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|  | **KATOWICE INSTITUTE OF TECHNOLOGIES**  **INFORMATION TECHOLOGY** |  |

**IT SYSTEM DESIGN**

**SYSTEM DESIGN REPORT**

**SUBJECT**

The Web Application for Patients, Lab Technicians and Doctors

To Manage Diseases and Access Pathological and Diagnostic Reports

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1. PROJECT SCOPE
   1. What is The Project?

This project contains a web information management system to store, manage and present information about diseases of patients. It has report management system inside to manage diagnostic and pathologic reports. We have 4 types of user at this system;

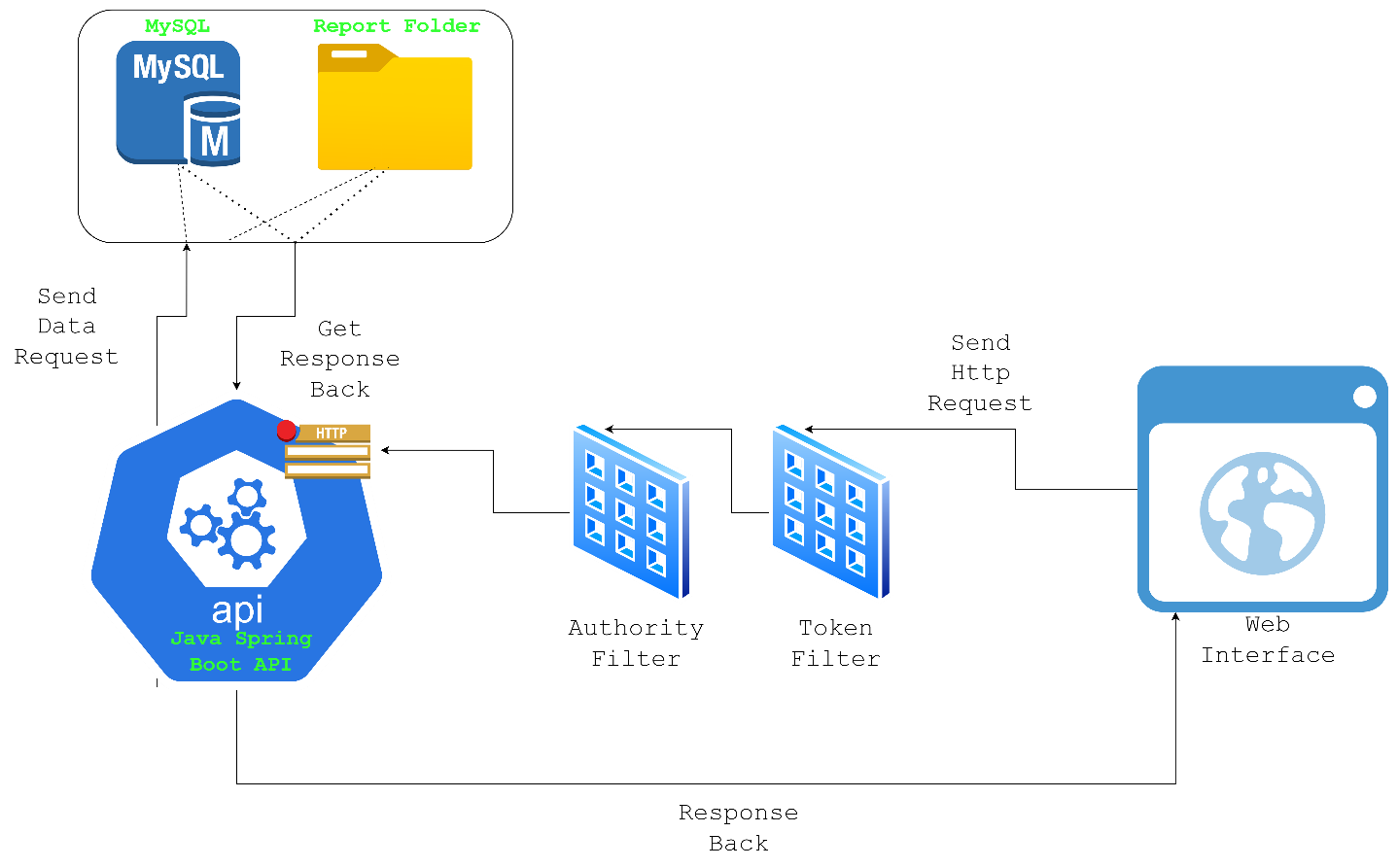
*Patient*: A person who wants to examine their own diseases, pathology and diagnostic reports.

*Lab* Techinician: A person who performs lab requests created by doctor for patients and enters pathologic reports to the system.

*Doctor*: A person who deals with patients and creates diseases, lab requests, diagnostic reports for them.

