

PROJECT REPORT

2015-16

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Grade 12

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TRACK n SECURE

Technology based solution to reduce number of child abductions

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Office of the Commissioner of Police, Thane

Near Kalwa Bridge,
Thane (W) - 400 601
Tel No. 25344499
Email: cp_thane@mahapolice.gov.in

No. TC/Abbn./2016.

Date : 01/10/2016.

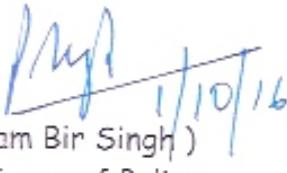
TO WHOMSOEVER IT MAY CONCERN

This is to appreciate the work of Akik Kothekar, Student of Singapore International School. He has developed a Mobile App (TracknSecure) for helping parents to track their children in real time, when they move away from their home.

I think this App will help the Parents and Police to trace the missing children. I recommend the public to use this App. It is available for free on the internet.

The Police department will help to increase awareness of this App.

I wish him all the best and encourage him to continue his work to make our community safer.


1/10/16
(Param Bir Singh)
Commissioner of Police,
Thane.

Free Mobile App To Reduce Number of Child Abductions- Akik Kothekar

Aditi Mishra to me, Prabhat, Savita

4:25 PM

Dear Akik,

At the outset please accept my sincere apologies for the much delayed response. I didn't realise that my response to your e-mail did not get sent and sat in my inbox for several days. I am extremely sorry for that.

I would like to acknowledge that at a young age you have a very benevolent and caring heart. For a child of your age, addressing issues like these speak volumes about you and the way you have been nurtured. You make me believe in the saying that 'child is the future of the nation'. We so desperately need child champions like you who think of the mankind even while they have just stepped into the tough world.

I am marking this mail to my colleague who addresses issues around protection of children. Though, we may not be able to use this software directly, he may be able to suggest ways to do so.

Thank you yet again for your endeavour. I wish you all the successes in life. God bless!

Regards,

Aditi Mishra | **Save the Children** | Senior Manager – Donor Development
National Support Office | Plot no 91, Sector 44, Gurgaon – 122003, Haryana, India.
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From: Akik Kothekar [mailto:akkothekar@gmail.com]
Sent: Thursday, September 15, 2016 11:58 PM
To: Aditi Mishra
Subject: Fwd: Free Mobile App To Reduce Number of Child Abductions- Akik Kothekar

...



TRACK n SECURE

Premise

Every year 40,000 children go missing in India with 11,000 remaining untraced¹. And 800,000 across the world². Almost 50% of such mishaps can be prevented if the whereabouts of the child are known just before the incident. With this location and the time elapsed after the incident has taken place, the police can decide the radius corresponding to the area to be searched in order to retrieve the child. The smaller the area to be searched, the greater are the chances of retrieval. To facilitate the process of location capture, two devices are required, one with the guardian and the other with the child. The devices should have the capability to communicate to a server which acts as an intermediary enabling information exchange and display the location.

A cell phone is a device which is most prevalent among the masses and is capable of performing the tasks mentioned above. Cell phones are further divided into various subgroups on basis of their OS. The OS which currently dominates all its competitors in terms of number of people using it is the Android OS (80% worldwide and 64.32% in India). However, the phones need some technology which makes them initiate and carry out this process and this is where the app (Track n Secure) comes into play. This app is not manufacturer specific and can be downloaded on any phone irrespective of its manufacturer thus overcoming an obstacle- only phones of the same manufacturer can track each other.

As this app was developed for the purpose of community service, it is available as a free download from the play store.

Its uses are, however, not limited to children but also to keep track of other family members who cannot comprehend their surroundings due to some impairment or age.

Although, the initial marketing has started, the challenge lies in making more and more people aware of its presence.

¹ "Child Trafficking in India." Wikipedia. Wikimedia Foundation, n.d. Web. 13 June 2016.

² "How Many People Are Kidnapped Each Day in the US?" - Quora. N.p., n.d. Web. 13 June 2016.



Directions for download and use

Download

The apps can be downloaded for the google play store for free.

