1. System Definition (1 day):
   The System Definition phase involves understanding and defining the overall scope and context of the XR Sign Translating Platform (XR-STP). It sets the groundwork for more detailed specifications by answering key questions such as "What will the system do and not do?", "To whom does the system provide service?", "What does the system act upon?", and "For what purpose?". It includes five steps: (i) Overview: providing a high-level overview of the system, its objectives, and benefits; (ii) System Boundary and Environment: identifying the system boundary and environment by defining all actors in contact with the product and its relationship with other systems; (iii) Constraints outlining constraints such as hardware requirements, regulatory constraints, and performance limitations; (iv) Evolution: describing the system's potential evolution; and (v) User Characteristics: defining the characteristics of different types of users, including their roles, skills, and experience levels. This phase ensures a comprehensive understanding of the system's intended functions and limitations within its operational context.

2. Need Specification (2 day):
   In this stage, we identify and specify the needs and requirements (both implicit and explicit) that the XR Sign Translating Platform must fulfill. We also identify the main reasons for its potential evolution and address the following questions: (i) Why does the need exist? (Pourquoi le besoin existe-t-il ?)
   (ii) What could cause the need to evolve? (Qu'est-ce qui pourrait faire évoluer le besoin ?)
   (iii) What could make the need disappear? (Qu'est-ce qui pourrait faire disparaître le besoin ?)
   (iv) For what purpose does the need exist? (Le besoin existe dans quel but ?). Additionally, this phase should provide user stories, indicating more specific needs. By understanding and addressing these needs, the XR Sign Translating Platform can be designed and developed to fulfill its intended purpose while remaining adaptable to future changes and requirements.

3. Functional Analysis (5 days):

The Functional Analysis stage involves breaking down the system into its functional components and specifying detailed functional requirements, ensuring that all necessary features and functions are thoroughly documented and understood. This phase provides four main types of requirements: (i) Functional Requirements: These are detailed descriptions of each feature and function of the XR-STP, organized by use cases or scenarios. For each system state (pour chaque situation de vie), we provide an inventory of main functions (Fm) and constraint functions (Fc), validate them, and characterize them by specifying Prerequisites (conditions or requirements that must be met before a function can be executed), Constraints (limitations or restrictions that must be considered), Input/Output (inputs required by the functionality and the outputs it generates), GUI elements (User interface components that the functionality will utilize), criteria for function appreciation, their levels (expected performance), flexibility of each criteria level, and acceptance limits (la limite d'acceptabilité). (ii) External Interface Requirements: These specifications cover user interfaces, hardware interfaces, software interfaces, and communication protocols, ensuring seamless interaction between the XR-STP and other systems or devices. Additionally, this phase addresses (iii) System Features: Detailed explanations of each system feature, including inputs, processing, and outputs, and (iv) Non-Functional Requirements: Requirements related to performance, security, usability, reliability, and maintainability. This comprehensive Functional Analysis phase culminates in the creation of the Functional Specifications Document, which defines the functional specifications for the XR-STP.

4. System Architectures (Models) (5 days):

The System Architectures phase involves creating models and diagrams that represent the system's architecture, data flow, and interactions. These models help visualize and understand the system's structure and behavior. Key models include (i) Use Case Diagrams that provide visual representations of user interactions with the system, (ii) Data Flow Diagrams that illustrate how data moves through the

system from input to output, (iii) Entity-Relationship Diagrams that show the relationships between different data entities within the system, and (iv) State Diagrams that depict the states of the system and transitions between these states. This phase ensures a coherent and comprehensive visualization of the system's architecture, aiding in the identification of potential issues and the refinement of system design.

5. Plan For Development (2 days):

The Plan for Development phase outlines the approach for developing the XR-STP, including requirement gathering, analysis, documentation, review, and version control. This phase ensures a structured and organized development process by detailing the timeline with milestones and deliverables, identifying potential risks and developing mitigation strategies, and planning for the necessary resources such as personnel, tools, and budget. By maintaining version control and incorporating regular review and iteration cycles, this phase ensures that the development process remains aligned with stakeholder expectations and can adapt to new insights and feedback. This comprehensive planning phase is crucial for managing the project efficiently and achieving the desired outcomes within the defined constraints.