Real Estate Appraisal Sim

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Jane Street Immersion Program

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Overview

Property Prodigy is an immersive and intellectually stimulating game designed to engage players in the world of real estate. This design document outlines the key features, gameplay mechanics, and objectives of the game. The goal is to provide a captivating experience that challenges players' market acumen and property evaluation skills while fostering a sense of entertainment and education.

This is a single-player game where participants act as discerning real estate connoisseurs. Through a series of captivating property photos, precise location data, and detailed house specifications, players must accurately estimate the market value of each property. The game offers various levels of complexity, ranging from suburban homes to luxurious urban residences, to progressively challenge the players' abilities.

Game Mechanics

Property Analysis

Players must thoroughly analyze the provided information for each property, including interior and exterior photos, location demographics, and specific property details. This process will enable them to make informed estimations.
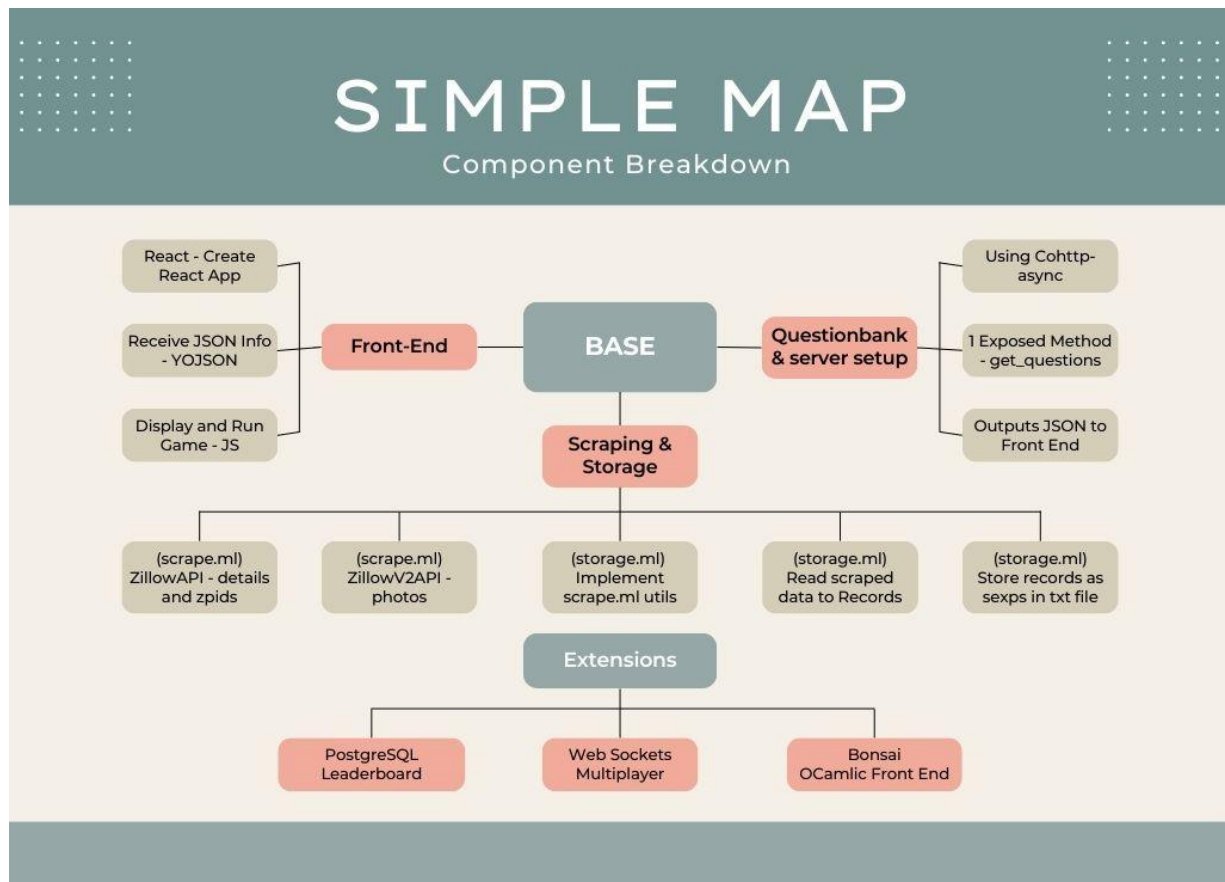
Estimation Precision

The game rewards players based on the accuracy of their estimations. The closer their guess is to the actual price, the higher the points earned. This feature encourages players to refine their market evaluation skills and fosters a competitive spirit.

Goals

1. **Entertainment & Challenge:** Deliver an immersive and enjoyable experience that challenges players to engage in strategic thinking and enhance their understanding of real estate appraisal principles, market trends, and property valuation techniques.

2. **The Software Development Life Cycle:** Explore the life cycle behind any software development life cycle — from writing this very document to displaying a finished product build according to industry standards in code quality, architecture, and general ease of maintenance.

Project Architecture

Milestones

Tasks	Status	Expected Deadline	Notes
Proto & Design Doc	Launched ▾	SOD 07.26.2023	Preliminary design document and general prototype
Housing Data Retrieval Khalid: Scrape completion Alejandro: Storage completion	Khalid Not started ▾ Alejandro Not started ▾	EOD 07.28.2023	Successfully scrape & store housing data as sexps in *resources/house_data.txt*
Middleware Testing & Frontend Exploration Khalid: Explore *Create React App* for frontend Alejandro: Middleware completion & Testing	Khalid Not started ▾ Alejandro Not started ▾	EOD 07.31.2023	Ensure stored data can be successfully exported as JSON
React Front End Exploration Khalid: TBD Alejandro: TBD	Khalid Not started ▾ Alejandro Not started ▾	EOD 08.01.2023	Understand what a React frontend will look like (update design doc)
User Interface Khalid: TBD Alejandro: TBD	Khalid Not started ▾ Alejandro Not started ▾	EOD 08.03.2023	No middleware - ui cohesion yet, just basic UI
Finished Base Project Khalid: TBD Alejandro: TBD	Khalid Not started ▾ Alejandro Not started ▾	EOD 08.04.2023	Working single-player game
Extensions & Prettify Khalid: TBD Alejandro: TBD	Khalid Not started ▾ Alejandro Not started ▾	EOD 08.10.2023	Extensions and UI streamlining

Tasks	Status	Expected Deadline	Notes
Demo & Prez	Not started ▾	EOD 08.11.2023	Demo and presentation prepared

Extensions

- **Multiplayer Mode w/ Web Sockets**

- **Leaderboard w/ PostgreSQL**

- **OCaml-Based Front End w/ Bonsai**