

DAYCARE PROJECT

CSYE 6200

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TABLE OF CONTENT



1. Introduction
2. Flow of the Model
3. Tools and technologies
4. Screenshots of Project
5. Learnings Outcomes
6. Future Scope
7. Contributions

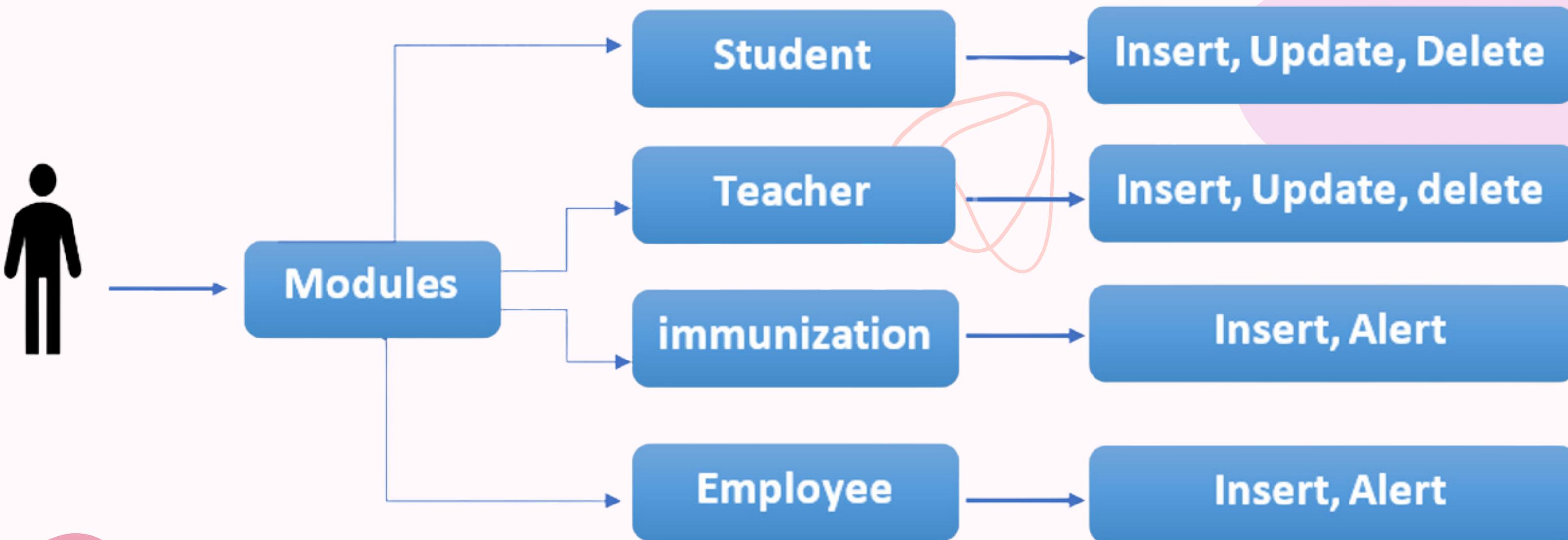
INTRODUCTION

Our project was to develop Daycare Model using the different object-oriented principles and patterns, and as part of our project, we did following:

