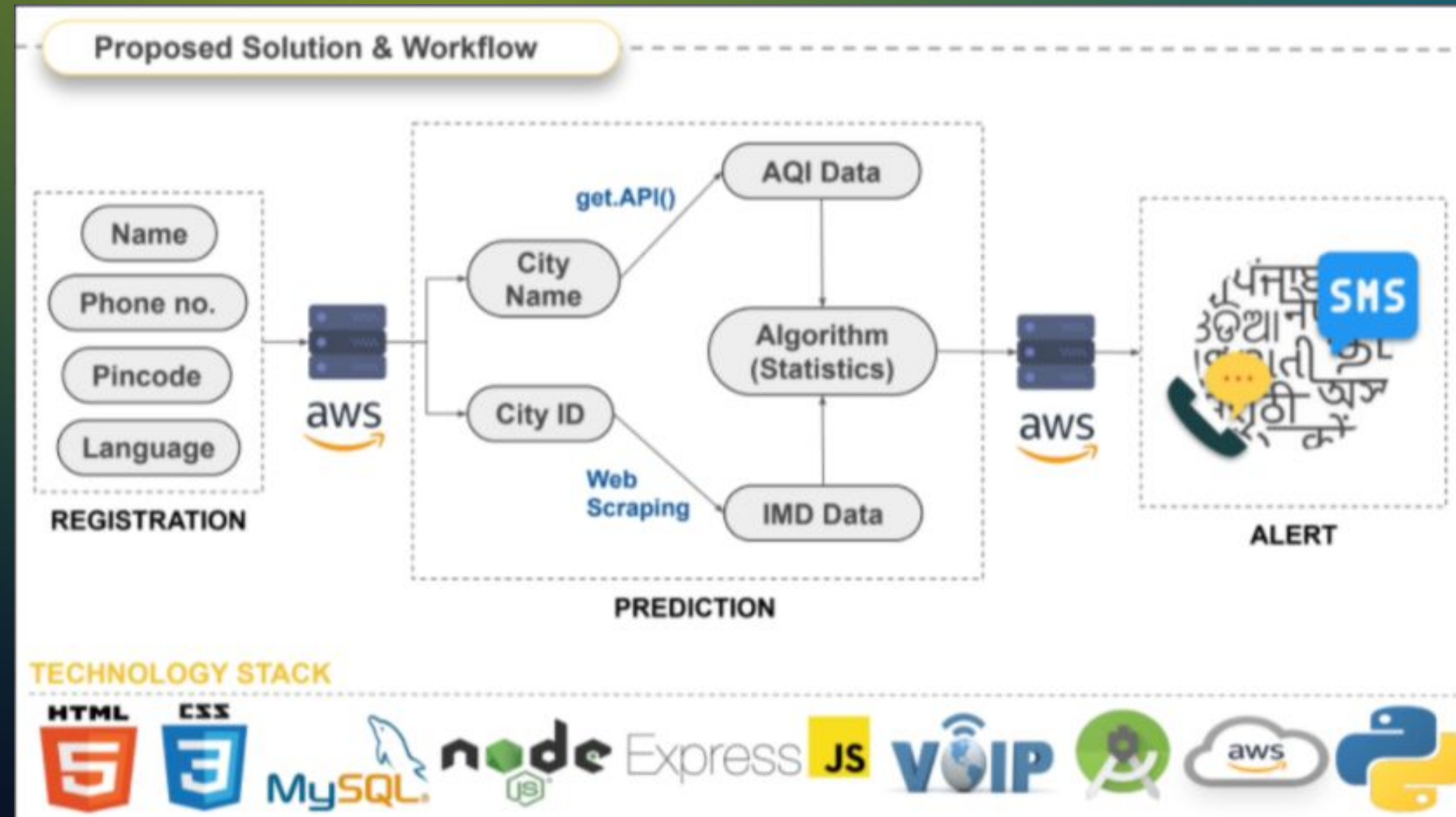
People who use smartphones benefit from Damini(made by IITM) but our target audience i.e the farmers who work on the field are unable to use Damini or other such services, making them prone to danger.

03

According to recent data, we can say that the mortality rate of farmers has increased in recent years due to lightning, so farmers are at higher risk.

