Final Project Proposal

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Project Title:	An Analysis of Property Prices in Ireland

1. **Background Research / Problem Description (200 words max)**

There has been a rapid increase in the property prices and the housing demand in Ireland over the past few years. Dublin, the capital of the country is in the middle of this crisis. The government has introduced several rent deductions schemes to help the public with the increasing housing crisis and property pricing. In this scenario, an analysis on the property pricing in Ireland could be helpful to determine the factors that are mainly affecting the increase in the property rates for the government and to the public. The property services regulatory authority (PSRA) has put together a property price register in 2011 to help the people understand the prices of properties and make it more transparent.

M mc Cord, D Lo and colleagues has analyzed the impact of COVID-19 on house prices in Northern Ireland using the Hedonic regression. In this project, the data from the property prices register website will be used for the analysis based on statistical methods such as regression, machine learning techniques will be helpful to predict the housing prices and I am planning to incorporate time series analysis over the selected years to understand the trend in the housing prices.

2. **List the research questions related to the problem statement. Subsequently list out your project goals.**

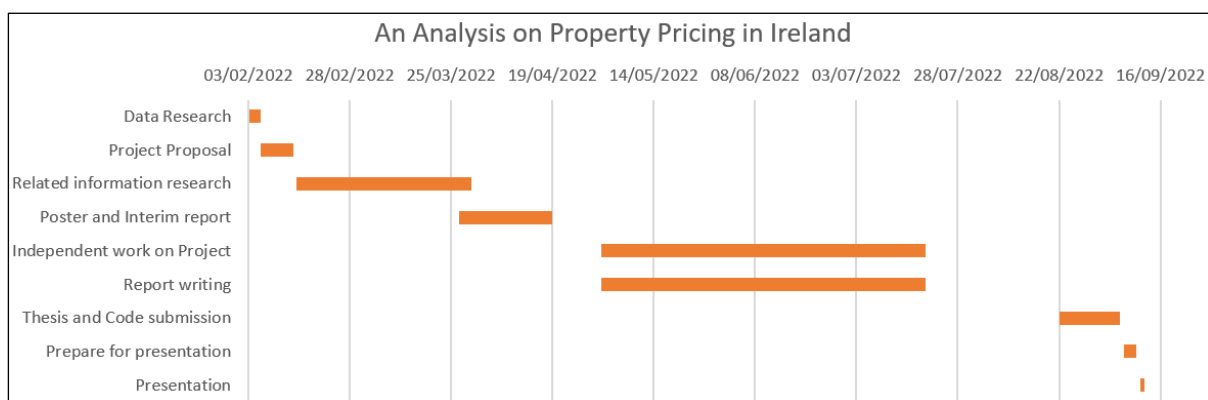| Research questions	Project Goals
1. **Has the property prices increased over the years?**	• Find out the property prices in each year. • Find out the counties in which most of the houses are sold. • Find out the counties in which the least number of houses sold.
2. **Which county has the highest prices for properties?**	• Find out the house prices in each county/province.
3. **Does the property price depend on which county the house is in? Is there any relationship between the counties and the prices?**	• Find out the year in which most houses were sold. • Find out the trend in the property pricing over the years.
4. **Is there any relationship between the size of the properties, type of properties (like new or second hand) and the property prices?**	• Find out either the New or secondhand dwelling has the highest prices and is it inclusive of VAT. • To analyze how the house prices depends on the type of house and its size.

3. **Data description, tools and software, references, link to data sources and ethics consideration.**

The data set contains the details of the property prices from 2010 to 2022 in different counties of Ireland. The dataset includes the date of sale, the type of the property its size, price, county name and address. It also contains information about whether the price is inclusive of VAT and if the sold price is market price or not.

In order to do the project, I will be using Statistical analysis methods, Machine learning/ Time series analysis if possible. Python programming will be used to load and clean the dataset. Tableau/Power Bi/Excel will be used for visualizations of the data.

The dataset was downloaded from https://propertypriceregister.ie/ website. It was available to public and hence there is no ethical issues related to the dataset.

4. **Gantt Chart**

5. **Special requirements and deliverables of the project**

No special requirements are required for the project. The deliverable of the project will be an analysis, its outcomes and a final dissertation on the analysis of the property prices in Ireland over certain years

6. **Risks – What risks can you identify? What will be the impact if the risk becomes a reality? What can you do to minimize the impact?**

- Loss of data – In order to avoid the loss of data, all the data have been backed up to cloud.
- Ethics risks – Data is downloaded from a public website.
- Unexpected output - All outputs will be reported.