Online Marketplace Requirements Prescription

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Overview:

   The following requirements are features or behaviors that the system-to-be must have in order to attend to the needs described in the Domain Description. These requirements are what will dictate the specific technologies to be incorporated in the system-to-be, and the software design in large part.

Requirements:

- Business process reengineering
    o The system-to-be must centralize rental listings to reduce the reliance on fragmented sources such as social media, classifieds, and word-of-mouth.
    o The system-to-be must streamline communication between students and landlords through a direct messaging feature, reducing delays in inquiries and responses.
    o The system-to-be must improve rental transparency by standardizing listing details, thus providing a comparison system for potential tenants. Some required fields are price, lease terms, utilities, and date range.
    o The system-to-be must provide security by implementing a landlord verification process to reduce fraudulent listings.
    o The system-to-be must provide a reporting system for users to flag misleading or suspicious listings to improve listing reliability.

- Domain requirements
    o The system-to-be must comply with local housing laws and respect tenant rights.
    o The system-to-be must account for common rental periods that align with the university semester schedule.
    o The system-to-e must recognize that rental agreements often require security deposits and sometimes co-signers.

- o The system-to-be must support short-term (semester-based) and long term (yearly) rental agreements.
- o The system-to-be must consider the fluctuating availability of housing due to high-demand periods before each semester.
- o The system-to-be must accommodate at least one payment method, such as a payment app or bank transfer.

- Interface Requirements
  - o The system-to-be must provide a search interface for users to find listings by criteria such as price range, location, and number of bedrooms.
  - o The system-to-be must allow landlords to create, read, update, and delete apartment listings through an interface designed with usability standards (e.g., completing a new listing form in less than 2 minutes).
  - o The system-to-be must allow registered users to create, update, read, delete roommate listings, including details such as total roommates to split costs between, availability date, and contact information.
  - o The system-to-be must enable users to communicate securely through the app's messaging system using end-to-end encryption.
  - o The system-to-be must support both mobile and desktop platforms with a responsive design.
  - o The system-to-be must allow users to add roommate listings.
  - o The system-to-be must integrate with a payment gateway to facilitate secure online transactions.

- Machine Requirements
  - o The system-to-be must handle up to 10 concurrent users without performance degradation and provide a plan for scaling up to 100 concurrent users as needed.
  - o The system-to-be must synchronize all new apartment listings and listing updates (e.g., availability and pricing) across user devices within 1 minute in 95% of cases.
  - o The system-to-be must store and manage user profiles, apartment details, and transaction history securely using encrypted storage and role-based access control.

- The system-to-be must detect and prevent duplicate apartment listings by analyzing property metadata, including address, landlord ID, and listing title.
- The system-to-be must maintain 99.9% uptime, monitored through automated uptime tracking tools and backed by a redundancy system.

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