WORKFLOW

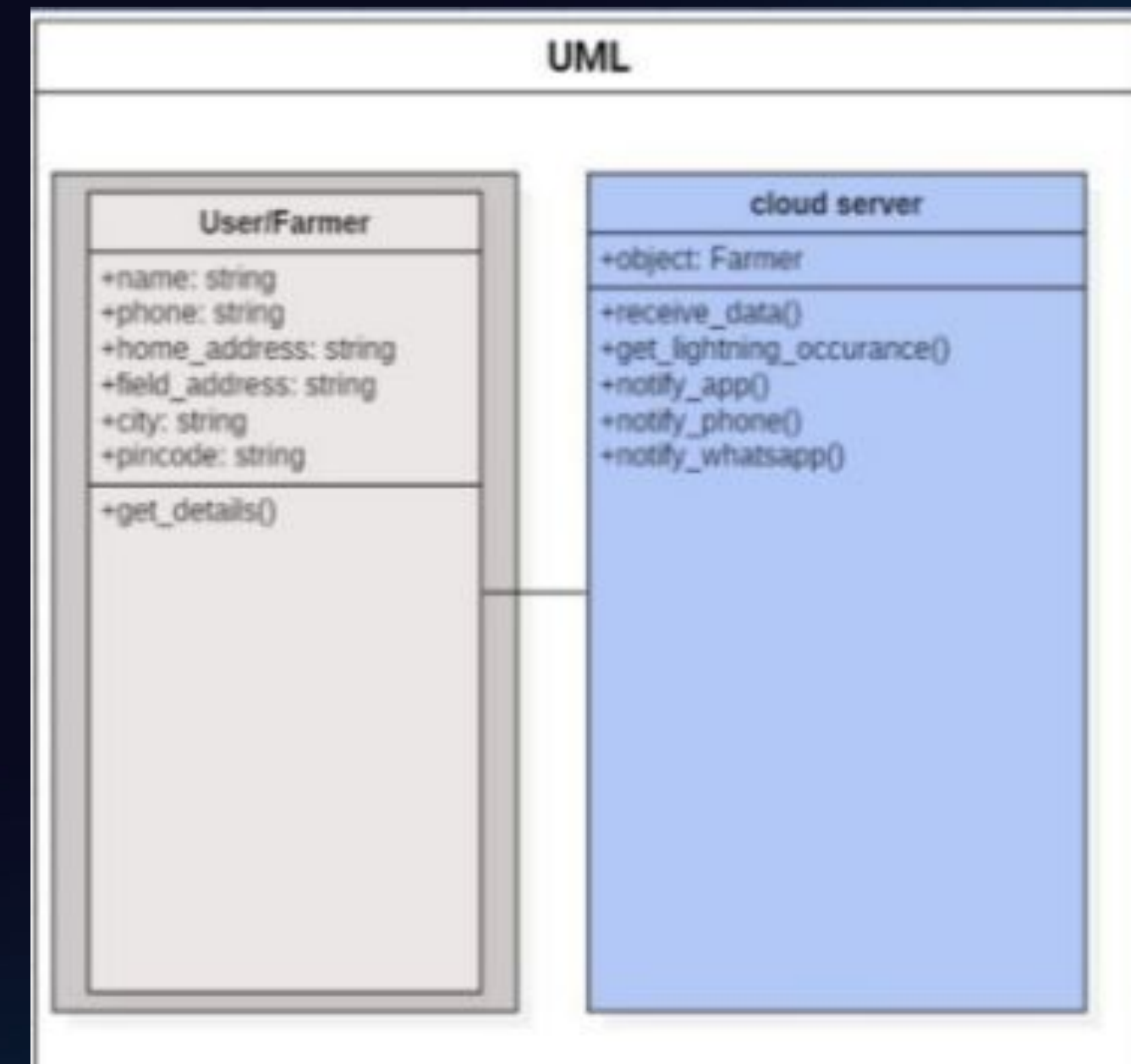
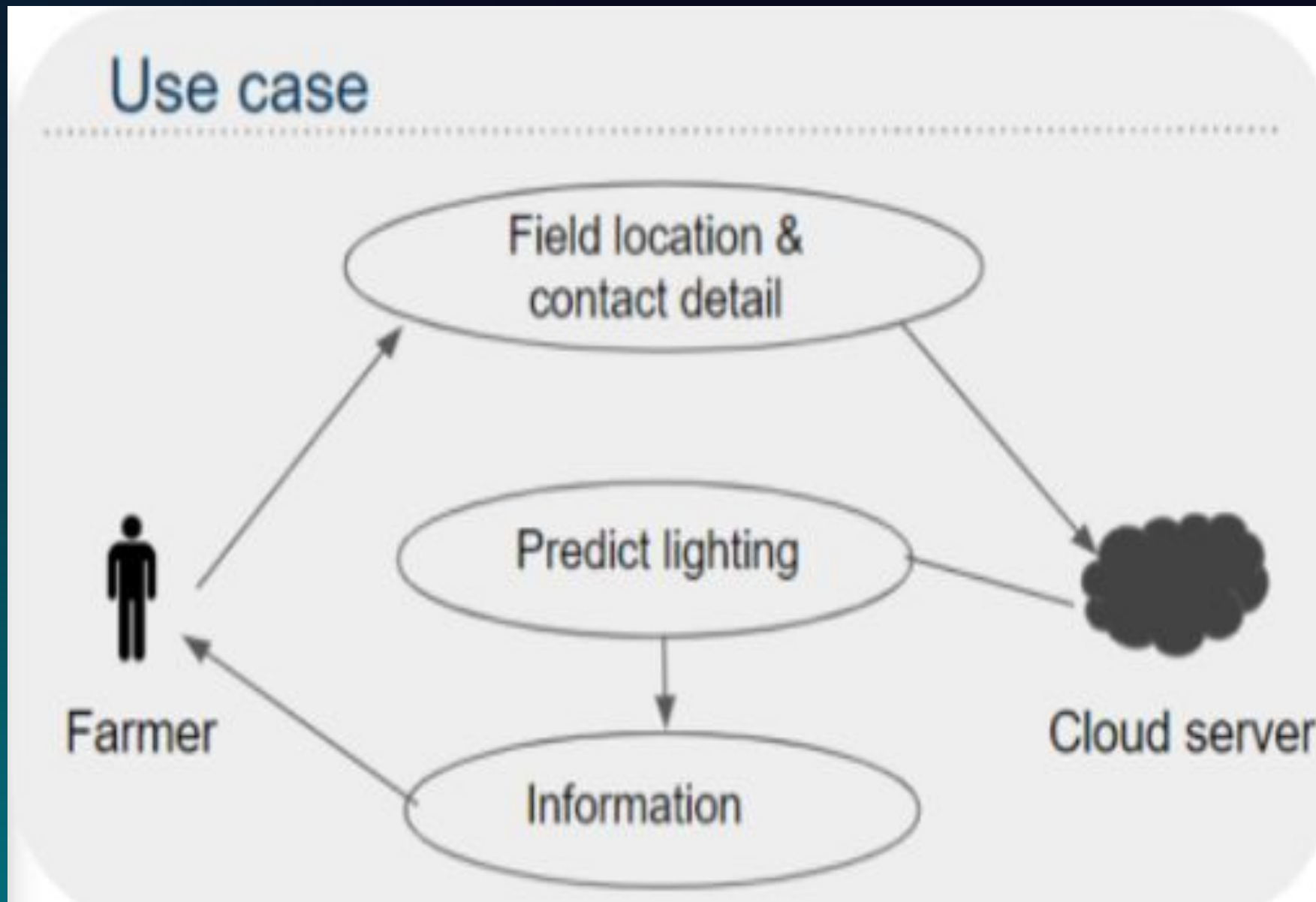
1. We use live doppler radar and satellite data published by Indian Meteorological Department and then combine it statistically with Air Quality Index data of that area and come up with a joint probability.



