



RECOMMENDATION FOR AN APP THAT PREDICTS HOUSE PRICES

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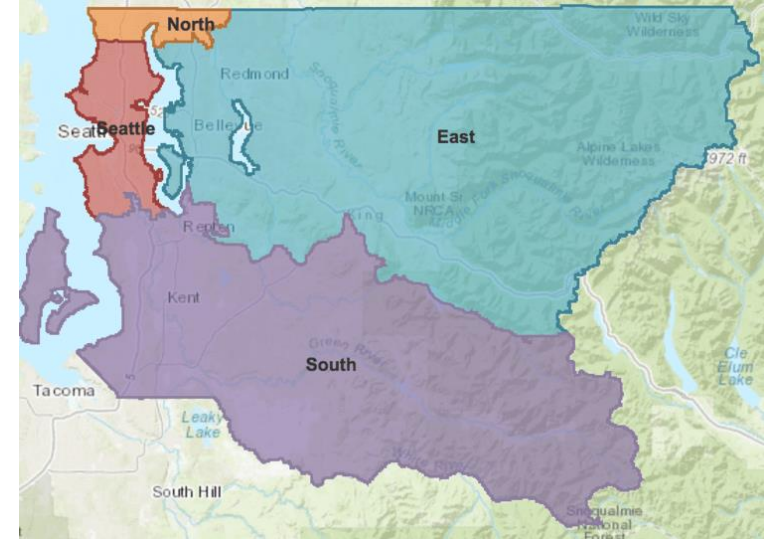
Presented to: KC Real Estate Agency

Agenda

- Business problem
- Insights
- Recommendation
- Caveats
- Questions & Answer

How we can help you win more customers

- You as a real-estate company in King County would like to better advise your clients
- King County has more than **2.2 mio habitants**
- The problem:
 - **Current** home owners are unsure about **the price they can ask for** when they sell their house
 - **Future** home owners are unsure about **the budget they require** to buy a home
 - **Prices change** with time and economic circumstances and it is difficult to stay up to date
- The solution
 - **An exclusive app** that predicts house prices based on their characteristics
 - Beneficial for you as real estate agency to **win customers**
 - Beneficial for customers to **pay fair prices**



Which data did we look at and how do we use it?

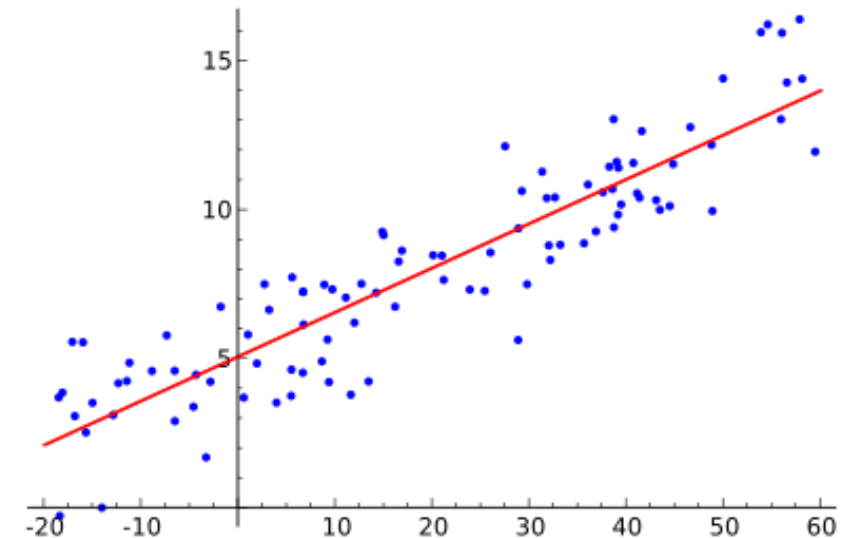
Data

More than 15.000 houses in King County with the following attributes:

- **Price** | average 980.000 USD
- **Age** | average 52 years
- **Location**
- **Waterfront** (yes/no) | mostly no
- **Basement** (yes/no) | mostly no
- **Renovated** (yes/no) | mostly no
- **Square footage** of house (without basement) | average 1540 sqft
- Construction **grade** | average „Average“

