Project: Simplest & Most Affordable GPS Tracking System

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Description:

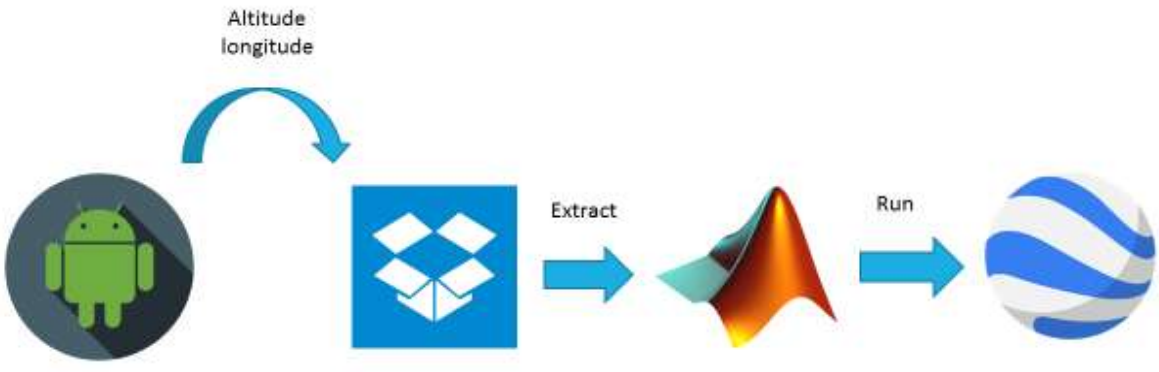
Proposed GPS tracker was made for initially a Lab Project. We didn't want to spend money on buying GPS module which would cost around 100 USD in Bangladesh and smart coding to execute it properly. So we decided to make the simplest and most affordable GPS tracker possible. We wanted to use our smart cell phone which already has an imbedded GPS and use MATLAB code to build a system that itself provided update GPS location once initialized.

Components:

To get continuous GPS information and build the system we used following items

1. Smart Phone
2. Applications
    (a) To be installed in Smart Phone – GPSlogger, Dropbox
    (b) To be installed in PC –Dropbox, Google Earth
3. MATLAB
4. PC for location monitoring

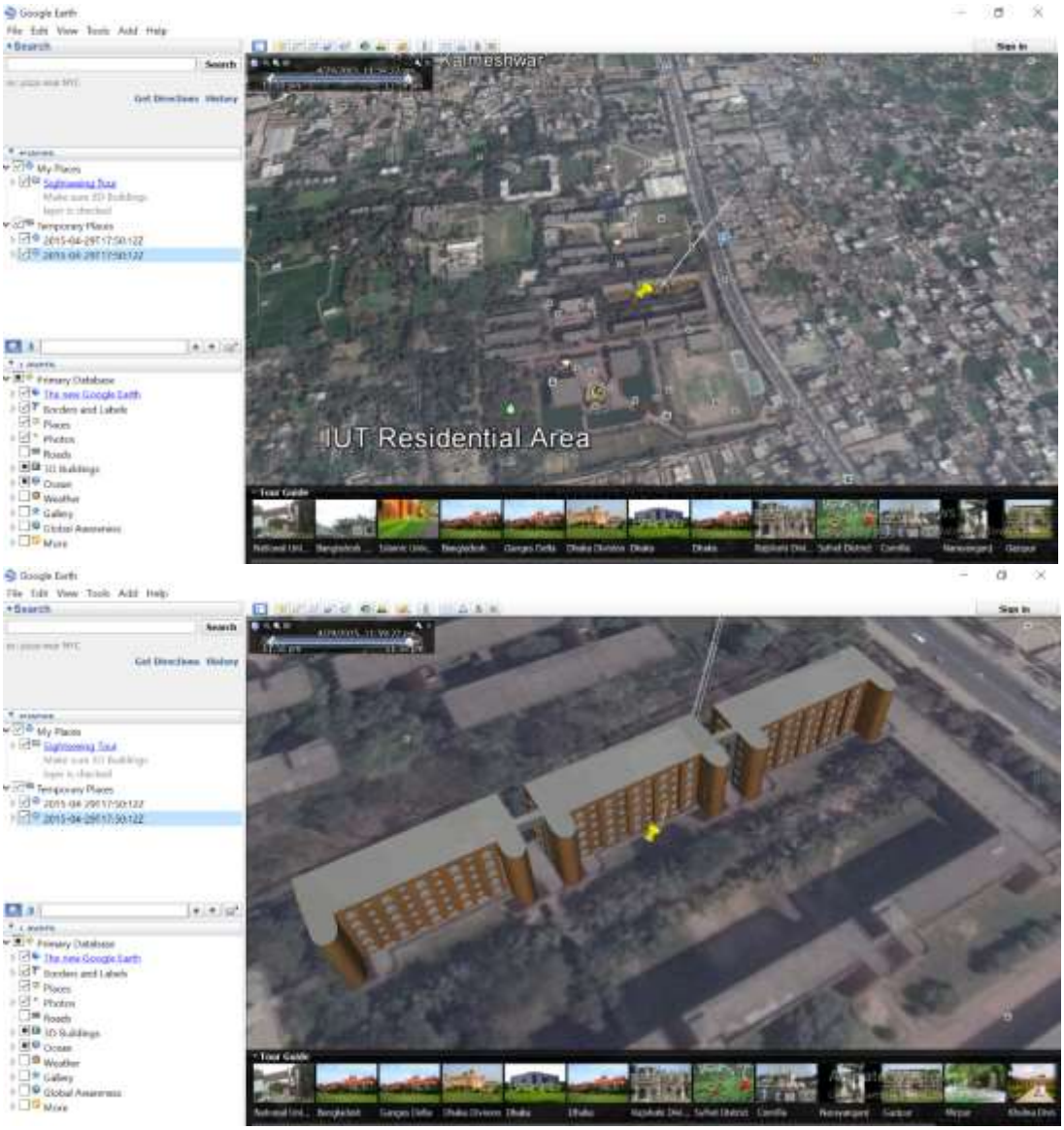
Step Diagram:



GPS tracking

View on Google Earth:

We provided “location.kml” file as example. We extracted the location in google earth following the steps mentioned earlier. If smart phone user is at a stationary position, it will provide exact pinned down location.



Steps:

Let’s sort things done one by one.

1. We used “GPSlogger” app - available in Google Play Store to get altitude and longitude of current location.

2. The app has the feature to send .kml file to different repository. We used Dropbox as our repository.
3. App has timer for sending .kml file. That means after desired time App will send .kml file to Dropbox
4. We used MATLAB code to read .kml file from Dropbox after set up timer duration and open up Google Earth and pin point current location.

Caveat:

Most of the time provided location is very much accurate while at time we found app doesn't do good job if you want to pin point exact location. But it will provide location within 100 feet radius according to our findings and that's due to the location extracted from app. An better app proving good GPS location can give precise position. Another point to be noted, Google Earth itself tracks the previous locations thus we get detailed location of trajectory over time.