*Admin*: A person who manages the all system. It has full authorize.

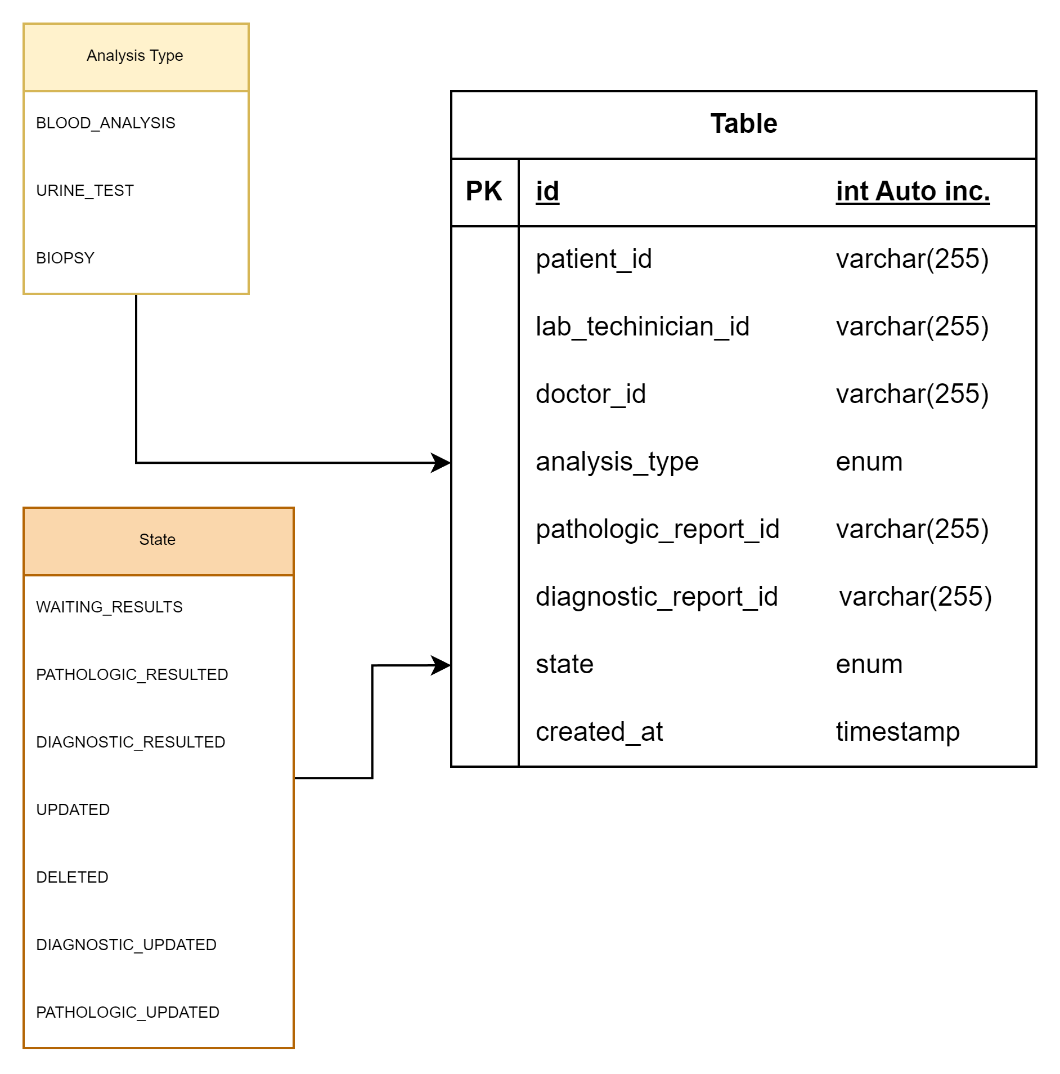
* 1. What is The Purpose of Project?
* Managing diseases of patients.
* To get easier managing and accessing pathologic and diagnostic reports.
* To get easier and be faster the accessing the patient results.
* Taking to digital place the patient diseases.
  1. What are The Components of Project?
* Database
* Web API
* Web Interface



