RURAL 4G NETWORK (prototype)

Phase 1

1. Components:

- Raspberry Pi
- GSM module

2. E-mail: (ARAVINDA)

- Create an E-mail for the main host “PRIMARY”.
- Create two E-mails for hypothetical bank “BANK” and government scheme “GOVT”.
- Create two E-mails for two users ‘PERSON 1” and “PERSON 2”.
- Create a dummy mails from “BANK” to “PERSON 1” with transaction details and from “GOVT” to “PERSON 2’ with scheme information.
- Activate automatic e-mail forwarding from “PERSON 1” and “PERSON 2” TO “PRIMARY”.
- Create forwarding table “FTABLE” in CSV with information on “PERSON 1” and “PERSON 2” with their mobile number and e-mail ID

3. Data Extraction: (ABHINANDAN, ADITHYA, PANNAGA)

- Use Python to write the source code.
- Use IMAP to create scrape data from “PRIMARY” into JSON file.
- Write script to extract details from the JSON file.
- Use forwarding email-ID info to identify the email and scan through “FTABLE” to find the matching e-mail.
- Scrape the important components of the data and store onto “MESSAGE” string.

4. GSM messaging: (ABHINANDAN, ADITHYA, PANNAGA)

- Attach GSM module to Raspberry Pi with relevant library.
- Use the module to send “MESSAGE” to the phone number in the corresponding row of e-mail ID

5. DTMF: (MAHIMA)

- Configure DTMF with Python
- Return the DTMF tone and perform the corresponding operation.

NOTE: Need to arrive with a mechanism to perform bank services through DTMF such as transaction details, bank balance and if possible transactions. One way is to input receiver number, amount and OTP through DTMF and perform transaction from the server but security issues prevail.