Search 'track n secure' or paste the following links in your browser window:

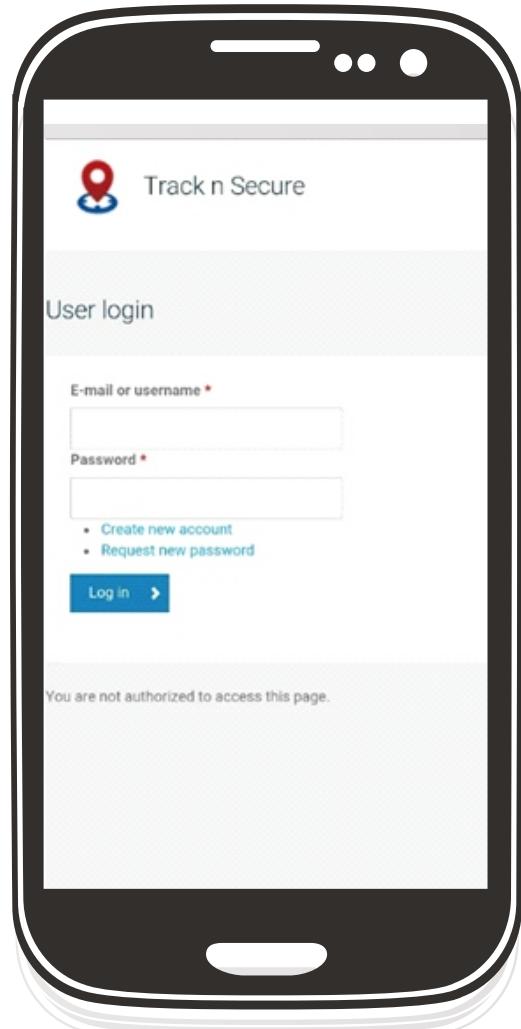
Child app : <https://play.google.com/store/apps/details?id=com.track.secure>.

Parent app : https://play.google.com/store/apps/details?id=com.tns_parents.

How to Use

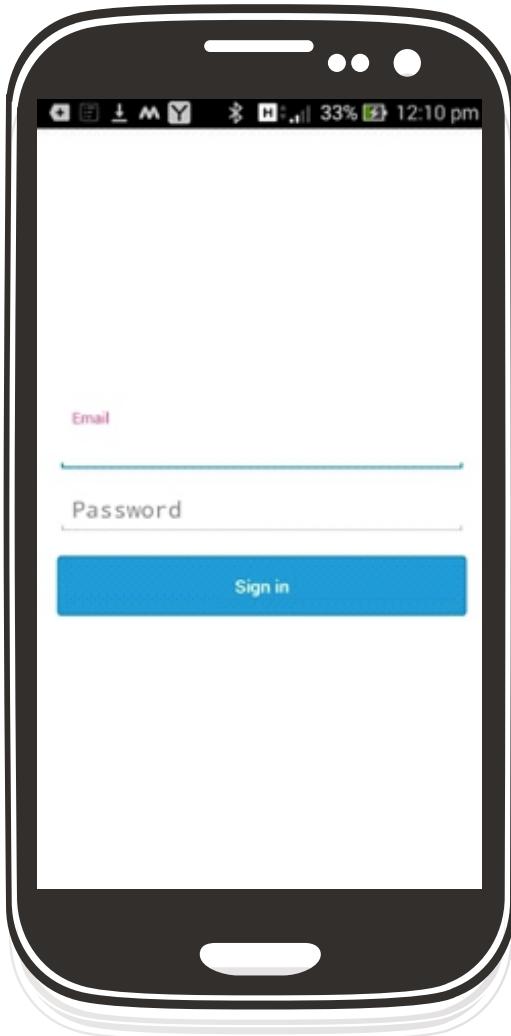
01

Open the parent app and select the create new account option below the password box. Go through the account creation process in order to create your account. Finally, log into your new account.



