Software Development Life Cycle (SDLC)

The project will follow the Iterative Waterfall Model, a variant of the traditional Waterfall model that incorporates iterative cycles to allow for refinement and improvements based on feedback and evolving requirements. This model is structured into sequential phases, with each phase providing a distinct focus while allowing for iterative development and testing. Here's how the iterative waterfall model will be applied:

1. **Feasibility Study**
   - **Objective:** Evaluate the feasibility of the project in terms of technical, financial, and operational aspects before proceeding to the development phase.
   - **Iteration Aspect:** Feasibility findings may be revisited and updated throughout the project to accommodate any changes in scope or constraints.
2. **Requirements Gathering and Analysis**
   - **Objective**: Collect and analyse all the requirements for the project. This involves understanding user needs, business requirements, and any constraints.
   - **Iteration Aspect**: Requirements may be revisited and refined through iterations to ensure accuracy and completeness.
3. **System Design**
   - **Objective**: Develop the system architecture and design based on the gathered requirements. This includes both high-level and detailed design.
   - **Iteration Aspect**: Design may be iteratively updated based on feedback and new insights gained during the development phase.
4. **Implementation**
   - **Objective**: Code the system according to the design specifications. This phase involves developing the software components and integrating them.
   - **Iteration Aspect**: Iterative cycles involve implementing features, then reviewing and revising them based on testing and feedback.
5. **Testing**
   - **Objective**: Test the system to ensure that it meets the specified requirements and is free of defects. This phase includes unit testing, integration testing, and system testing.
   - **Iteration Aspect**: Testing is performed iteratively, with each iteration focusing on different aspects of the system. Feedback from testing leads to revisions and improvements.
6. **Deployment**
   - **Objective**: Deploy the system to the production environment, making it available to end-users.
   - **Iteration Aspect**: Deployment may occur in stages, with iterative releases to gather user feedback and make incremental improvements.
7. **Maintenance**
   - **Objective**: Provide ongoing support and maintenance to address issues, perform updates, and ensure the system continues to operate effectively.
   - **Iteration Aspect**: Maintenance includes iterative updates and enhancements based on user feedback and changing requirements.

The iterative nature of this model allows for flexibility and responsiveness to changes, making it suitable for projects where requirements may evolve or become clearer over time. Each iteration

provides an opportunity to refine the project, ensuring better alignment with user needs and expectations.