Case Study Title: Hospital Management System

//pom.xml

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
            http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>com.example</groupId>
  <artifactId>hospital-management-xml</artifactId>
  <version>1.0</version>

  <dependencies>
    <!-- Spring Core & Context -->
    <dependency>
      <groupId>org.springframework</groupId>
      <artifactId>spring-context</artifactId>
      <version>5.3.30</version>
    </dependency>
  </dependencies>
</project>
```

//Patient.java

```java
package com.example.hospital;

public class Patient {
  private String name;

  public void registerPatient() {
```

```java
        System.out.println(" Patient registered: " + name);

    }


    public void getPatientDetails() {

        System.out.println("Patient details fetched for: " + name);

    }


    public void setName(String name) {

        this.name = name;

    }

}


//Appointment.java
package com.example.hospital;


public class Appointment {

    public void bookAppointment() {

        System.out.println(" Appointment booked successfully.");

    }


    public void cancelAppointment() {

        System.out.println(" Appointment cancelled.");

    }

}
//Billing.java
package com.example.hospital;


public class Billing {

    public void generateBill() {

        System.out.println( "Bill generated.");

    }
```

```java
    public void sendBill() {

        System.out.println(" Bill sent via email.");

    }

}
```

//HospitalService.java

```java
package com.example.hospital;


public class HospitalService {

    private Patient patient;

    private Appointment appointment;

    private Billing billing;


    public void manageHospital() {

        patient.registerPatient();

        patient.getPatientDetails();

        appointment.bookAppointment();

        billing.generateBill();

        billing.sendBill();

    }


    // Setters for dependency injection

    public void setPatient(Patient patient) {

        this.patient = patient;

    }


    public void setAppointment(Appointment appointment) {

        this.appointment = appointment;

    }


    public void setBilling(Billing billing) {
```

```java
        this.billing = billing;

    }

}
```

//applicationContext.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
        http://www.springframework.org/schema/beans/spring-beans.xsd">


    <!-- Patient Bean -->
    <bean id="patient" class="com.example.hospital.Patient">
        <property name="name" value="Ammu Birlangi"/>
    </bean>


    <!-- Appointment Bean -->
    <bean id="appointment" class="com.example.hospital.Appointment" />


    <!-- Billing Bean -->
    <bean id="billing" class="com.example.hospital.Billing" />


    <!-- HospitalService Bean with dependencies injected -->
    <bean id="hospitalService" class="com.example.hospital.HospitalService">
        <property name="patient" ref="patient" />
        <property name="appointment" ref="appointment" />
        <property name="billing" ref="billing" />
    </bean>


</beans>
```

//MainApp.java

```java
package com.example.hospital;
```

```java
import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;


public class MainApp {
    public static void main(String[] args) {
        ApplicationContext context =
            new ClassPathXmlApplicationContext("applicationContext.xml");


        HospitalService hospitalService =
            (HospitalService) context.getBean("hospitalService");


        hospitalService.manageHospital();
    }
}
```