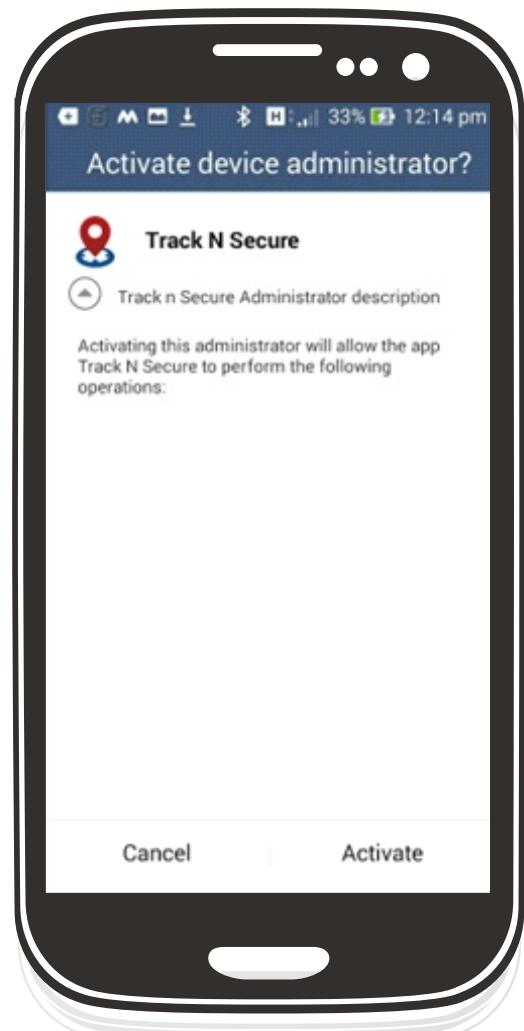
02

Sign in, with the details of the account you just created, on the child app.



03

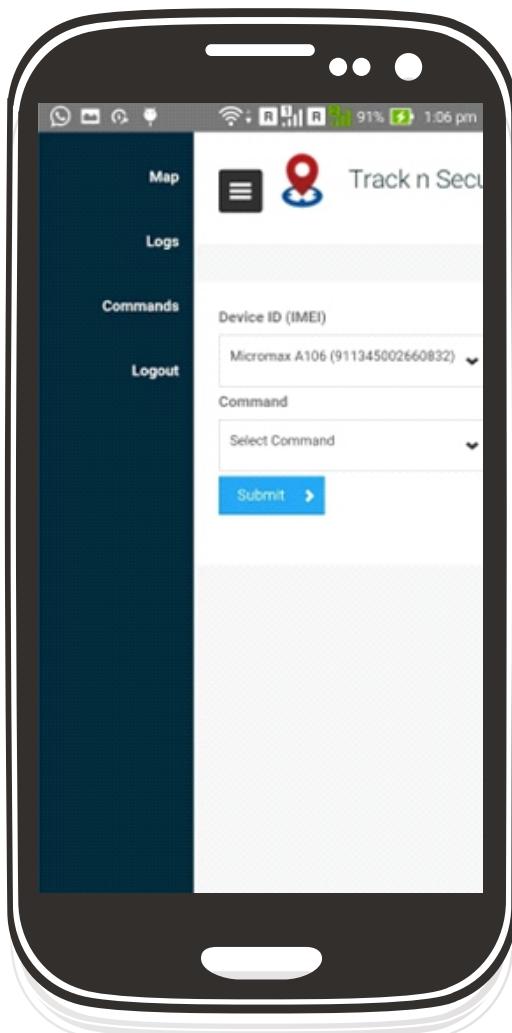
After signing in on the child device/app, you will see this screen. Select 'Activate'. This will prevent deletion of the app without disabling device administrator for the app. The child app is then set up for tracking.





04

The rest of the process involves only the parent app. After logging into your account on the parent app, you will see the adjoining screen. If you don't see this screen select the commands option from the side menu which can be accessed by pressing the button beside the logo.



05

Once you get this screen, select the device you want to track with the device name and its IMEI number. Then, select the frequency option from the 'command' drop down menu. Select the frequency at which you want location updates. Finally, select the 'start' option from the 'command' drop down menu. The tracking of the child device has begun. You can then see the location on a map and in numerical coordinates by selecting the 'Map' and 'Logs' option respectively from the side menu.