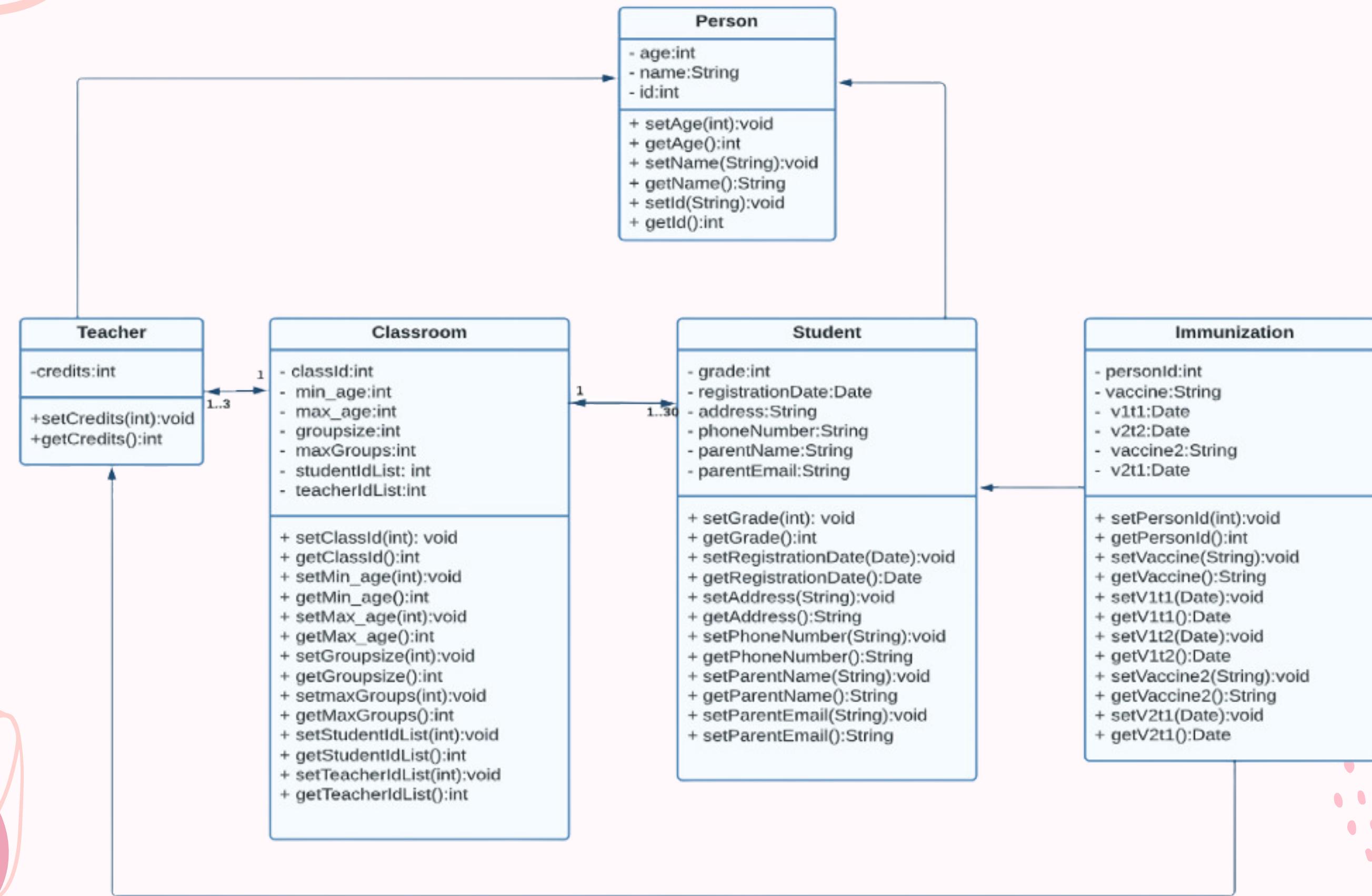
- Student enrollment and getting data.
- tracking the Student Registration and immunization history.
- Usage of Design patterns like Singleton, Factory and MVC design patterns.
- Grouping the Students and teachers to different classrooms with ratio.
- tracking all entities through CSV files.
- Using database for data entry.
- Implementing the model with the Swing GUI using different entities
- tracking the annual employee review.
- Alerts of overdue dates of immunization of students.



FLOW CHART



UML



GROUPING

Age (months)	Group Size	Ratios	Groups Possible (max)
6-12	4	4:01	3
13-24	5	5:01	3
25-35	6	6:01	3
36-47	8	8:01	3
48-59	12	12:01	2
60 on up	15	15:01	2

TOOLS & TECHNOLOGIES

Technologies Used

- H2 Embedded DB
- java Spring Boot
- java Swing
- java
- Design Patterns Used:
Singleton Design Pattern,
Model View Controller Design
Pattern, Factory Design
Pattern, Streams



Tools Used

- IntelliJ IDE
- Netbeans
- Maven



MAINFRAME



A close-up photograph of a baby with light brown hair, wearing a white lace-trimmed onesie and a pink lace headband. The baby is looking directly at the camera with a curious expression. The background is a soft, out-of-focus beige.