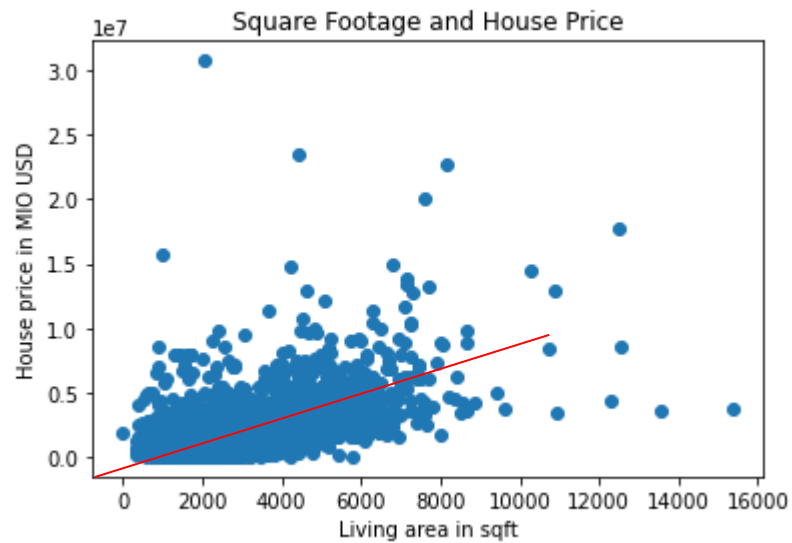
Method

- Multiple linear regression to predict the house price

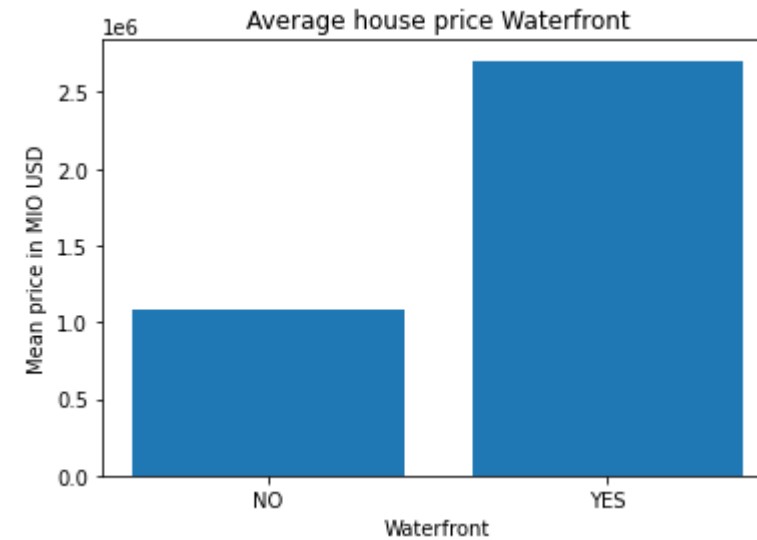


Regression results show a solid model for prediction of house price

- **68% of the variance** in house prices are explained by the **location**, **square footage** of the house, **grade**, **waterfront**, **basement** and **renovation**
- The **higher** the square footage, the **higher** the price
- Houses with a **waterfront** sell for **significantly more** than houses without a waterfront