06

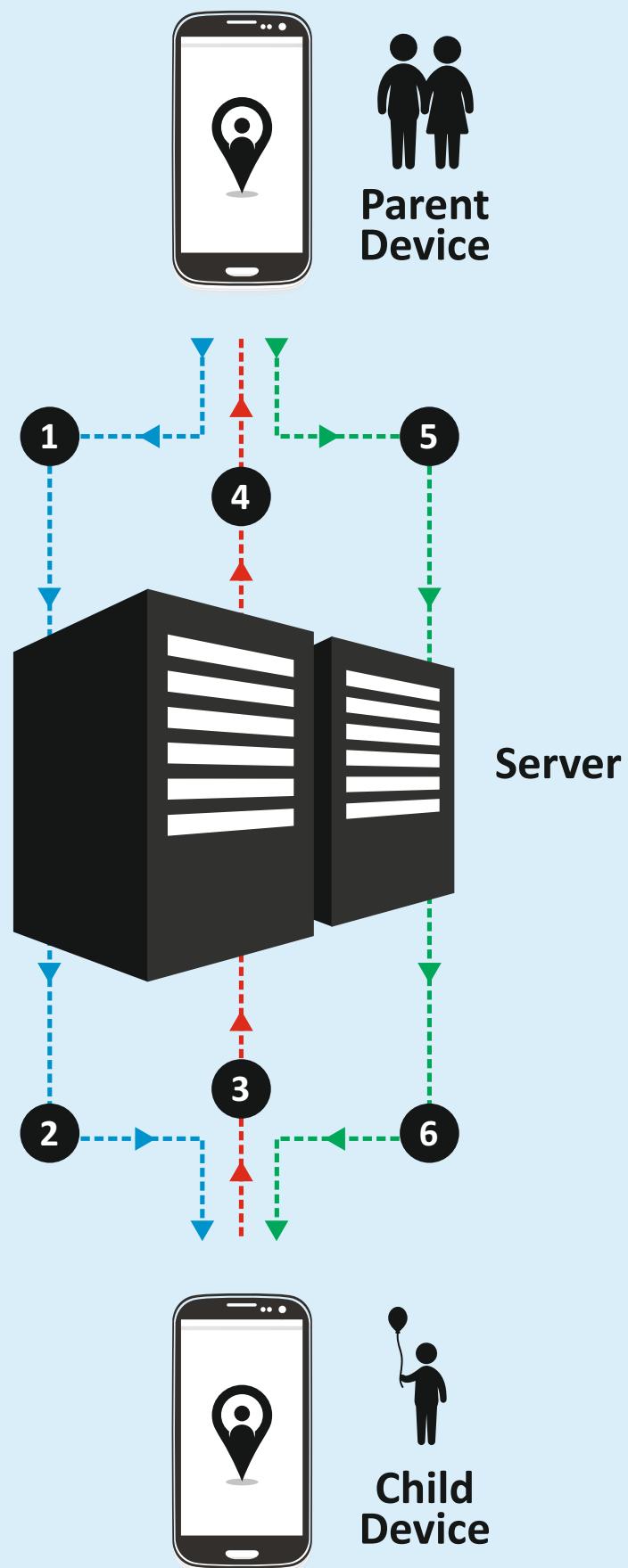
The website (tracknsecure.in) can also be used as a substitute for the parent app. You can track multiple devices using one account but the device to be tracked should have the child app signed in using your account.

08

Akik Kothekar

Data Flow Diagram

- 1 Start Location Capture
- 2 Trigger Location Capture
- 3 Send location at specified intervals
- 4 View Child Location
- 5 Stop Location Capture
- 6 Trigger Stop Location Capture

