



MyRoomance: Optimizing Roommate Compatibility Through Intelligent Data-Driven
Algorithmic Matching

UNDERGRADUATE THESIS
Submitted as one of the requirements to obtain
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ABSTRACT

For first-year university students, adjusting to an unfamiliar setting not only involves navigating academic activities, but also figuring out a comfortable living arrangement. President University requires freshmen to live in dormitories for a period of one year. Commonly, students often must share a room with someone (as there are very few single rooms available), so they often selected a double format. The first-year experience typically assigns roommates without paying much attention to individual habits, personalities, or contrasting lifestyles - this is problematic - to new students. A mismatched student roommate can impact the comfort levels for all cohabitating students, which has the potential to affect their overall well-being. To help mediate this issue, and to help support students, MyRoomance is a roommate matching system that operates off a rule-based artificial intelligence system. MyRoomance collects structured, close-ended questions, concerning areas of preference, including sleeping, studying, and whether or not the roommate prefers to socialize. Some of the answers are then analysed based on the raw dataset, and some answers are calculated into a Euclidean distance and weighted score aspects used to produce compatibility scores. The MyRoomance system will, at the end, generate a roommate match suggestion based on roommate pairings with similar personal lifestyles, traits and personal preferences. By utilizing this data-driven model, MyRoomance is hopeful in the ability to minimize any potential clashes that could occur between roommates and facilitate a better living experience for first-year students, reducing the challenges that often surround the randomness of roommate assignments that first-year students while reducing the anxiety of all first-year students.

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