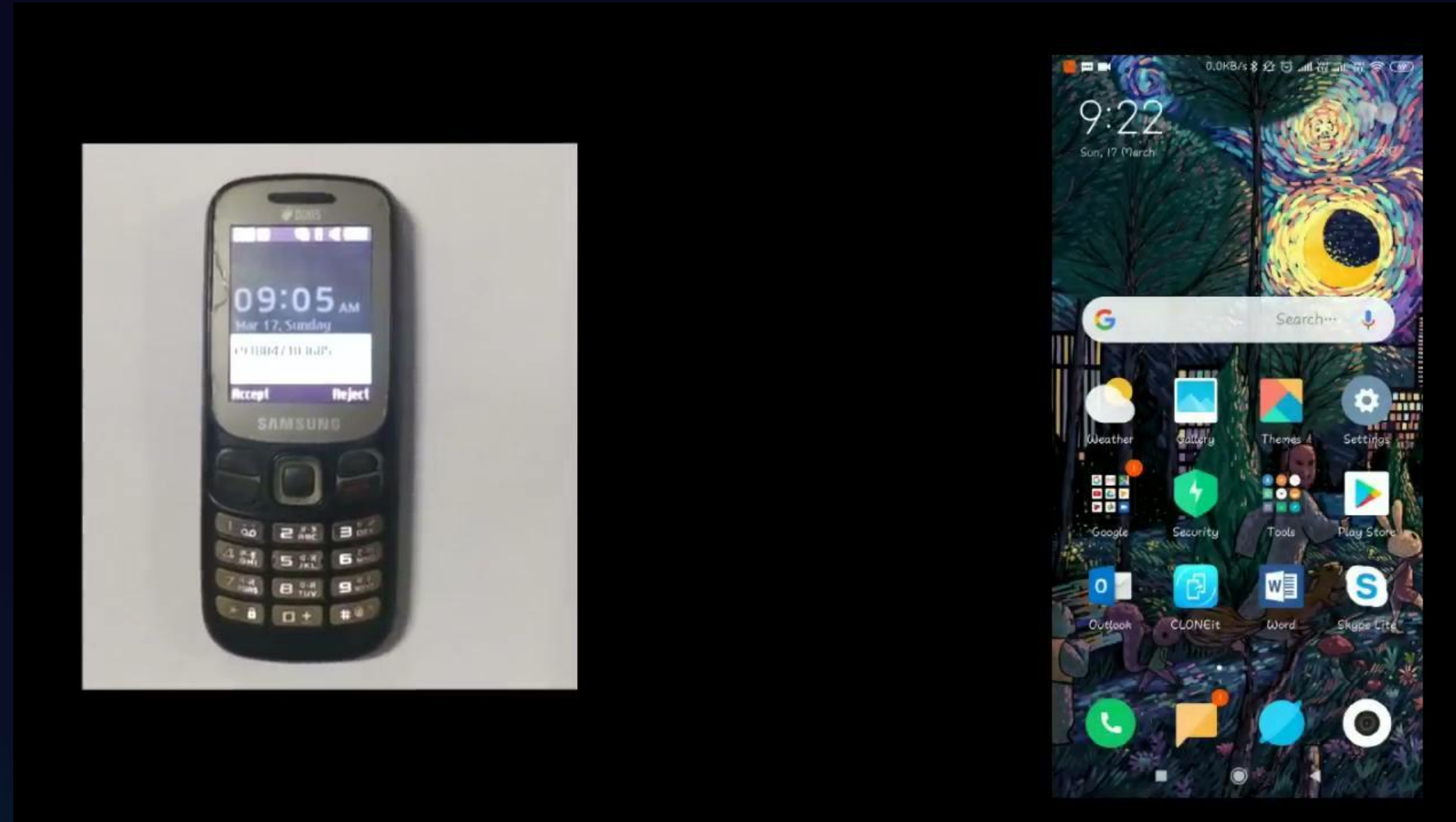
2. This joint probability is then compared with a threshold value. On the basis of this comparison we predict the occurrence of lightning.