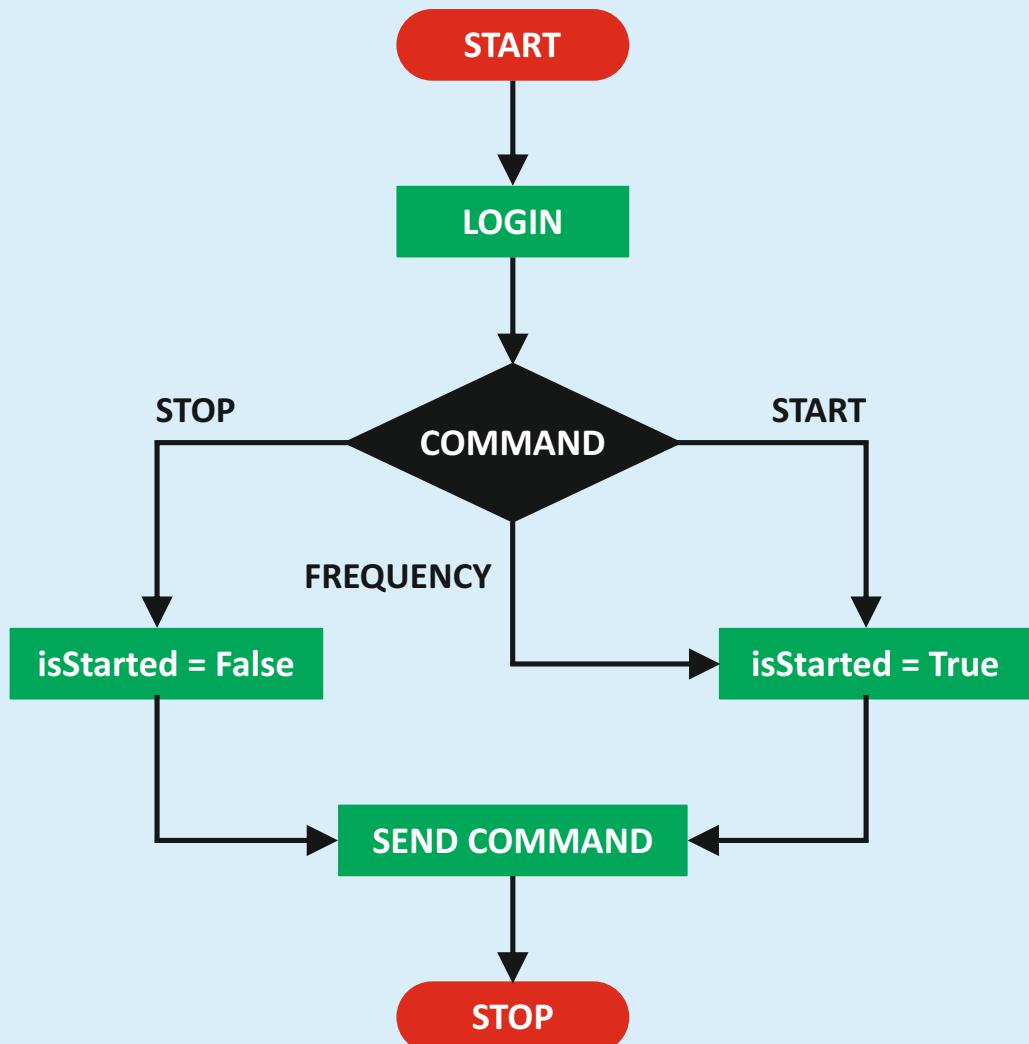




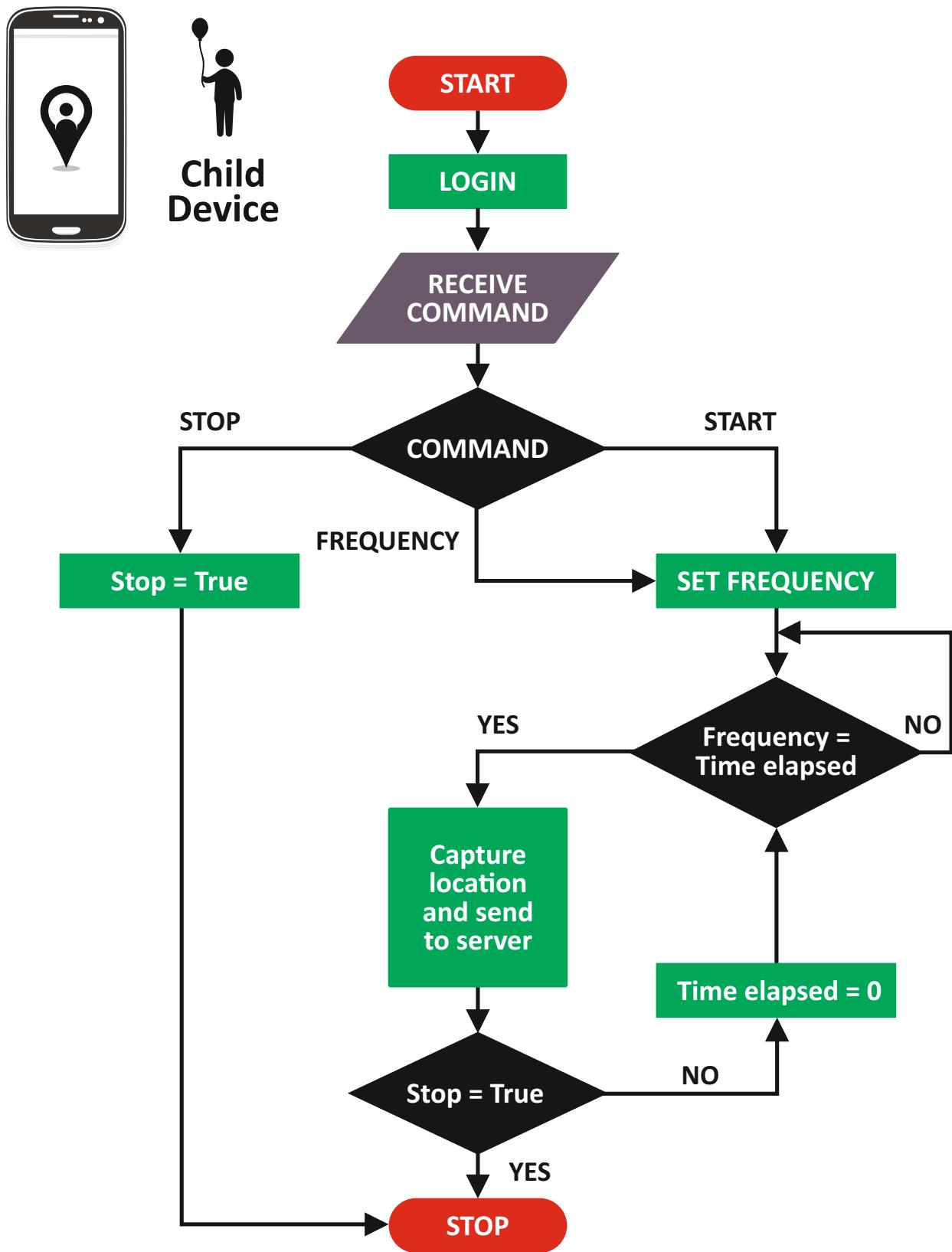
System Flow Chart



Parent Device



System Flow Chart





Technical Specifications

Server

Type	:	Linux Shared Hosting Server
Provider	:	BigRock.in
RAM	:	1 GB
Hard Disk Space (Storage)	:	Unlimited
Transfer Size	:	Unlimited

Website

Website	:	Hosted on Linux cloud provided by BigRock.in
Content Management System used	:	Drupal (Version- 7)
Language used to make website	:	PHP (Version- 5.4)

Database

Type	:	MySQL Database
Table(s) for data from application	:	Location Data
Important Columns	:	<ol style="list-style-type: none">1. imei (<i>for saving IMEI number of device being tracked</i>)2. android_version (<i>Android version of device being tracked</i>)3. mac_address (<i>The MAC address of the device</i>)4. gps_latitude (<i>Latitude coordinate</i>)5. gps_longitude (<i>Longitude coordinate</i>)6. location_capture_time (<i>Time when location of device is captured</i>)

Mobile Application

Android API level	:	16
Minimum Android OS version	:	4.1 (Jellybean)
IDE used	:	Android Studio
Method of development	:	Top Down Development
Reference	:	https://www.life360.com http://salfeld.com/software/child-finder/

A photograph of several Indian school children, mostly boys, wearing blue and white checkered uniforms. They are looking towards the camera with neutral to slightly smiling expressions. The background is blurred.

Akik Kothekar

Grade 12

Singapore International School
Mumbai. India



TRACK n SECURE

www.tracknsecure.in