Engineering Project

San Diego Housing Market Dashboard

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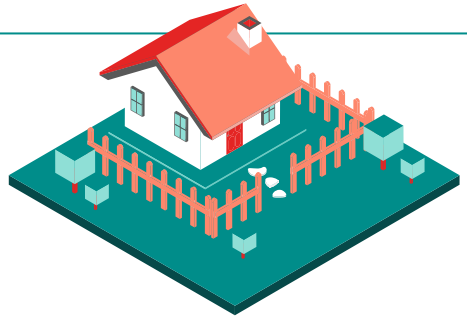


Probem

Scattered information for real estate investors,home buyers and other interest holders.

Solution

To Build an end-to-end data pipeline and dashboard to show:

- ★ Rental Market info
- ★ Transaction Info (Selling)
- ★ Airbnb Info

Workflow

Data Collection

Request, b4, MLS

- ★ Airbnb listing data from insideairbnb web
- ★ Last three month Rental and Selling data from SDMLS
- ★ Rental and value/increase index from Zillow

Data Storage

MySql

- ★ Create Database: SDRE_data
- ★ Create table for each dataset
- ★ Insert Dataset to table

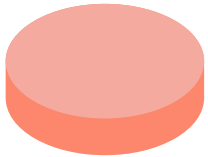
Dashboard

Streamlit

App read data from DBMS and deployment to show the following info according to zip code and bedroom/bath numbers:

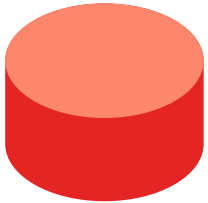
- ★ Rental info
- ★ Value Info
- ★ Airbnb Info

Data Info



Zillow: **Use downloaded .csv dataset due to potential change**

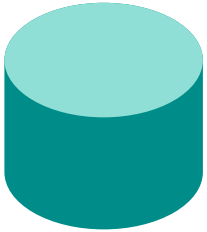
Three Dataset to show Value Index, Rent Index and Value Forecast for individual Zip code



Insideairbnb: **web scraping**

Contains all listings info for airbnb properties in San Diego, used feature:

'id','neighbourhood','latitude','longitude','room_type','price','minimum_nights','number_of_reviews','reviews_per_month



San Diego MLS

- ★ Rental records in MLS for last three Months
- ★ Transaction records in MLS for last three Months

Dashboard :

Future Work

01 Transfer app to cloud computing

02 Remote deploy app with cloud computing

Thank You

& questions?

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Appendix:

1. **Zillow Home Value Index (ZHVI)**: A smoothed, seasonally adjusted measure of the typical home value and market changes across a given region and housing type. It reflects the typical value for homes in the 35th to 65th percentile range. The raw version of that mid-tier ZHVI time series is also available.
2. The **Zillow Home Value Forecast (ZHVF)** is the month-ahead, quarter-ahead and year-ahead forecast of the Zillow Home Values Index (ZHVI). ZHVF is created using the all homes, mid-tier cut of ZHVI and is available both raw and smoothed, seasonally adjusted.
3. **Zillow Observed Rent Index (ZORI)**: A smoothed measure of the typical observed market rate rent across a given region. ZORI is a repeat-rent index that is weighted to the rental housing stock to ensure representativeness across the entire market, not just those homes currently listed for-rent. The index is dollar-denominated by computing the mean of listed rents that fall into the 40th to 60th percentile range for all homes and apartments in a given region, which is once again weighted to reflect the rental housing stock.