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| Canadian Real Estate report  Data Visualization Project |
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### **CANADIAN REAL ESTATE REPORT**

### **Executive Summary**

We all know that the Toronto market is hot right now. Prices are on the rise, and residences are being built on any available property. BUT – how do we know where the *next city center* is being built. Is it even in Ontario? This is what our group will discover.

#### Project REquirements and Resources

1. Your visualization must include a Python Flask powered RESTful API, HTML/CSS, JavaScript, and at least one database (MySQL, MongoDB, PostgreSQL)
   1. We will be using [The Canadian Real Estate Association](https://www.crea.ca/)’s [Housing Price Index Tool](https://www.crea.ca/housing-market-stats/mls-home-price-index/hpi-tool/) as historical data on Canadian property sales
   2. We will be using [Zillow](https://www.zillow.com/), and it’s [API](https://www.zillow.com/howto/api/APIOverview.htm), to source current property sales data
   3. We will be incorporating both large-scale data sets into MySQL to generate a database
2. Your visualizations must be interactive, with users clicking/hovering/various events to change the dataset. Your project must include some level of user-driven interaction (e.g. menus, dropdowns, textboxes, etc.)
   1. We will be using HTML, CSS, and JavaScript to visually iterate our findings
3. Your project must be powered by a dataset with at least 100 records.
   1. The HPI tool and API information guarantee more than 100 records
4. Your final visualization should ideally include at least three views.
   1. We will show trends between historical property purchases and their average price
   2. We will show which areas are on the market, and average price
   3. We will forecast urban sprawl based on both data sets – which could be used by investors to predict where to purchase their next property

#### Project Breakdown

1. Building our database
   1. Purnima and Tigran will populate our MySQL database with our information from the HPI Tool and the Zillow API
   2. Wenjie will parse through this information using Python – Pandas and additional software to determine main data trends and points
2. Building our website
   1. Mariaveronica and JP will then build a web frame to demonstrate our findings to the public
   2. Wenjie will prepare and test our Flask deployment
   3. This will be done using HTML, CSS and Flask
3. Building our visualizations
   1. We, as a team, will build out our visual to demonstrate our findings using JavaScript, Plotly and/or Leaflet
   2. We will ensure that these visualizations are interactive, so that our audience can gather as much intel from our work as possible