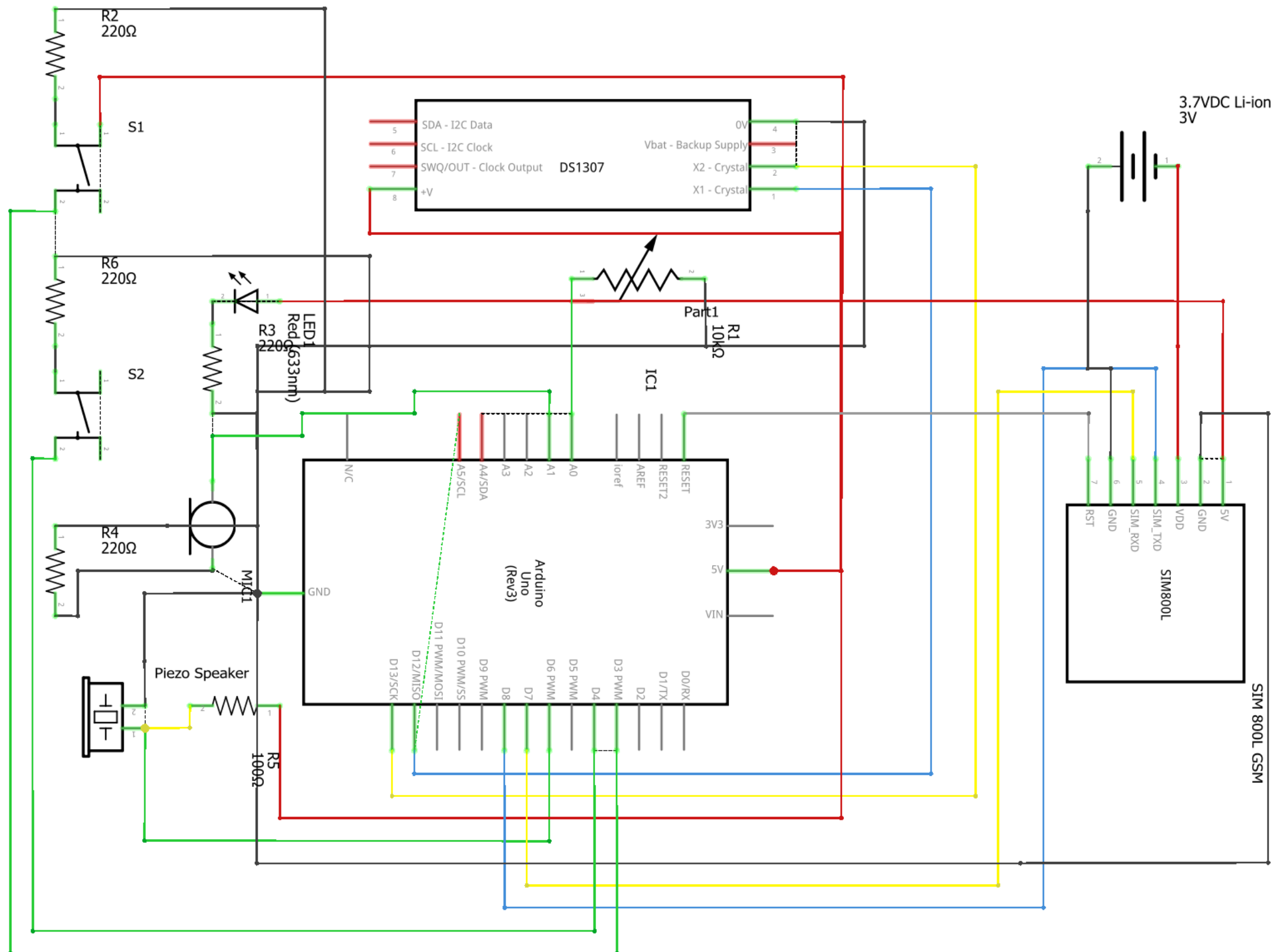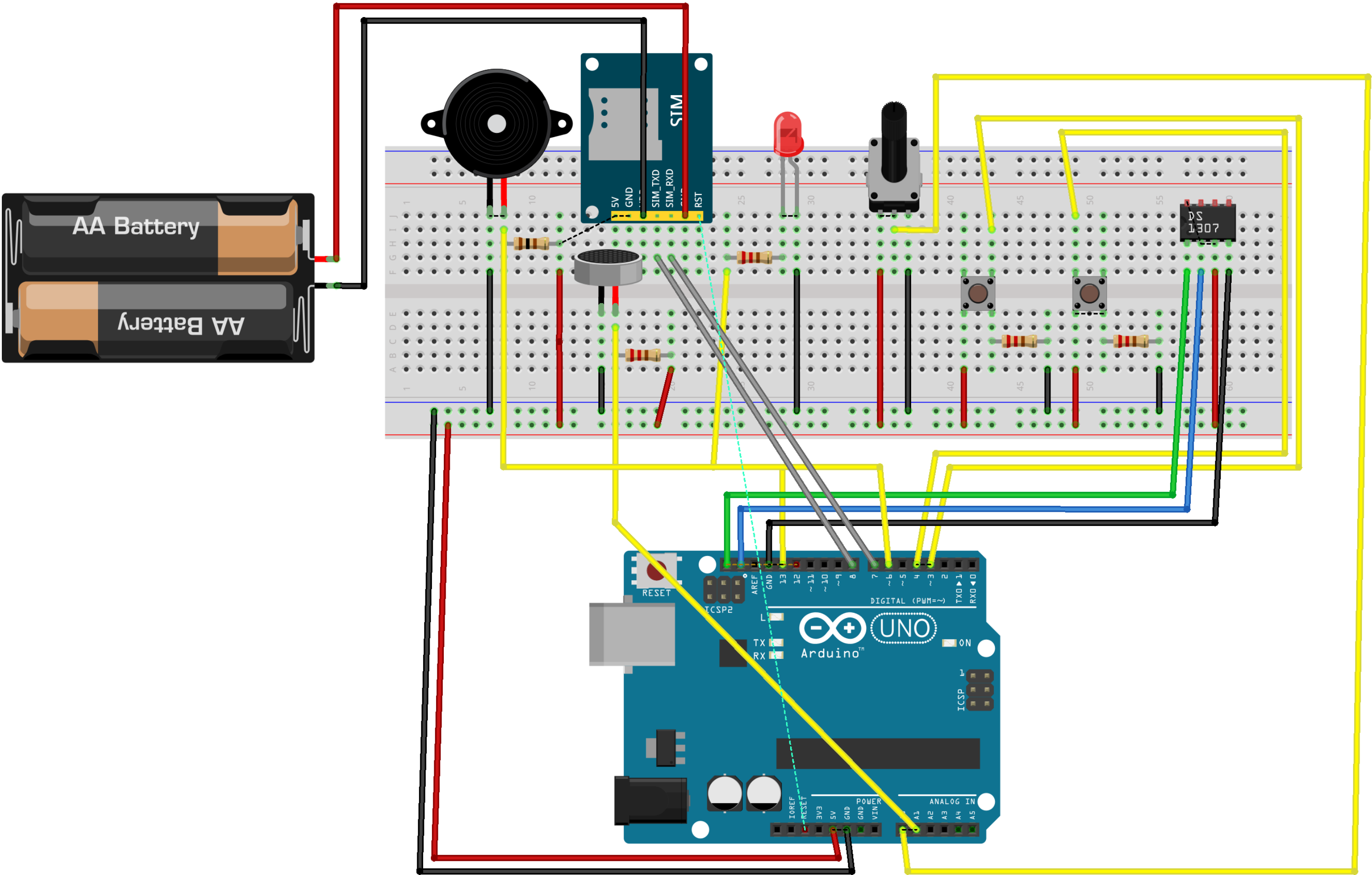# ELECTRONICS

