# Directions

1. Work as a group to solve the problem.
2. Be ready to meet my imposed deadlines as well as yours.
3. Be ready to present your solutions to the client at the end of the term.
4. Work hard and have fun! 😊

# Overview

You are going to create a project that will identify and map possible chameleon trucking companies. For more information about a chameleon trucking company, read this post from the [Atlanta Injury Law Blog](https://www.atlantainjurylawblog.com/uncategorized/what-is-a-chameleon-trucking-company-and-how-does-it-keep-doing-dangerous-stuff.html). Your project will use web scraping techniques to acquire data about out of service motor carriers. You will need to clean this data and, move it into a database, use an API to geocode them, and place them on a map.

The second part of the project will attempt to locate the chameleon carriers. The logic is that a chameleon trucking company simply changes the name but operates from the same address. You will be provided with database with active trucking companies. Your project will identify potential companies that have similar addresses, geocodes, or contact people in both databases. The chameleon company name will be from the legitimate database.

# Specific Project Requirements

1. Use Selenium (or similar) tool to scrape the information about out of service carriers for your states.
2. Clean the data and make it available in an online database.
   1. To save your sanity, start coding using only 10% of your data.
3. Geocode the addresses and save them into the database.
   1. Look into the geolocation or Spatial Data features of SQL Server
4. Using the provided database of companies, geocode the addresses.
5. By comparing the out of service companies with the official database from the USDOT, create a list of potential chameleon trucking companies in your states.
   1. Identify with same address, geo locations, and/or contact person
6. Create a web interface using whatever tools you want. Make sure that it is
   1. Attractive
   2. Functional
   3. Properly uses menus, breadcrumbs, footers, sitemaps…
7. Web interface will allow the user to complete each of the following tasks.
   1. Within a geofenced area, display a **list** of
      1. Legitimate trucking companies
      2. Potential chameleon companies
   2. Within a geofenced area, display the
      1. Legitimate trucking companies
      2. Potential chameleon companies
   3. Search for and display a company by name, USDOT number, contact person
      1. Display the location on a map and all pertinent information
   4. Consult your Tidwell book for how to properly use each item in the web page
8. Display the potential chameleon trucking companies within a geo fenced area.
   1. A suggestion is to create an interface like Google’s ‘search this area’.
   2. Bonus if you can implement more complicated searches like county, or ‘draw an area on the map’

## Management Requirements

1. Your project must be housed in a code repository, private if possible. All members of the group will be added. Add my PTC account as well.
2. All members of the project will manage their project’s KanBan cards.
3. All members of the project can submit/manage issues
4. Each member will attend all weekly scrums, which I may listen into.
5. Quick daily stand up meetings for status updates. Can be done in person or on discord. Keep proof of meetings.
6. A weekly scrum status report is submitted per group. Look online for a template. Keep it short but cover everything discussed in the meeting.
7. A scrum meeting on each of your ‘milestone’ dates. I will join this meeting if practical and you will demonstrate the project.

## Helpful Web Sites

* Geocoding APIs  
  <https://www.programmableweb.com/news/7-free-geocoding-apis-google-bing-yahoo-and-mapquest/2012/06/21>
* Out of service carriers – you will need to find your states  
  <https://li-public.fmcsa.dot.gov/LIVIEW/pkg_oos_process.prc_list?pv_vpath=LIVIEW&pv_show_all=N&pn_dotno=&pn_docket=&pv_legalname=&s_state=ALUS>
* About Chameleon trucking companies  
  <https://www.atlantainjurylawblog.com/uncategorized/what-is-a-chameleon-trucking-company-and-how-does-it-keep-doing-dangerous-stuff.html>

## Member Roles

Each person will have one or more roles. You will be held responsible if something within your scope fails. These are not your only duties. You will be responsible for additional tasks as assigned by your groups.

* Product Owner
  + Mr. Cottrell and Propel IT, our client
* Scrum master
  + Responsible for the overall direction of the project. Will run the daily stand up meetings, students must be present, and weekly scrums for the project. Will answer to the product owners during checkpoints. Will encourage members to resolve backlogs and reported issues. Will submit the scrum report (aka sprint report or sprint burndown)
  + I suggest that you block a time every day for a quick meeting, in person during school time and over discord for off time.
  + Bonus if the project is done early
* Quality Assurance
  + Responsible for ensuring the project and components works properly. Will write scripts that regularly test the page and provide a report on what works, what does not work. Will read the posted issues and react accordingly.
  + Will audit others work. Will provide internal grading on how well each member is doing in their role. This information is to be delivered to all members and Mr. Cottrell. Grading does not need to be complex. A simple Satisfactory, Unsatisfactory, and Needs Improvement is fine.
  + Bonus points based on the number and quality of reports.
* Git master
  + Responsible for maintaining the code repositories. Based on the weekly meetings, will ensure that the project KanBan boards are up to date. Will ensure that code is archived and forked as necessary. **Will also** **ensure that any secure information is removed from the online repositories**.
  + After each milestone is reached, you must manage the version control. You will protect your group’s code. You will ensure that users are working with the correct branch/version of the project.
  + You will create a website on Github that describes the project and the project completion to date.
* Data manager
  + Responsible for the data health of the project. Will clean the data and make the data available for others to access. Will likely host the database in their Azure account.
  + Part of the evaluation of this position will be quality of the data.
* UI/UX designer
  + Responsible for the look and feel of the interface. Responsible for how the website works, flow, breadcrumbs…Since this is a dedicated role, I want something **fabulous**. Do not simply submit the default MVC template.
  + Bonus points for using a framework that has nice javascript/css features.

# Overview of Grading

Grading a term project is problematic. The client will select one project that they feel is the best. This project will receive the highest grade in the class. This does not mean that they are the only ones that pass. Your project will be graded individually. You will have submission requirements throughout the term that will count toward the final grade. In addition, you will grade each other. I have a website that allows you to anonymously grade each other. The result of this evaluation will be a multiplier that adjusts your final grade.

The multiplier will range from .80 to 1.1. Multipliers lower than 1 will reduce your score, multipliers above 1 will increase your score. This is one mechanism to prod people to do their jobs. As an example, imagine that Bill’s group earned a 90 on the final project. Good job! However, Bill did not contribute to the project and earned the absolute minimum multiplier of .80. Taking .80 \* 90, Bill’s grade will be adjusted to a 72.

In addition to the group evaluation, I will get a feel for how well Bill contributed to the project. I will look at Bill’s role and compare it to the finished project. If I can justify that Bill did not contribute, I will deduct up to 10 points from Bill’s grade. In this case, Bill could earn as little as a 62%.

## Graded items

* Initial group report – list of roles, list of specific tasks, milestone dates,
* Scrum reports
* KanBan updates – I will handle these
* Meeting your deadlines
* Project presentation
* Project completion

## Submission timeline

See BlackBoard for specific dates

1. End of week 1
   1. initial group report
   2. GitHub built and I am added as a collaborator
2. End of each successive week
   1. Sprint report
      1. If there is a significant problem, include in the report
   2. Group member grades
   3. KanBan changes (no submission, I will evaluate these weekly)
3. Midterm - Status report that details
   1. Level of completion
   2. Individual users grades
   3. Amount of data stored/processed/cleaned
   4. Any cool things to report on the project
   5. Significant problems with the project
   6. Shots of working code
4. End of term
   1. Another status report that honestly describes
      1. Level of completion – what works, what does not
      2. Individual users grades
      3. Anything cool to grade
   2. Present solution to the Product Owners