3. The threshold value is decided through applying Machine Learning technique. The solution improves the accuracy of lightning prediction compared to existing systems.

METHODOLOGY



WORKING PROTOTYPE



https://drive.google.com/drive/folders/1_yztwLdDDqCUR

[O8WwpduQaQ_3DGETVgm](https://drive.google.com/drive/folders/1_yztwLdDDqCUR) (DEMO VIDEO)

SOURCE CODE- https://github.com/ANKITSPANDEY/dexterous_squad

<https://drive.google.com/file/d/13mCli8mstVy2JaoC7MkIMUsnD/EzKmrXW/view?usp=sharing>

ATTACHMENTS

FOR SMARTPHONE USERS

12:16 PM 0.9KB/s

Enter the following details

Name
Kirath Kanak

Phone
9504296763

Pincode
800020

→



12:15 PM 2.9KB/s

Select language

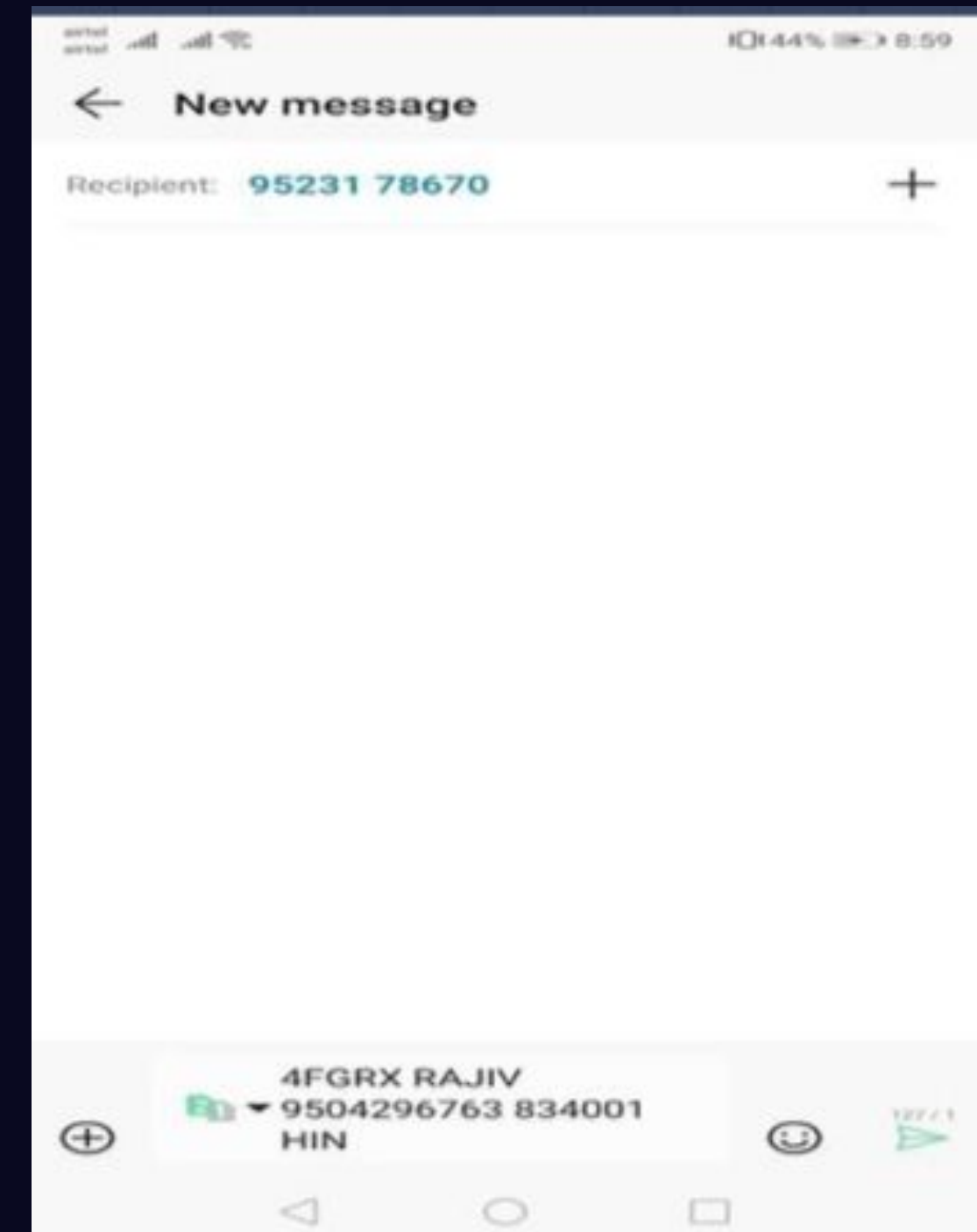
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☐ Hindi
☐ Bengali
☐ Tamil
☐ Gujarati
☐ Telegu
☐ Kannada
☐ Urdu

