**CIT 261 Team Project**

Proposed Project: Awesome Animated Calculator

Git Storage: <https://github.com/MCLifeLeader/CIT261Team>

Functional Outline:

Minimum Goal:

Implement an orbital calculator for satellites in earth orbit

Take TLE Data from preset and user input and calculate satellite position

Display the location on a map

Draw orbital path on map

Meet Rubric Requirements

Stretch Goal:

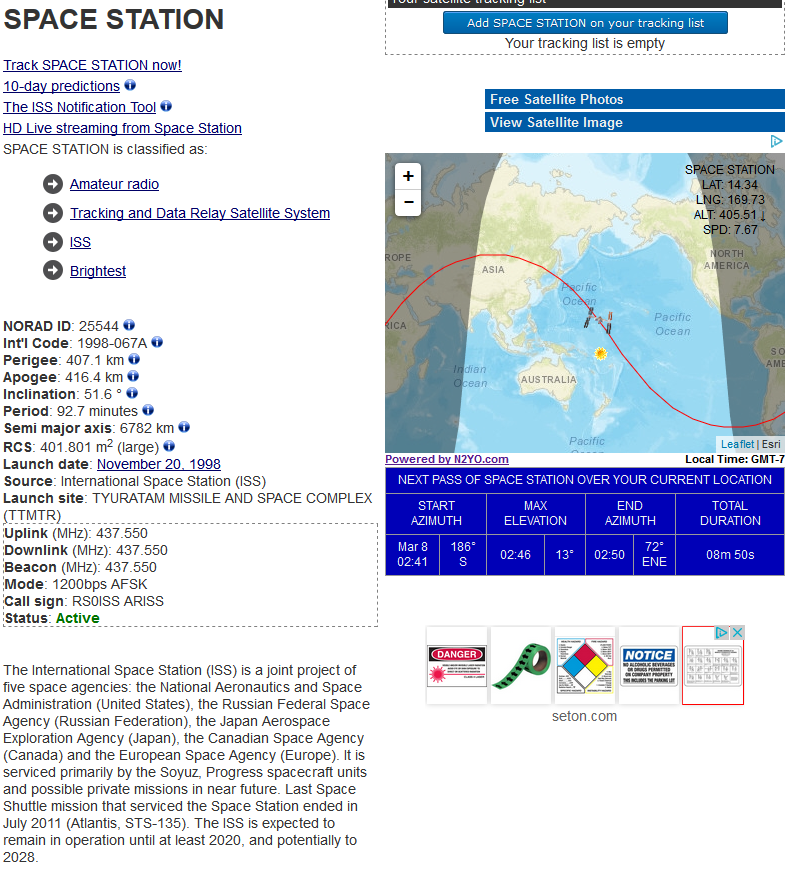
Update position dynamically based on clock DateTime.UtcNow

Example TLE Data as found from: <http://www.n2yo.com/satellite/?s=25544>

**Two Line Element Set (TLE):**

1 25544U 98067A 17066.84029477 .00003938 00000-0 66636-4 0 9995  
2 25544 51.6438 183.4966 0006911 261.8864 208.8164 15.54154647 45996

Presentation would look similar to the following image:



Satellite Position Calculator using TLE data

Project site: <http://mbcarey.com/web/cit261Team/>

GitHub Repo: <https://github.com/MCLifeLeader/CIT261Team>

Team Videos: <https://drive.google.com/drive/folders/0B62hI9D6CJsvX0U3SlF1Ulh5MEU>

Team App Presentation Video: <https://drive.google.com/open?id=0B62hI9D6CJsvSGtTdFFFemVwVU0>

Features:

* On first load it will request Location GPS coordinates from your local device
* Select various satellites in orbit
* Select several themed maps
* Manual Location GPS Coordinate entry box
* Manual select list for several countries and cities world wide
* TLE manual data entry
* Calculator Display output and calculations (Code by Jens T. Satre)
* Display satellite travel trail on map (Having difficulty translating calculations to x,y plot on small map)
* Satellite moves on the page but does not move correctly.
  + To fix we would need to break the map into 4 quadrants and adjust the plot math to pixel locations on the image. Satellite does move based on real time.
  + You can see the update plot by looking at console.log();
* Functional Pages:
  + <http://mbcarey.com/web/cit261Team/index.html>
    - This is the main website and project
  + <http://mbcarey.com/web/cit261Team/line.html>
  + <http://mbcarey.com/web/cit261Team/lineAnimation.html>
  + <http://mbcarey.com/web/cit261Team/sine.html>

External Resource for calculator: TLE Logic Referenced from <http://www.satellite-calculations.com> by Jens T. Satre