shapes.geometric, arrows, positioning, fit, backgrounds package colorRGB173, 216, 230 classcolorRGB255, 218, 185 interface colorRGB221, 160, 221

# HIV Clinic Management System

## Software Design Specification

Version 1.0

- Ho Chi Minh City, July 2025 -

### **Record of Changes**

\_\_p3cm\_\_p2cm\_\_p3cm\_\_p6cm\_\_ Date A\*M, D In charge Change Description

2025-01-07 A Do Dang Khoa Initial creation of SDS document

2025-01-07 A,M Pham Phuoc An Added comprehensive system architecture

2025-01-07 A,M Nguyen Thanh Dat Added detailed class diagrams and specifications

2025-01-07 A,M Tao Minh Tuan Added database design and API documentation

<sup>\*</sup>A - Added, M - Modified, D - Deleted

## Contents

1	Ove	rview	4
	1.1	Code Packages	4
	1.2	Database Design	5
		1.2.1 Database Schema	5
		1.2.2 Table Description	6
2	Cod	le Designs	7
	2.1	User Authentication and Authorization	7
		2.1.1 Class Diagram	7
		2.1.2 Class Specifications	7
		2.1.3 Sequence Diagram	9
			10
	2.2	•	10
		II v	10
			10
		1	13
		1 0	14
	2.3	•	14
	2.0	O v	15
		e e e e e e e e e e e e e e e e e e e	15
		•	18
		1 0	19
	2.4	•	20
		e e e e e e e e e e e e e e e e e e e	20
			20
		1	23
		·	24
	2.5		25
		v i	25
			26
		00	27
	2.6	V	27
		1	27
		1 0	28
3	A DI		28
J	3.1		$\frac{28}{28}$
	~		
4	•		<b>28</b>
	4.1		28
	4.2	Network Architecture	29
5	Deployment Architecture		
	5.1		29
	5.2		29
6	Con	clusion	29
_			

#### 1 Overview

#### 1.1 Code Packages

The HIV Clinic Management System follows a layered architecture pattern with clear separation of concerns. The backend is built using Spring Boot framework with Java 17, while the frontend uses React with modern JavaScript (ES6+). The system implements a comprehensive package structure that promotes maintainability and scalability.