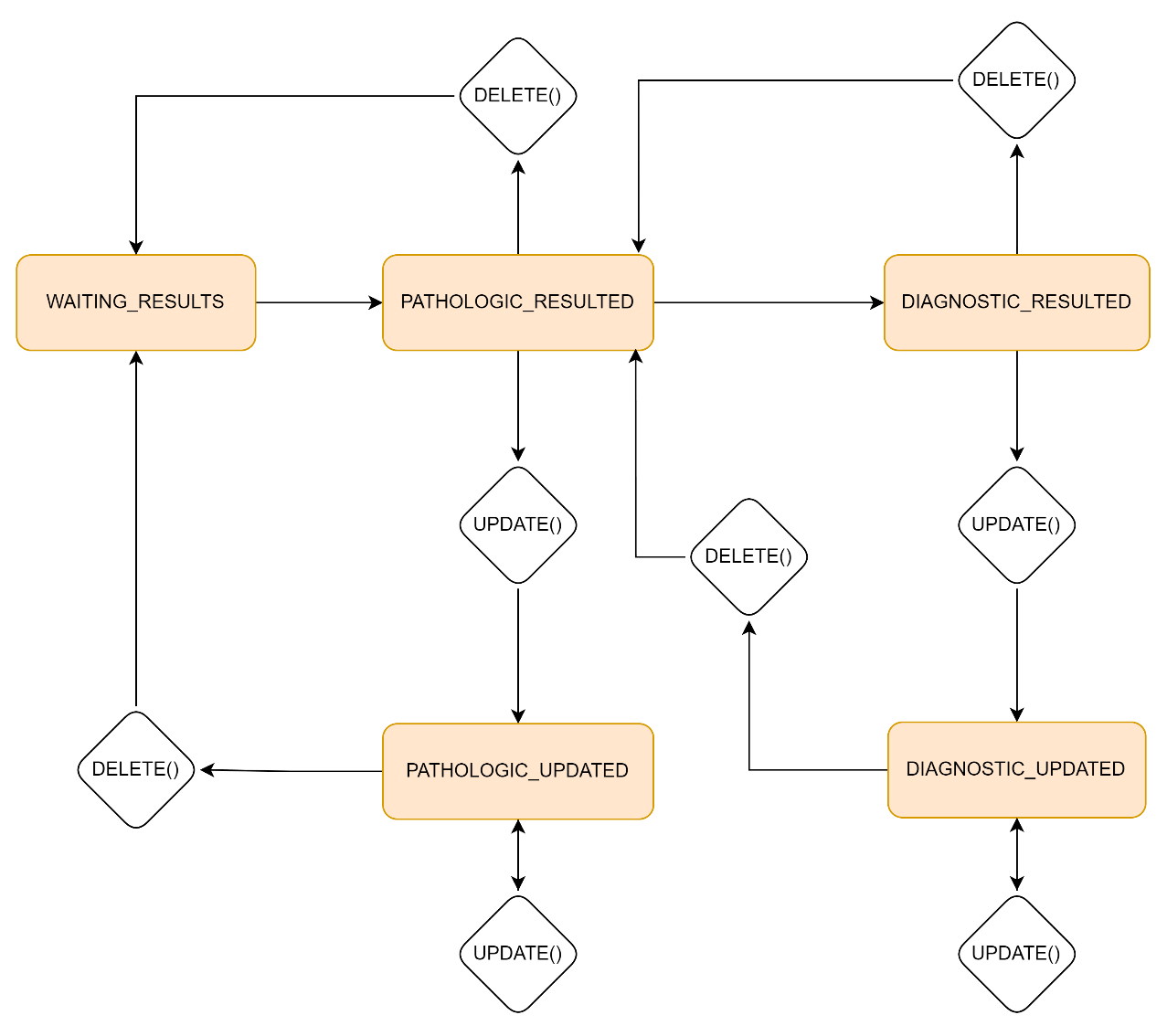
* 1. What are The Functionalities of Project?
* Create Patient/Lab Technician/Doctor User
* Update Patient/Lab Technician/Doctor Informations
* User Authentication by Login/Logout
* User Authorization by Authorization Manager
* Create, Update, Delete, View pathologic and diagnostic results of patients.
* Download Patient Results as .pdf file
* Managing diseases for patients.
* View disease state as live

\*\*\* Some of these functionalities can be perform only by who has authority. For more information check the “USER AUTHORIZATION”.