The mobile phone functions on a single looped program based of an ATMega 328 chip. The processor is connected to a SIMCOM 800L SIM module and an SD card reader. Other components include pressure a capacitive touch keypad, 42×18 px Liquid Crystal Display, 3.5mm audio output port, USB-C female port, a microphone, a piezoelectric speaker, 3 separate arrays of LEDs, potentiometer attached to the scroll ring, pushbutton, slider switches, a 3.7V Li-ion battery, a DS1307 crystal oscillator RTC and a bootloader chip all mounted onto a single discontinuous PCB.

BREADBOARD VIEW

BILL OF MATERIALS

Label	Part Type	Properties
3.7VDC Li-ion	Battery	voltage 3.7V
IC1 DS1307	variant DS1307;	package THT
LED1	Red (633nm) LED color	Red (633nm); package 5 mm [THT]; leg yes
MIC1	Microphone	
Processor	ATmega 328	type Arduino UNO (Rev3)
Piezo Speaker	Piezo Speaker	
R1	Rotary Potentiometer (Small)	track Linear; maximum resistance 10kΩ; Rotary Shaft Potentiometer; size Rotary - 9mm THT
R2	220Ω Resistor	resistance 220Ω; bands 4; package THT; pin spacing 400 mil; tolerance ±5%
R3	220Ω Resistor	resistance 220Ω; bands 4; package THT; pin spacing 400 mil; tolerance ±5%
R4	220Ω Resistor	resistance 220Ω; bands 4; package THT; pin spacing 400 mil; tolerance ±5%
R5	100Ω Resistor	resistance 100Ω; bands 4; package THT; pin spacing 400 mil; tolerance ±5%
R6	220Ω Resistor	resistance 220Ω; bands 4; package THT; pin spacing 400 mil; tolerance ±5%
S1	Pushbutton	package [THT]
S2	Pushbutton	package [THT]
SIM 800L GSM	SIM800L pins 7;	variant variant 1; package THT; ; layout Single Row; pin spacing 100mil; editable pin label:false

