



**NATIONAL UNIVERSITY OF MODERN
LANGUAGES**

Software Construction And Development Assignment No- 1

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COURSE: Software Construction and Development

SUBMITTED TO: Sir Ahsan Arif

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Question 1: Brief description of a project

1. Project Overview

The NHS COVID Vaccination Management System is designed to handle vaccination appointments and vaccine inventory in an organized way. Citizens will be able to book or reschedule their vaccination slots at approved centers. The system will automatically apply booking rules such as age restrictions, required time gap between doses, and vaccine brand preferences. Center administrators will control vaccine stock, set working days and hours, and manage appointment capacity. Vaccination staff will update a citizen's vaccination record once the vaccine is given, and the system will instantly reduce the available stock. This ensures timely bookings, proper stock usage, and accurate vaccination history.

Question 2: Define the scope of the system including needs, goals and stakeholders.

2. System Scope

Key Users

- General Public (Citizens): Reserve or reschedule appointments, receive notifications, and maintain their vaccination history.
- Center Managers: Oversee vaccine availability, schedules, and appointment slots.
- Healthcare Staff: Collect patient consent, deliver the vaccine, and update vaccination data.
- NHS Authorities: Monitor the overall system performance and reports.

System Requirements

- Citizens need a simple and user-friendly way to make or change vaccination bookings.
- Managers require tools to manage vaccine inventory, working shifts, and appointment limits.
- Staff must have a straightforward way to log vaccinations.
- The system must automatically check rules such as age limits, vaccine brand restrictions, and required gap between doses.

System Objectives

- Provide a reliable and fair booking system for all eligible citizens.
- Avoid overbooking by limiting appointments per time slot.
- Maintain updated vaccine stock records after each vaccination.
- Ensure all medical rules (age, brand, and time gap) are followed consistently.
- Reduce manual effort for administrators and healthcare staff while minimizing errors.

Question 3: Implementation of Package diagram for the above-mentioned scenario.