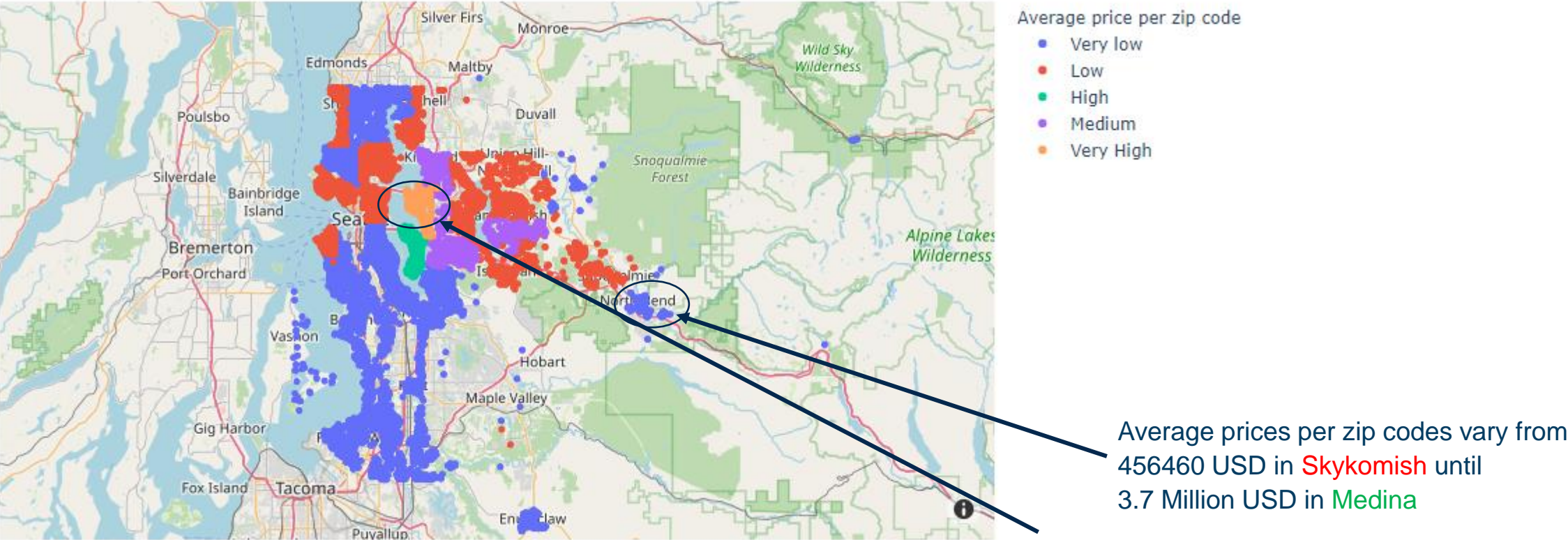


For 10% increase of sqft, price increases by 4%

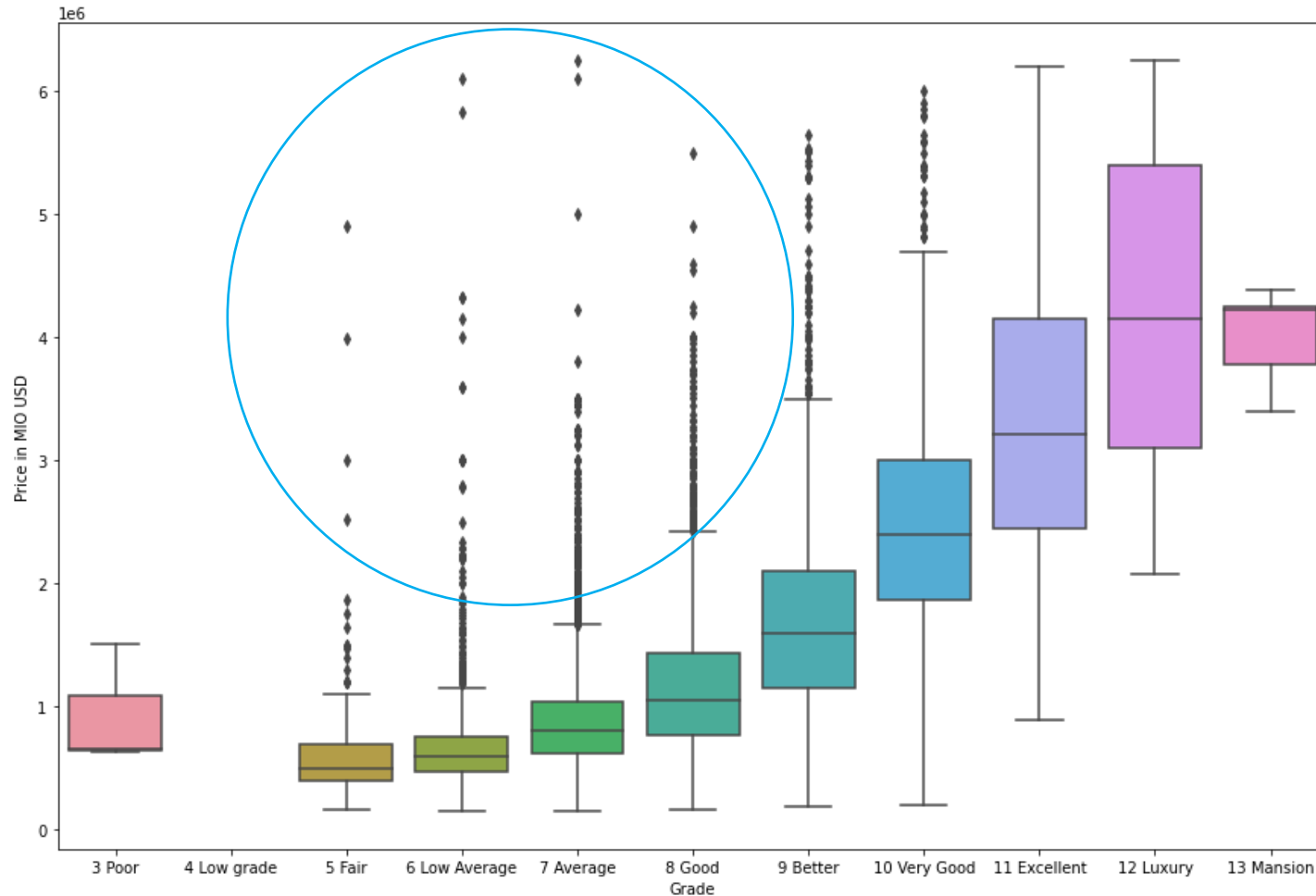


Mean of waterfront homes is 53% higher

The neighbourhood of the property has a large impact on the price



The higher the construction grade, the higher the price

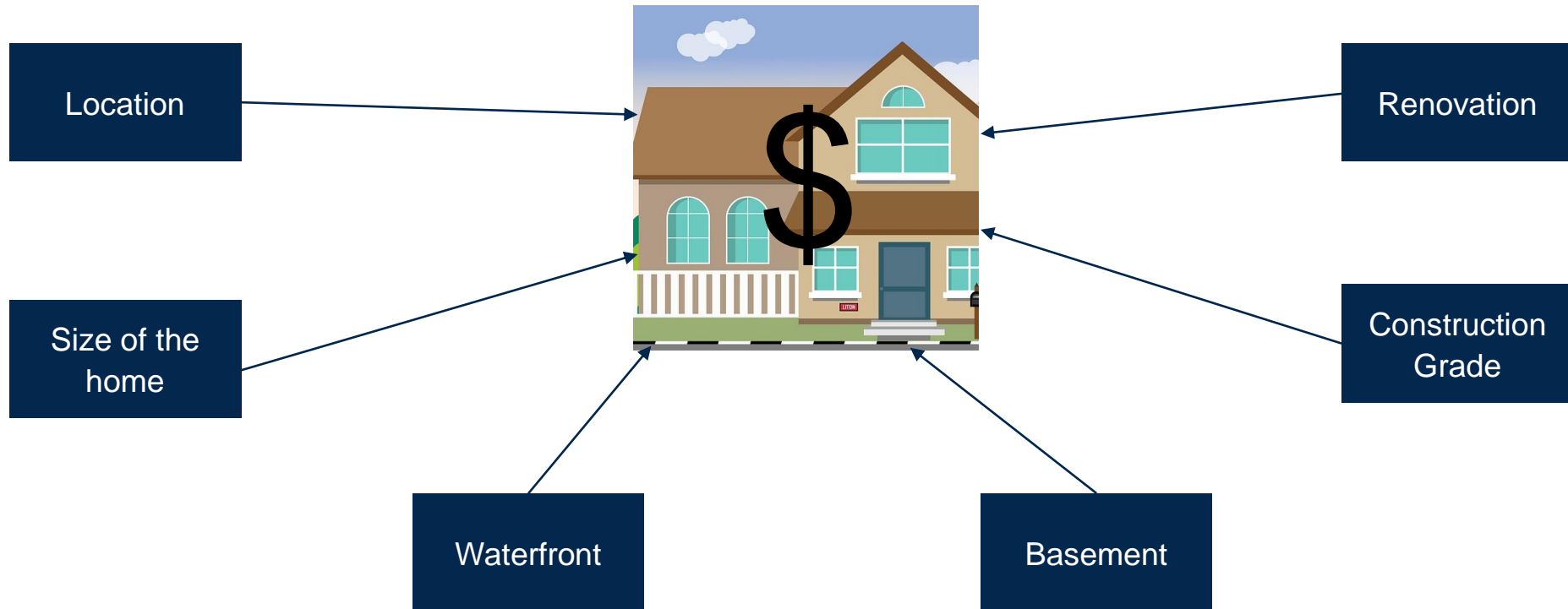


For each increase in construction grade, the price increases by 11%

The **higher the construction grade**, the **wider the price range**

For **lower grades**, there are also **high priced properties**

Our model with an R^2 of .68 helps you to estimate a price difference based on:



Limitations & next steps



The model is great for vast majority of houses but not for extreme (low or high) houses



We need to collect more data to include other factors such as

season of house sell
neighbourhood criteria



Development of the app

THANK YOU

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