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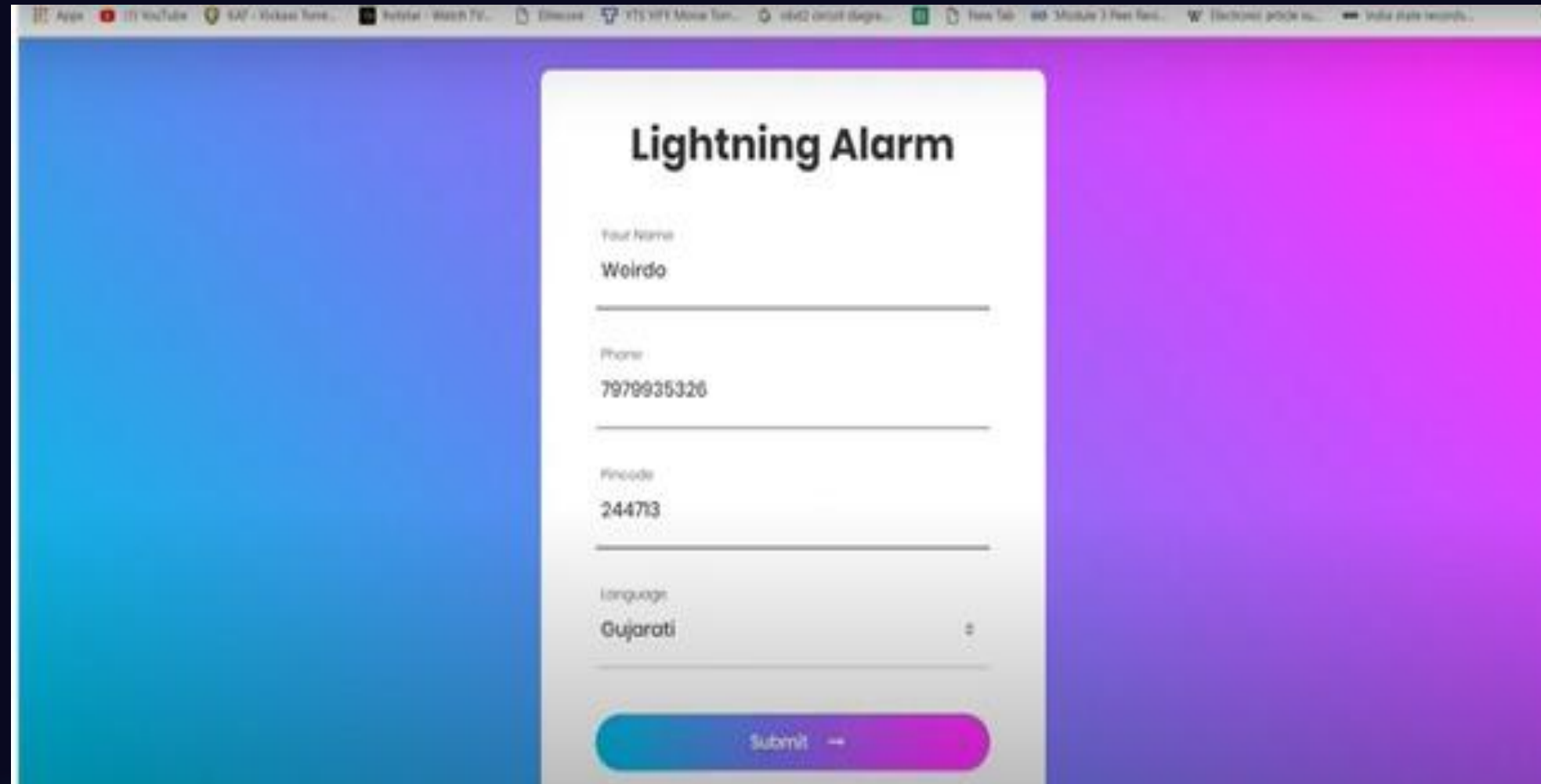
FOR NON SMARTPHONE USERS

E.g. 4FGRX Rajiv 9504296763 8340001 HIN

- 4FGRX is the code required to be affixed to message for using the free message service.
- Rajiv is the name of the user who wants to register.
- 9504296763 is the mobile no. of the user
- HIN is the type of language that user chose.