1. COMPONENTS
   1. Database
      1. Entities
         1. Disease



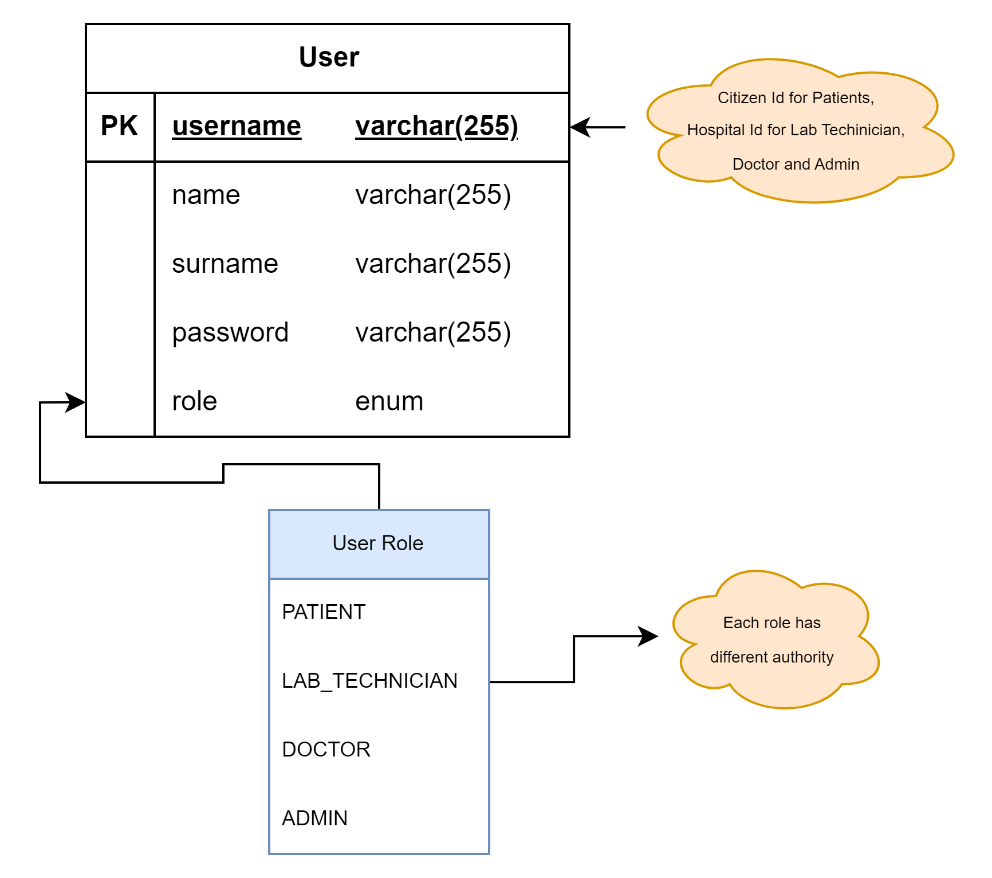
* + - 1. Disease State Flow



* + - 1. Report



* + - 1. User



* + - 1. Report File

This report file creating by using disease and report entities. It has following properties;

* Report\_number
* Result (title, details)
* Issue\_Date
* Report\_type
* Patient\_id
* Doctor\_name
* Lab\_Techinician\_name



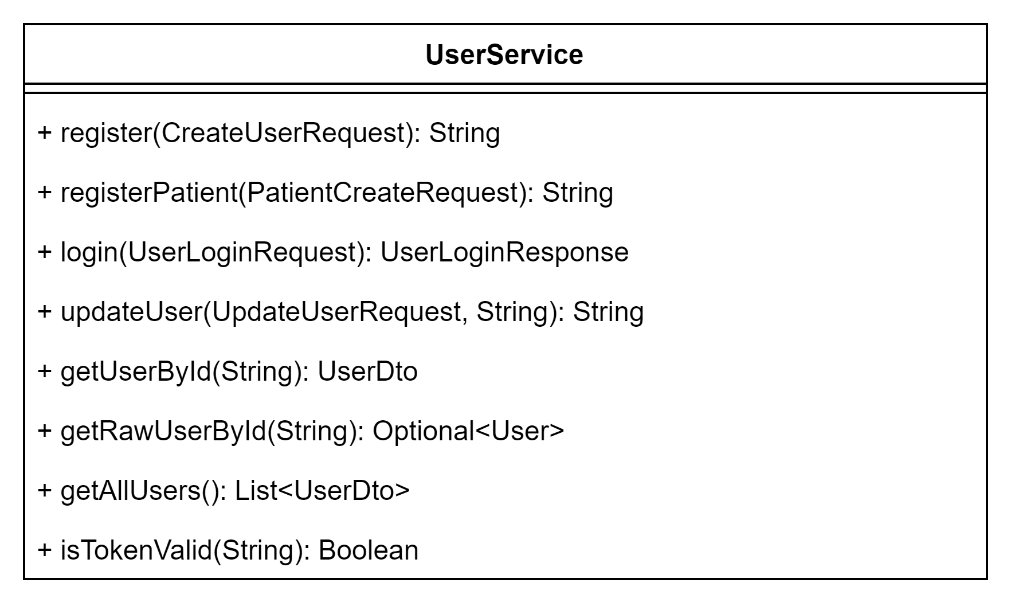
* + 1. Developing Tools
       1. MySQL

Patient, doctor and lab techinican informations stores here.

* + - 1. Spring JPA Repository

An ORM technoligies for Spring boot to create and manage database.

