SUMMER PROJECT

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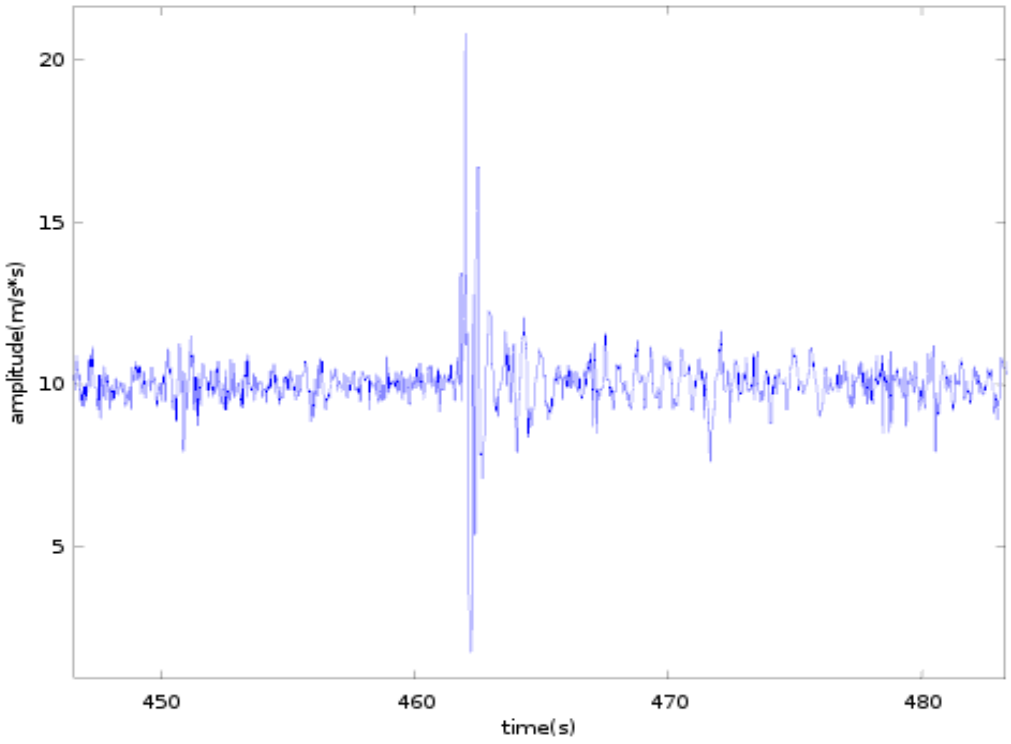
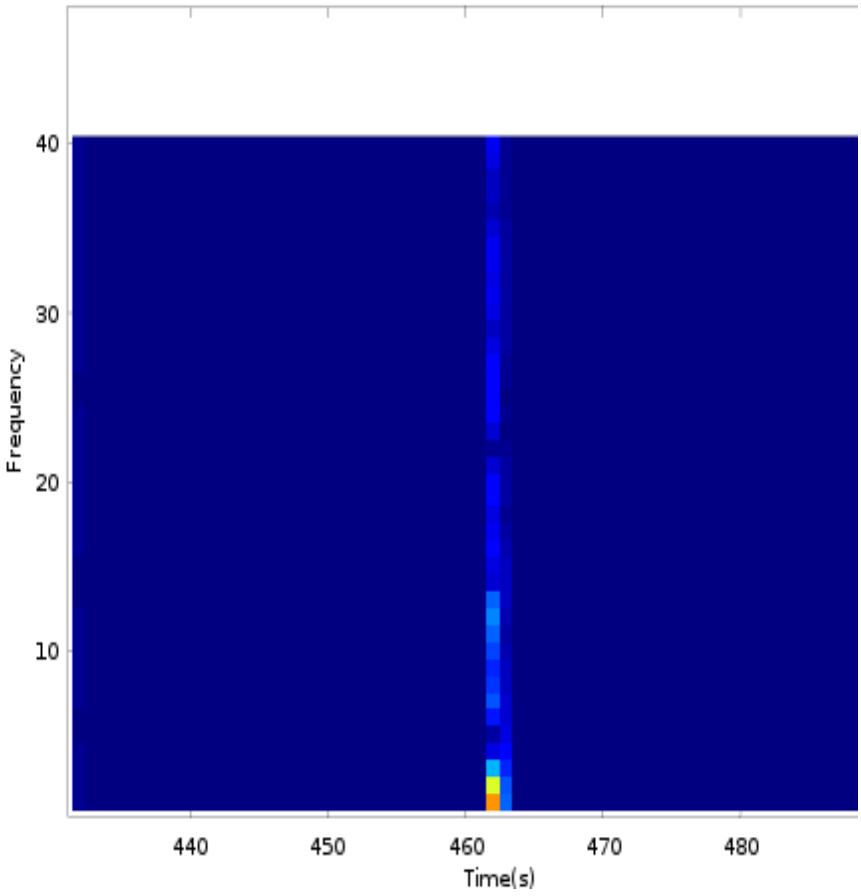
today

Analysis

1. Application takes the following readings when active
   (a) Acceleration along x,y and z-axis with time from accelerometer.
   (b) Latitude and longitude corresponding to the time from GPS.
2. Now we calculate amplitude of the acceleration
   $amplitude = \sqrt{a^2 + b^2 + c^2}$
   where a,b and c denotes acceleration along x,y and z-axis.
3. Now we plot the amplitude against time.Which look like the graph below.Here this peak shows the existence of speed breaker at this time.



4. Now we observe the spectrogram of data consisting amplitude.It looks like this.



5. From spectrogram of the data we can easily compute the time at which speed breaker occurs.Here these two figures below shows how time of the speed breaker can be computed.First figure tells that around 462 seconds breaker exists.Second figure which is the spectrogram of the same data which we plot in the previous figure confirms by showing different color pattern at time 462.

6. From the following observations we can compute the time when speed breaker exists and we keep the track of latitude and longitude corresponding to that time.