FOR WEB USERS



Lightning Alarm

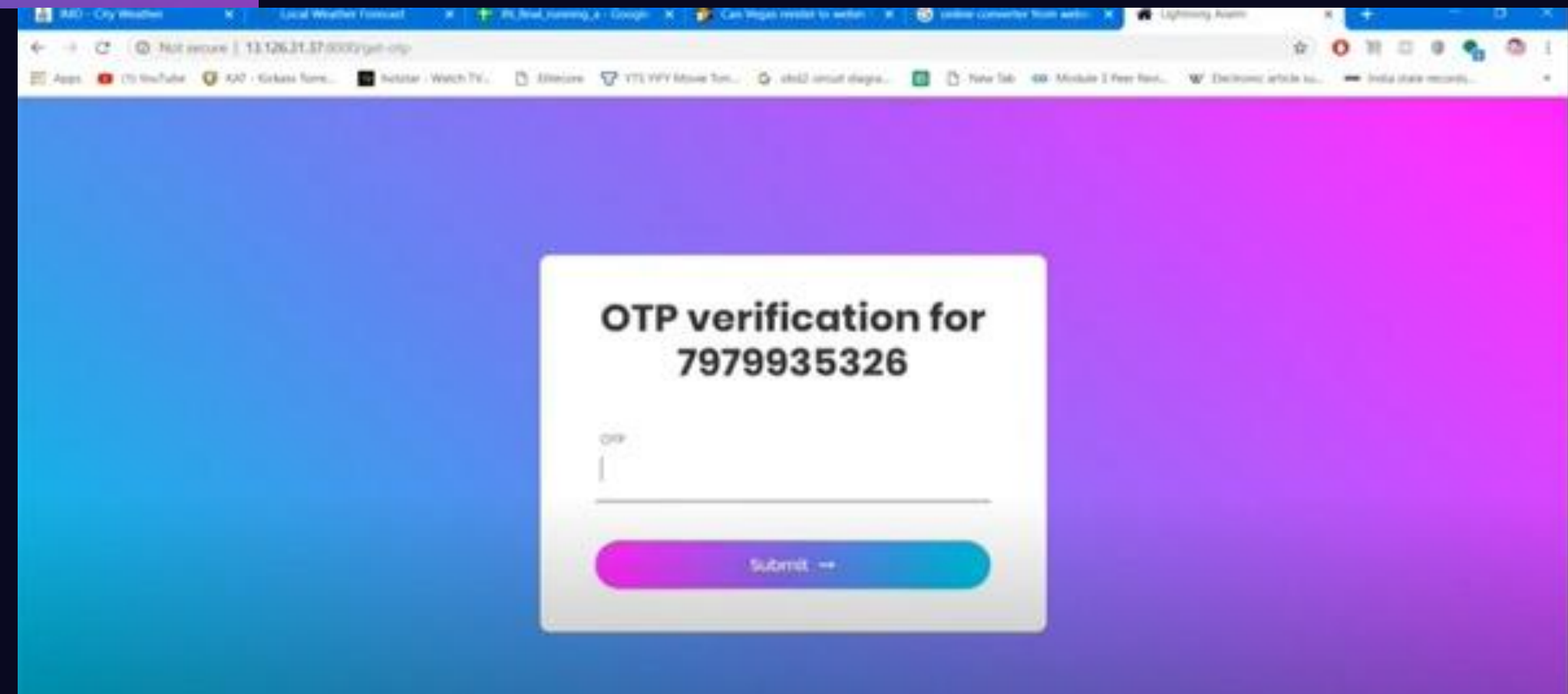
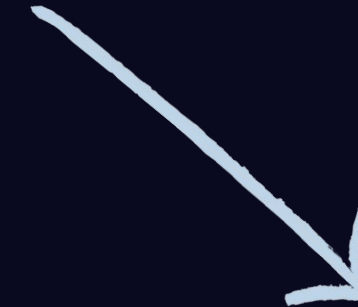
Your Name
Weirdo

Phone
7979935326

Pincode
244713

Language
Gujarati

Submit →



**OTP verification for
7979935326**

OTP
|

Submit →

THANK YOU