Software development methodologies

Waterfall methodology

Imagine you are the project manager at a software company and you receive the following e-mail:

Subject: Formal Project Request: Fortis Financial "SafePass" Infrastructure Integration

Dear Lead Project Engineer,
I am writing to formally request a proposal for the development and installation of the "SafePass" Biometric Access Control System for our regional headquarters. As we discussed, this project is tied to a strict facility renovation schedule and must adhere to our internal banking security protocols, which necessitate a structured, sequential development approach. Because this system interfaces directly with our physical building safety and insurance-mandated security layers, we require a fixed scope of work where each phase is fully validated before the next begins.

The core of this project involves the deployment of high-fidelity iris scanners and encrypted keycard terminals at four high-security checkpoints. These terminals must be physically integrated with our existing magnetic door locks and, crucially, hardwired into our building's fire suppression system to ensure a fail-open state during emergencies. On the software side, we require a centralized administrative dashboard that allows our HR department to manage biometric enrollments. This system must record every entry attempt into an immutable SQL database with a seven-year retention policy, and it must operate with an authentication latency of less than 1.5 seconds.

From a compliance standpoint, the system must meet the highest industry standards, including AES-256 encryption for all data and full alignment with regional financial privacy laws regarding biometric storage. We are operating under a Waterfall framework for this contract, meaning we expect a comprehensive Requirements Document and a signed-off Design Specification before any hardware is procured or code is written. Following the implementation phase, a full technical manual and a certified security audit must be provided for our final review. We cannot proceed with the installation until the verification phase has been officially signed off by our legal and safety teams.

We look forward to receiving your detailed project plan and a breakdown of the deliverables for each milestone.

Best regards,

Director of Security
Fortis Financial Group

Having made the appropriate considerations and additional assumptions, create a rough structure of the life cycle phases of the assigned project by implementing the Waterfall methodology.

Grading rubric:

- Phase Identification and Logical Sequence (10 marks);

- Application of Project Context (10 marks);

- "Gate" and Documentation Focus (5 marks);

- Handling of Assumptions (5 Marks).

Total marks: 30