

Detailed Requirements Document

MainePad Finder

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Component 1: Roommate Finder

Functional:

- The system shall search for housing based on proximity and cost.
- The system shall search for roommates based on mutual interests and preferences.
- The system shall allow users to send chat messages to other users.
- The system shall send notifications to users regarding messages sent to them about other users and other system-wide updates.

Nonfunctional:

- Security: The system should encrypt all communications sent between users.
- Security: The system should have procedures in place to sanitize all communications to protect against cross-site scripting.
- Intuitiveness: The system should only match two renters together when they either share at least one mutual interest or have preferences that match (i.e., both roommates have personal budget limits which, when combined, exceed the rental fees of the property they wish to rent).

Component 2: Navigation Assistant

Functional:

- The system shall allow users to view property locations on a map.
- The system shall calculate the distance and average commute time between two user-selected locations.
- The system shall determine the best commute path between two given locations based on user preferences regarding toll fees and commute times.

Nonfunctional:

- Reliability: The system should provide users with the same best commute in five refreshes / recalculations.
- Accuracy: The system shall provide a path with directions that actually arrive at a specified destination.
- Intuitiveness: The system shall deem a commute path as the “best” for a user only if it satisfies at least one of the user’s preferences (or whichever path best satisfies the preferences, in cases where none do so).

Component 3: Landlord and Property Rating System

Functional:

- The system shall allow users to write textual reviews about properties and landlords based on their experiences with prior or current leases.
- The system shall allow users to assign ‘stars’ to properties and landlords that quantify the quality of their experience renting properties / interacting with landlords.
- The system shall allow users to see how many people have rated a property, and the average ‘star’ rating conferred upon landlords / properties.

Nonfunctional:

- Accuracy: The system should only allow renters to leave ‘star’ and written reviews based on valid current or prior leases.
- Security: The system should have procedures in place to sanitize all user input to prevent cross-site scripting.

Component 4: Virtual Tour Integration

Functional:

- The system shall display detailed quantifiable information about a property, including rental fees and rent collection rates.
- The system shall allow users to view images of a property’s interior and exterior.
- The system shall allow users to navigate a property’s interior by conducting a virtual 3D tour of the property.

Nonfunctional:

- Accuracy: The system should allow users to observe the *actual* interiors of the properties that they have chosen to tour.
- Intuitiveness: The system should not allow users to navigate outside of a property’s immediate perimeter during a virtual tour.

Component 5: User Account Management

Functional:

- The user shall be able to create an account with a username and password, and sign into that account upon creation using the same username and password.
- The user shall be able to edit personal account information.
- The user shall be able to edit preferences pertaining to their living style (including personal budget limits) that influence the roommates to whom they are paired.

Nonfunctional:

- Security: The system should encrypt all PII and SPII saved to users’ accounts.

- Security: The system should sanitize all SQL statements made using user input to protect against cross-site scripting.
- Accuracy: The system should require users to verify their identities with photo verification.