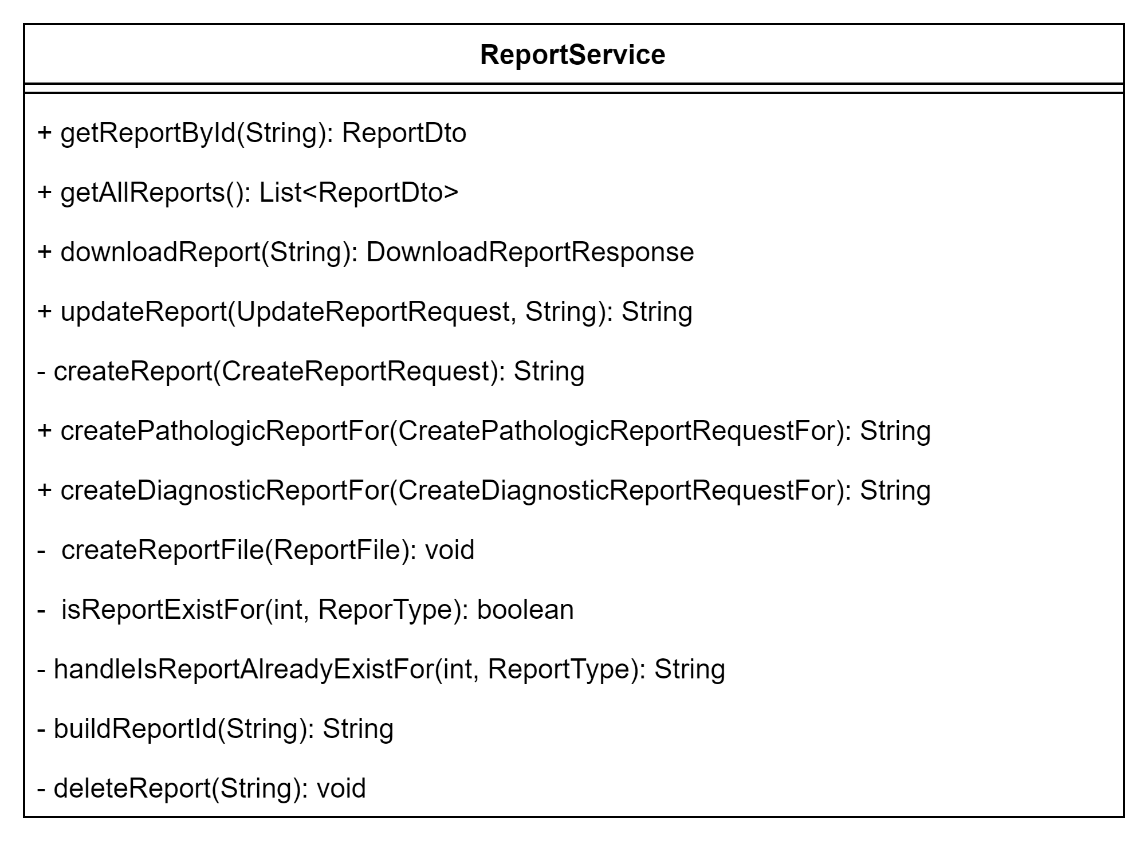
* 1. Web API
     1. User Service



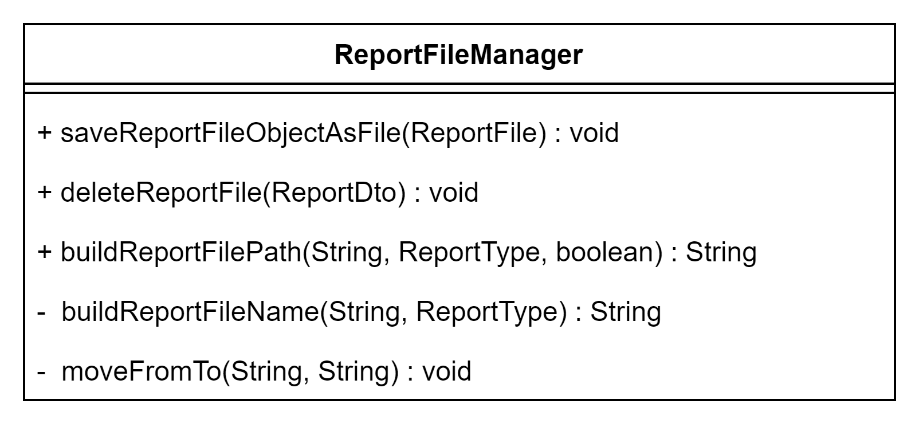
* + 1. Disease Service



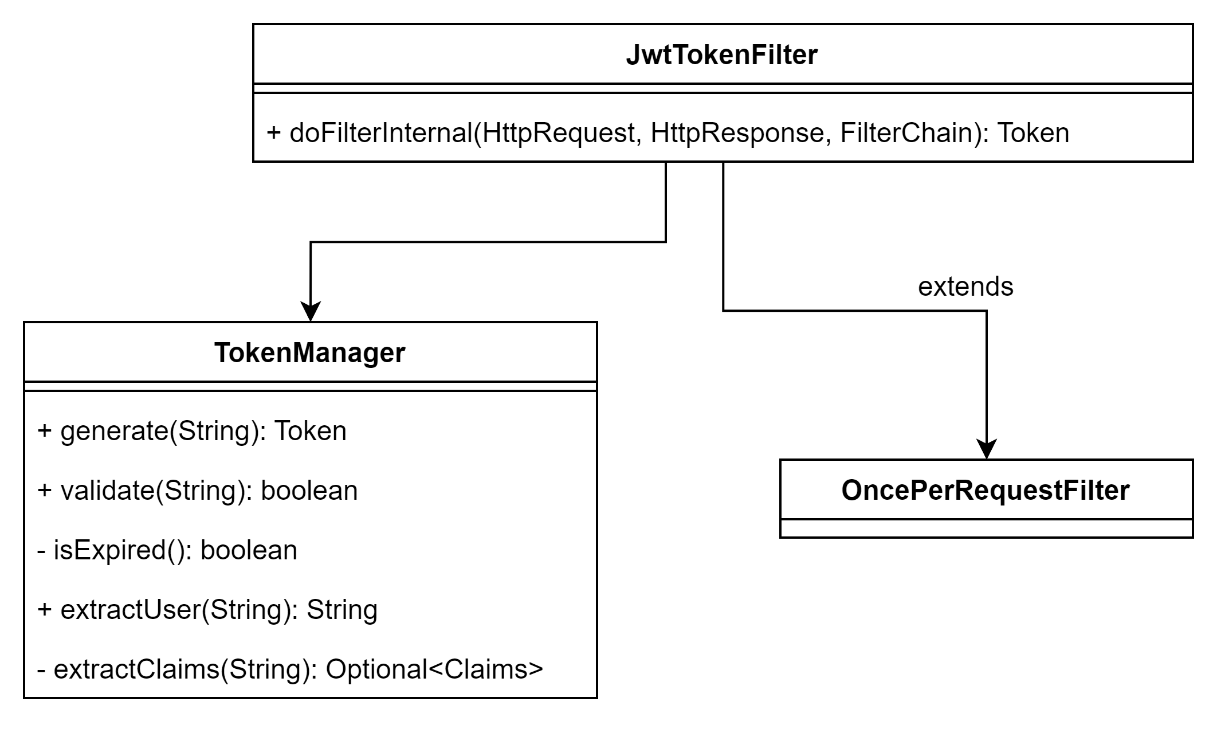
* + 1. Report Service

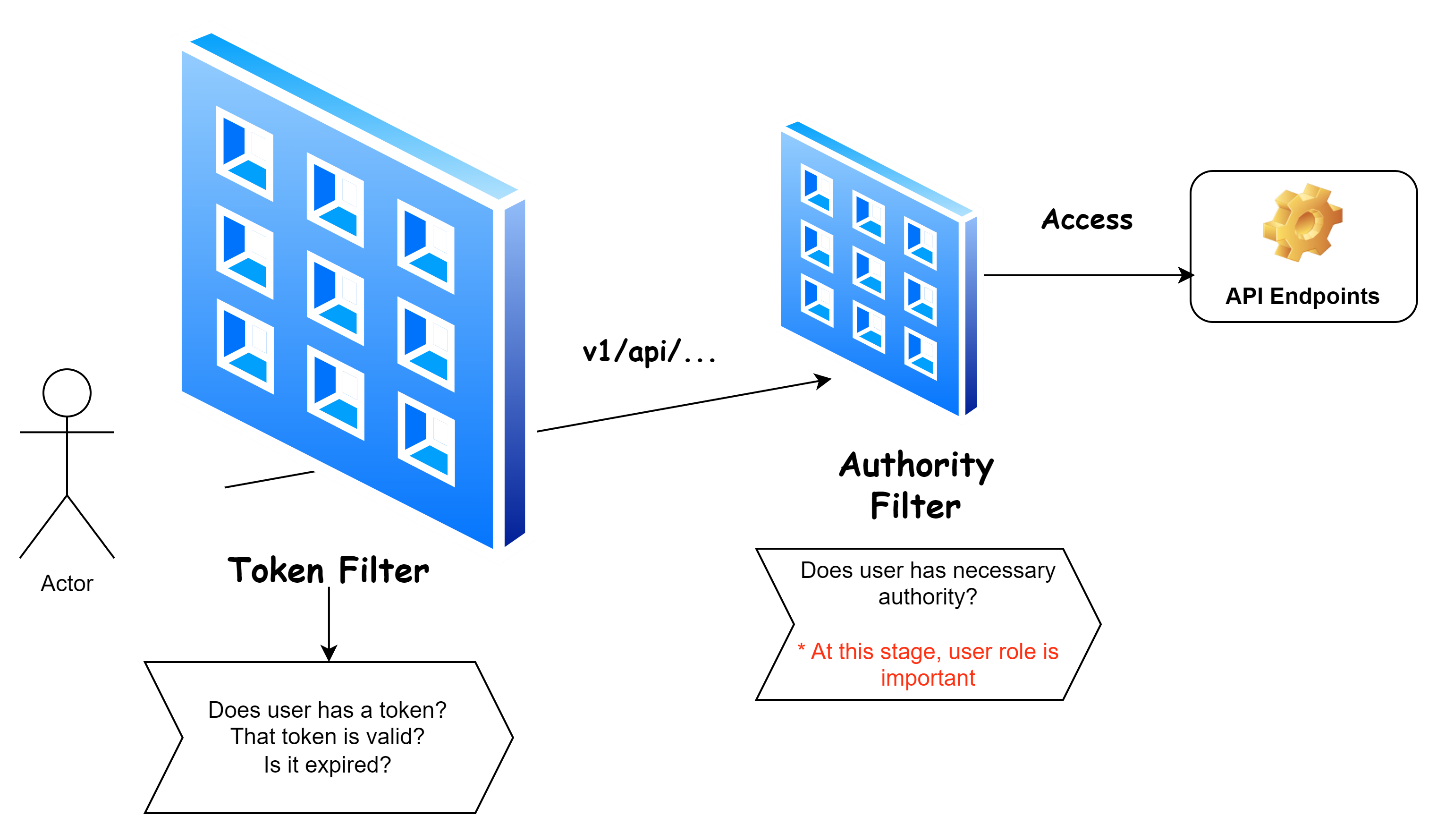


* + 1. Report File Manager



* + 1. Authentication





* + 1. Developing Tools
       1. Java 19

This language is the core of the Web API. Whole programming will do by this OOP lang.

* + - 1. Spring Boot

Spring Boot is a Java based framework to develop web projects. It has various module inside to create a web project. Spring-test, spring-web, spring-security, spring-aop, spring-jpa, spring-messging, spring-webmvc, spring-jdbc are some of these modules.

* + - 1. OpenAPI

OpenAPI is a tool to document endpoints of an API. In this way we can easily test and view our endpoints.

