Project Synopsis

Ahmedabad University

CSE300 Software Engineering

Submitted to Faculty: Prof. Khushru Doctor

Name	Enrollment Number	Program
Digant Patel	AU2040086	B Tech (CSE)
Madhvendrasinh Jhala	AU2040162	B Tech (CSE)
Yug Patel	AU2040181	B Tech (CSE)
Deep Patel	AU2040250	B Tech (CSE)
Parth Zinzuwadia	AU2140233	B Tech (CSE)

Project Synopsis

The implementation of an all-in-one software solution aims to address the multifaceted challenges faced by students, Hostel managers, and university administration teams involved in the efficient operation of student residences. One of the primary functionalities of this comprehensive system is to streamline the process of new student registration and room assignment. Through the platform, students can easily register, providing necessary details, while the system automates the room allocation process, ensuring a seamless and efficient experience.

The all-in-one software solution addresses the diverse challenges faced by stakeholders involved in student residence management. By incorporating features related to registration, room assignment, cleaning services, facility booking, dining services, hostel operations, mess management, and communication, the software strives to create a cohesive and efficient system that enhances the overall living experience for university students.

New Student Registration and Room Assignment:

Room Cleaning Services and Facility Booking:

Dining Services and Place Selection:

Admin(Hostel Manager Operations):

Mess Management:

And would act as a communication bridge between students and the Hostel Authorities

Stakeholders

The stake-holders for the given software are the university team that manages the hostel facilities, the hostel managers and staff as well as the students staying in the university hostel.

The model that we have selected for the development of the software is:

Incremental Model:

The incremental model is a software development approach in which requirements are split up into several independent software development cycle modules. Every module in this paradigm goes through the steps of requirements, design, implementation, and testing. The module's functionality is increased with each new release. Until the entire system is achieved, the procedure is continued.

Why Incremental model is suitable in this scenario:

The choice to adopt the incremental model for the development of this software was driven by its suitability for addressing the dynamic and evolving nature of the project requirements. The incremental model allows for the iterative development of the software in small, manageable segments or increments. This approach aligns well with the multifaceted nature of the all-in-one software solution, which encompasses various modules such as new student registration, room assignment, room cleaning services, facility booking, dining services, hostel operations, mess management, and communication channels.

The incremental model offers several advantages in this context. First and foremost, it allows for early delivery of functional components, enabling stakeholders (i.e., the university team) to begin testing the software sooner rather than waiting for the entire system to be completed. As a result the team can make changes if required during the developmental phase of the software as well.

Additionally, the incremental model facilitates flexibility in accommodating changes or additions to requirements as the project progresses. Given the complexity of student residence management and the potential for evolving needs, the ability to incorporate modifications in a systematic and controlled manner is crucial. The incremental model supports this flexibility by allowing for adjustments to be made to individual increments without affecting the entire system.

Furthermore, the incremental model promotes continuous testing and feedback throughout the development process. Each increment is tested independently, providing opportunities to identify and rectify issues early on. This iterative testing and feedback loop contribute to the overall reliability and quality of the software.

In summary, the selection of the incremental model for this software development project is grounded in its ability to provide early, incremental deliveries, accommodate changing requirements, and facilitate continuous testing and feedback. These characteristics make it a well-suited approach for the project, ensuring a more adaptive and responsive development process.