

# Online Marketplace Domain Description

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## - **Situation:**

- Nowadays, one of the problems people face is the difficulty in acquiring housing. Specifically, the hurdles students, families or really any individual can face when trying to find good, long-term lodging in Puerto Rico. For a city like Mayaguez, that has many areas which are admittedly run down by quite a bit, it can be quite difficult to find decent accommodations. Students at the University of Puerto Rico at Mayagüez (UPR-RUM) struggle to find housing within campus vicinity through online means due to a lack of a centralized platform to do so, leaving them with no other choice but to search for apartments in person. This is inconvenient, time-consuming, and expensive; especially for those who live far from campus.

## - **Entities**

- **Students:** Individuals who attend the UPR-RUM and need housing.
- **Properties:** Houses, apartments, or rooms available for rent in the vicinity of the university. Commonly referred to as housing, lodging, etc.
- **Property Owners / Managers / Landlords:** Individuals who own or manage rental properties.
- **Tenants:** Individuals who occupy a rental property but do not own it, instead they rent it from the property owners.
- **Roommate:** A tenant who lives in a property with another tenant.
- **Rental Agreements:** A contract between a student and property owner stating the terms for an exchange of money for a given period of time during which the student may occupy or live in the property.
- **Occupied Properties:** Properties that are currently being used for housing and are not put up for rent.
- **Unavailable Properties:** Properties that are currently not put up for rent, but no one is living in them yet.
- **Available Properties:** Properties that are currently unoccupied or will become unoccupied soon and are put up for rent.

- **House Listings:** Information about available properties, such as price, location, availability dates, amenities.
- **Rental Market:** The environment or system in which rental properties are offered by property owners and sought after by students.

## - **Function Signatures**

- searchHousing(criteria: SearchFilters) -> List<Property>
- rentProperty(propertyID: String, tenantID: String) -> RentalAgreement
- listProperty(ownerID: String, propertyDetails: Property) -> Boolean
- contactOwner(tenantID: String, ownerID: String, message: String) -> Boolean
- respondToTenant(tenantID: String, ownerID: String, message: String) -> Boolean
- verifyLandlord(ownerID: String, verificationDocuments: List<Document>) -> Boolean
- submitReview(reviewerID: String, reviewedEntityID: String, rating: Float, comment: String) -> Boolean
- getAvailableProperties(location: String, maxPrice: Float) -> List<Property>

## - **Events**

- **Property Listed:** A property has been made available for rent by a property owner.
  - Marks the availability of a property in the rental market
- **Property Rented:** A student has occupied a property and is bound by the rental agreement.
  - Marks the transition from unavailable property to occupied.
- **Inquiry Made:** A student contacts a property owner to express interest in a particular property or to obtain more details.
  - Marks a student's initial engagement with a property owner.
- **Rental Agreement Finalized:** A rental agreement's terms and conditions have been approved by both parties, student and owner, and the agreement has been signed.
  - Marks the transition from available property to unavailable.

## - **Behaviors**

- **Student Search Behavior:** The typical process a student follows when looking for a rental property: searching, comparing, and inquiring.
  - Interleaved with actions like evaluating property listings, contacting property owners, and negotiating rent.
- **Property Owner Listing Behavior:** Property owners or managers list their available properties and respond to student inquiries.
  - Can be seen as an ongoing action where owners may update listings or interact with potential tenants.
- **Rental Agreement Process:** The sequence of interactions between a student and a property owner to finalize a rental agreement.
  - Can include negotiation of terms, contract signing, and the exchange of rental payment.

Note: This document is subject to change as project focus changes.