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Technology Innovation

Design Challenge Reflection

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Understanding the Design Challenge

The given design challenge is to ensure tenants who reside in Canada have access to affordable and reliable housing options through a mechanism where they can get matched with available rental properties or house owners in Canada. Housing prices are partly determined by how much it costs to borrow the money to buy them [1]. Since there was a fall in interest rates, it made it easier for Canadians to get mortgages, increasing the demand for housing. Another important factor in the rise of housing prices is the population growth which is caused due to an influx of immigrants, and urbanization. Additionally, as the building codes and regulations have become more stringent, it has mandated developers to build higher-quality, more energy-efficient buildings. This has increased labor costs significantly and becomes one of the main drivers of the hike in building costs. Foreign Investment in Canadian real estate has also contributed to the high cost of housing. Investors from countries like China and the United States have been buying up properties in major cities, driving up prices. Hence, the challenge of having access to affordable and reliable housing options is existing due to factors like population growth, lower interest rates, building costs, land costs, urbanization, and foreign investments [2].

Objectives and Constraints

The primary objective of this design challenge is to develop a platform or mechanism that efficiently connects tenants with accessible rental homes or homeowners or real-estate brokers while maintaining affordability and dependability.The constraints are:

Affordability: The solution should make it possible for tenants to obtain housing options that fit within their spending limits.

Reliability: The solution should guarantee that the owners or tenants of rental properties adhere to all applicable legal and safety requirements.

Genuinity: The solution should make sure that the scammers are identified and not involved in the system and that there is a mechanism to verify that the listed property is a genuine one with the characteristics that were mentioned in the listing.

Scalability: The system must be able to handle a high number of users and a rising rental property or homeowner database.

Connectivity: The solution should be able to establish easy connectivity between the tenants and the property owners so that there is no misunderstanding in their initial communication regarding the properties.

Resources for Solution Development

The following resources under each category can be utilized to develop a solution for this design challenge:

Data: Having access to reliable and relevant data is important for coming up with a design challenge solution. Online websites like the Canada Mortgage and Housing Corporation (CMHC) website(`https://www.cmhc-schl.gc.ca/`)provide useful information on housing in Canada by offering research papers and housing market analyses [3]. Additionally, datasets compiled by the Canadian government, such as those pertaining to housing, demography and income, are accessible through Open Data Canada(`https://open.canada.ca/en/open-data`)[5].

Technology: Using modern technological advancements is effective while developing a solution like this. Utilization of the latest data analytics tools, database management systems and web development frameworks can become handy during the solution development.

Partnerships: working together with pertinent organisations might yield insightful information and assistance. The Canadian Real Estate Association(`https://www.crea.ca/`)provides market analysis, statistical data, and market reports [4]. Collaborating with

local housing organizations, academic institutions, and community-based groups that focus on housing-related issues can also be taken into consideration. An online resource center dedicated to housing and homelessness in Canada, the Housing And Homelessness Knowledge Hub(`https://homelesshub.ca/`), offers research, reports, and best practices [6].

Funding: For the growth and durability of the solution, adequate funding is important. Investigation of alternative financial options including grants and sponsorships will support the development and sustainability of the solution.

Existing Solutions

My initial survey of existing or related solutions has revealed several initiatives and platforms to address parts or the whole of his design challenge.

Facebook Marketplace: One of the most popular e-commerce platforms is the Facebook marketplace(`https://www.facebook.com/marketplace/learn-more/`) which connects sellers and buyers through meaningful interactions and unique goods or properties. This platform is a practical choice for both tenants and property owners looking for housing alternatives because of its large user base and simple accessibility [7].

Kijiji: Another popular online classified advertising platform in Canada is Kijiji (`https://www.kijiji.ca/`). It has a section specifically for real estate where users may look for rental homes and get in touch with landlords or property managers. Kijiji also provides filters and search tools in order to focus the home search on particular factors like location, price range, and, property type [8].

Rentfaster: Rentfaster is another online rental property listing website that was launched into the real estate market in 2003 to help homeowners advertise their vacancies and renters find their perfect house. It has rapidly changed over the years to be the most trusted source with the highest number of qualified listings. They have strived to provide

the most technologically advanced user-friendly site available by constantly updating with new features geared towards renters and landlords [9].

Anticipated Challenges

Given the complexity of the design challenge, there are a number of challenges involved in conceptualizing and technical development.

Data Integrity: Due to differences in sources and data quality, ensuring the correctness and reliability of housing data, including rental costs and property characteristics, may present difficulties.

Matching Algorithm: An efficient matching algorithm that takes into account several factors including location, cost, and tenant preferences while preserving fairness and transparency could be challenging to develop.

User Adoption: Marketing, creating awareness and innovative methods will be necessary to encourage tenants and homeowners to adopt and actively use this solution.

Sustainability: Creating a sustainable business plan that ensures the survival and growth of the developed solution in the long term is a huge challenge and requires a lot of persistence and effort with sufficient funding and knowledgeable management.

References

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