USERID

PASSWORD

LOGIN

STUDENT REGISTRATION

DAYCARE REGISTRATION 

Students Registration

New Student

Student Name

Age

Parent Name

Parent Contact

Registration Date

Add Student **Clear Selection** **Delete** **Renew**

Id	Name	Age	Parent Name	Parent Contact	Reg_Date
1	Molly	60	John	4524760317.0	2023-02-07 0...
2	George	36	Calvin	3593304722.0	2023-11-07 0...
3	Frank	25	Perry	3811745470.0	2023-11-03 0...
4	Joseph	65	Dave	652022000000.0	2023-07-27 0...
5	Thomas	55	Anthony	4342910592.0	2023-02-27 0...
6	Henry	61	Eddie	3126022401.0	2023-01-27 0...
7	Robert	29	Amos	1023646304.0	2023-02-04 0...
8	Edward	41	Dennis	6778332411.0	2023-07-04 0...
9	Harry	30	Clifford	7273033722.0	2023-07-14 0...
10	Walter	45	Leroy	3348794169.0	2023-11-12 0...

CLASSES REGISTRATION

DAYCARE REGISTRATION 

STUDENTS

TEACHERS

CLASSES

IMMUNIZATION

Class Id	Age Group	Teacher Ids	Student Ids
1	6-12	[1, 2, 3]	[16, 18, 19, 20, 21...]
2	13-24	[4, 5, 6]	[17, 49, 35, 24, 41...]
3	25-35	[7, 8, 9]	[48, 50, 3, 36, 7, 4...]
4	36-47	[10, 11, 12]	[2, 8, 10, 30, 46, 4...]
5	48-59	[13, 14]	[33, 5, 38, 26]
6	60-200	[16, 15]	[32, 1, 34, 4, 37, 6...]

TEACHER REGISTRATION

DAYCARE REGISTRATION 

Teacher Registration

New Teacher

Name

Age

Ratings

Add **Clear** **Delete**

Id	Name	Age	Ratings
1	Kenny	37	4
2	Arnold	55	5
3	Jeremiah	41	3
4	Joel	65	4
5	Matt	36	5
6	Riley	29	2
7	Vincent	58	4
8	Emory	45	5
9	Isaiah	50	3
10	Nick	47	3
11	Ezra	49	5
12	Laura	37	4
13	Xuan	35	5
14	Clifton	49	2
15	Lucius	52	3
16	Porter	38	5
1215122523	Krishna	22	4
1215123124	Daniel Peters	30	4

IMMUNIZATION REGISTRATION

DAYCARE REGISTRATION 

Vaccination Records

New Vaccination

Id	<input type="text"/>
Vaccine One	<input type="text"/>
First Dose	<input type="text"/>
Second Dose	<input type="text"/>
Vaccine Two	<input type="text"/>
First Dose	<input type="text"/>

Add **Delete** **Clear** **Alert**

Person Id	Vaccine1	Dose 1	Dose 2	Vaccine2	Dose1
1	Covid19	2022-06...	2021-12...	TDAP	2019-07...
2	Covid19	2022-07...	2021-12...	TDAP	2007-10...
3	Covid19	2022-05...	2021-11...	TDAP	
4	Covid19	2022-04...	2021-01...	TDAP	2015-02...
5	Covid19	2022-05...		TDAP	2020-07...

LEARNING OUTCOMES

through the course of the project we learnt:

1. Usage of Swing GUI for the daycare model.
2. Understanding of Spring boot functionality and backend implementation.
3. Understanding the dependencies clearly.
4. DB implementation and building CRUD application.
5. Able to learn and implement MVC and Factory Design Patterns along with different OOPS principles .



FUTURE ENHANCEMENT

1. Health care physicians can be involved in it.
2. Improvise modules to handle latency
3. Usage of cloud hosting platform and enhanced encryption
4. Can be developed interactive statistical analysis on the clinical data using Teacher and Students.
5. Real-time notifications can be added.
6. With emerging technologies like React Native and others, the UI can be more interactive and captivating.



CONTRIBUTION

Chakradhar
Grandhi

testing (UI, BE) and Reporting, Factory Patterns for object creation, Backend: BE logic for persons.

Swing UI - classes pane, BE integration, backend spring integration, frontend Database and Backend: Classroom, Backend spring integration.

Wireframing, Frontend: Swing UI – classes pane, BE integration, frontend Database and Backend: Student jtable.

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Frontend and Backend: teacher jtable, SpringBoot, DB Integration, testing (UI, BE) and Reporting, Bug fixes.

Integration and Backend: Swing UI vaccinations, BE integration, alert notifications.

Backend: BE logic for classes ratio and testing, backend: Immunization backend, Factory pattern for object creation.





THANK YOU!