USER INTERFACE

The user interface is presented on a black and white 42×18 LCD display. Minimal information is displayed so as to avoid any distractions. The default Home Page displays the time, day and date. One can then roll down the navigation ring to get to the Main Pages for Calling, Messaging, Alarms and Music. The functionalities can then be expanded by pressing the 'Yes' button. Sub-functionalities (such as dialler, contacts, logs within Calling) can be explored similarly by using the scroll ring and expanded further using the 'Yes' button. The 'No' button can be pressed to go back to the previous page, or negative actions such as stopping the music, hanging up a call, cancelling messages, deleting contacts, etc.

SYSTEM ARCHITECTURE

Scroll ring two way - up and down

If 'Yes' button pressed, left to right

If 'No' button pressed, right to left or back to main Time page

Idea 2G 6:30pm   NO UNREAD MESSAGES

4:20pm

Wednesday, 6 September 2019

Calls

9420769

Contacts

Almo Haddit +91 9422134988
Bessy Beech =+87 872451153
Desair Alpunce +91 772916149
Devail Heem (Self) +91 6666666669
Don Bodemy +88 6121456912
Ile Stoppnau +90 6159813613

In Call

Hector Bolowski   0:03:29

Logs

+71 6824514872 (2) 6:09pm
Pierce Gutt +71 449123122 4:52pm
+91 9422356091 12:28pm
+91 7788857312 (4) 2:03am - 3:14am
Hecal Oudain Yesterday 11:33 pm
Shelly Piquep 4/9/2019 3:01pm

Messages — 4:20pm

9420769| — 4:20pm

Message: — 4:20pm
Hey! I'm pretty sure I've pulled my spiralling mess of a life back on track. No more smartpho|
To: +91 9420769541 — 81/165

Contacts — 4:20pm
Almo Haddit +91 9422134988
Bessy Beech =+87 872451153
Desair Alpunce +91 772916149
Devail Heem (Self) +91 5555555559
Don Bodemy +88 6121456912
Ile Stoppnau +90 6159813613

Message: — 4:20pm
Hey! I'm pretty sure I've pulled my spiralling mess of a life back on track. No more smartpho|
To: Rene Isharde — 81/165

Inbox — 4:20pm
+71 6824514872 Hello! I am a student of MIT Institute of...
Beth Cheeks Did you manage to get the letters I asked you to a...
+91 9422356091 12:28pm
TT - AXIS Hurry! Now get 2.5% off on your next installme...
IO - IOTSOF Make the most of this monsoon sale between 24...
Lover <3 We're over. You drink too much shampoo. It's revolting!

Lover <3 — 4:20pm
Alright I'll see you then! Good luck on the slides. They seemed quite slippery yesterday. — 3:46pm
We're over. You drink too much shampoo. It's revolting! Honestly, I don't want to be around you at all, unless you're paying for anything. That makes it quite clear. I'm sorry. — 3:51pm

Message: — 4:20pm
Frankly, I find your lack of shampoo ingestion appalling. I agree, we're just not compatible Karen! Do you want to get coffee @ 4? I'm payi|
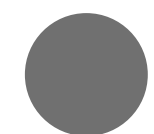To: Lover <3 — 148/165

Sent! — 4:20pm
INR 1.50 deducted from balance. Current balance is INR 41.23.

Alarms

06:25 am

Alarm Saved!

New alarm set for 6:25 am.

Saved

6:05 am
6:15 am
6:30 am

3:13

Landslide
Fleetwood Mac - Deluxe (1975)

Landslide Fleetwood Mac - Deluxe (1975)
Shine On You Crazy Diamond Pink Floyd - Wish You Were...
Saturn Sleeping At Last - Atlas 2 (Space) EP
Puff, the Magic Dragon Peter, Paul and Mary (1981)
Wildfire Seafret - Tell Me Its Real (Deluxe)
Mykonos Fleet Foxes - Sun Giant EP

AaGg

#707070   rainyhearts