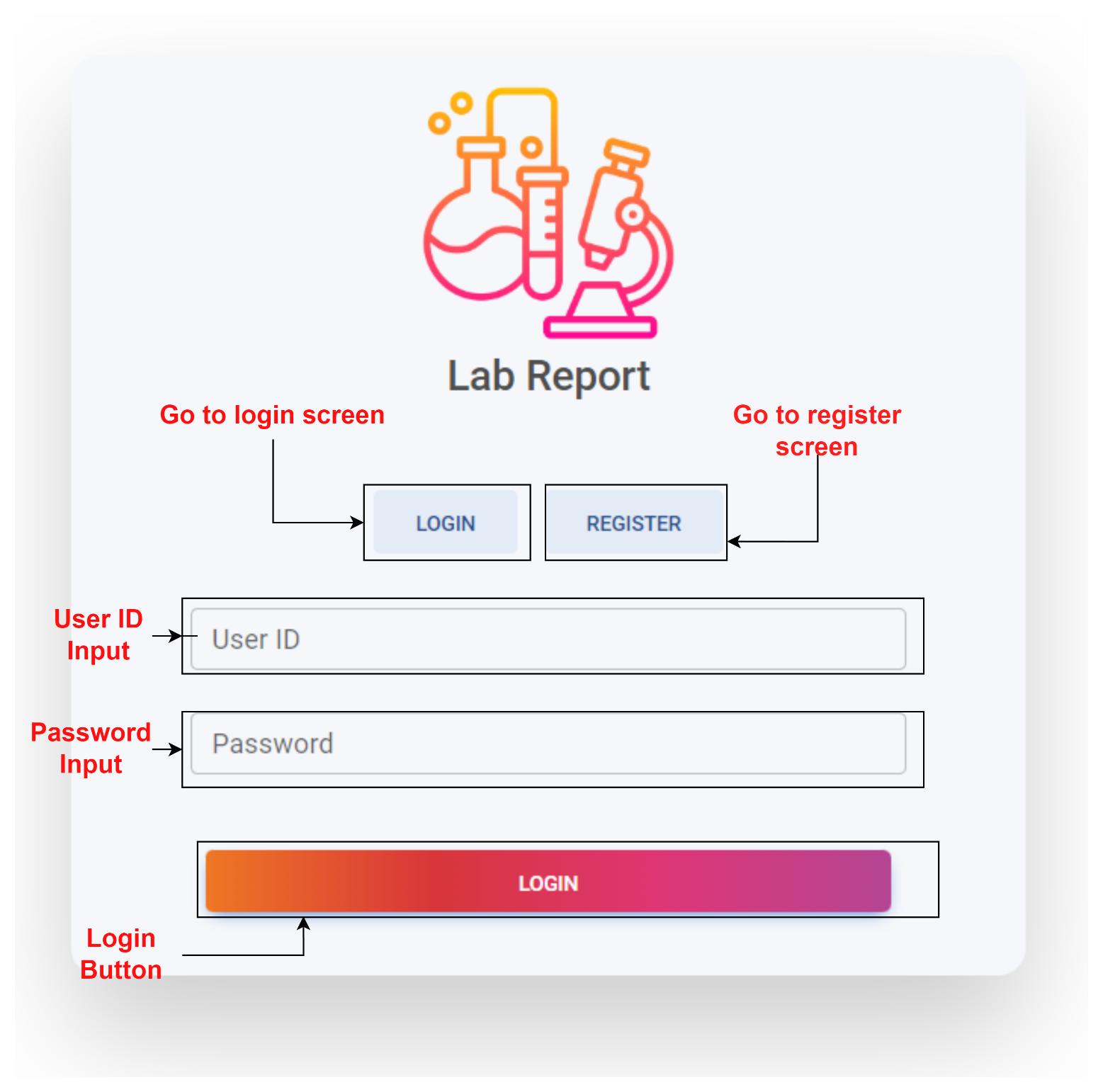
* + - 1. Maven

Maven is a dependency manager. Sometimes we need some libraries. At this stage maven downloads the needed libraries from Maven Repository and adds it to project for us.

* + - 1. IntelliJ IDEA

Intellij IDEA is a famous IDE for programming Java. It has various tools inside. Version Control System is one of these.

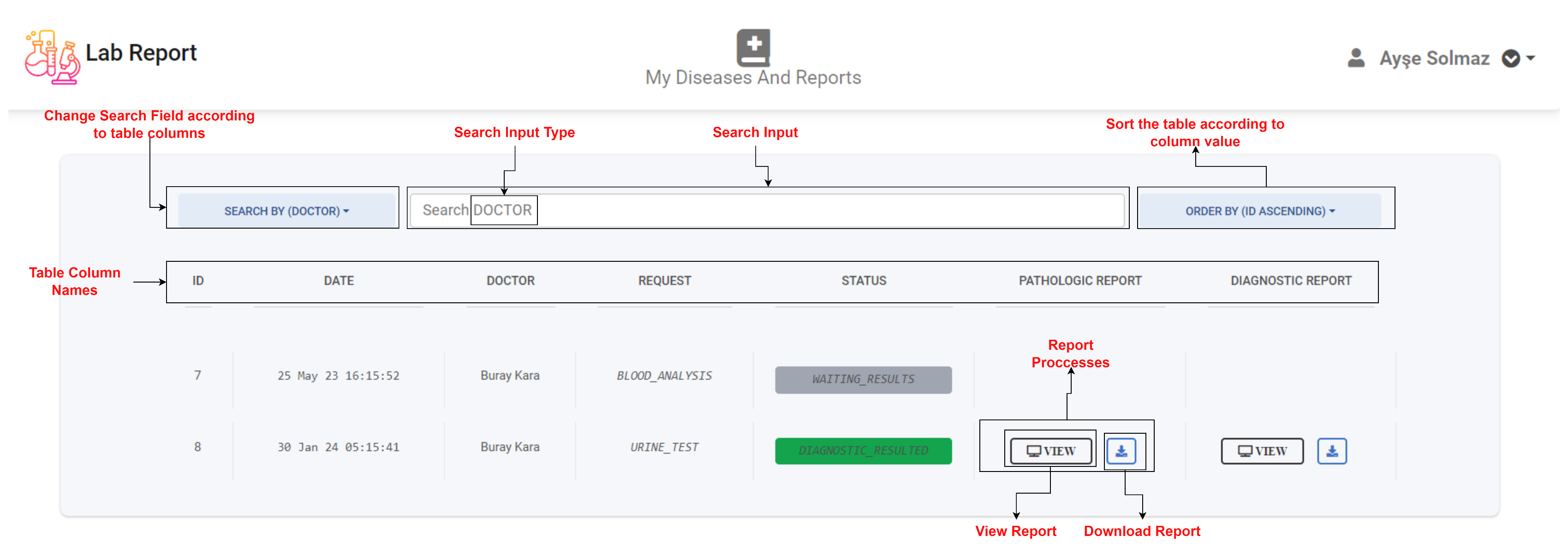
* 1. Web Interface User Manual
     1. Pages
        1. Login



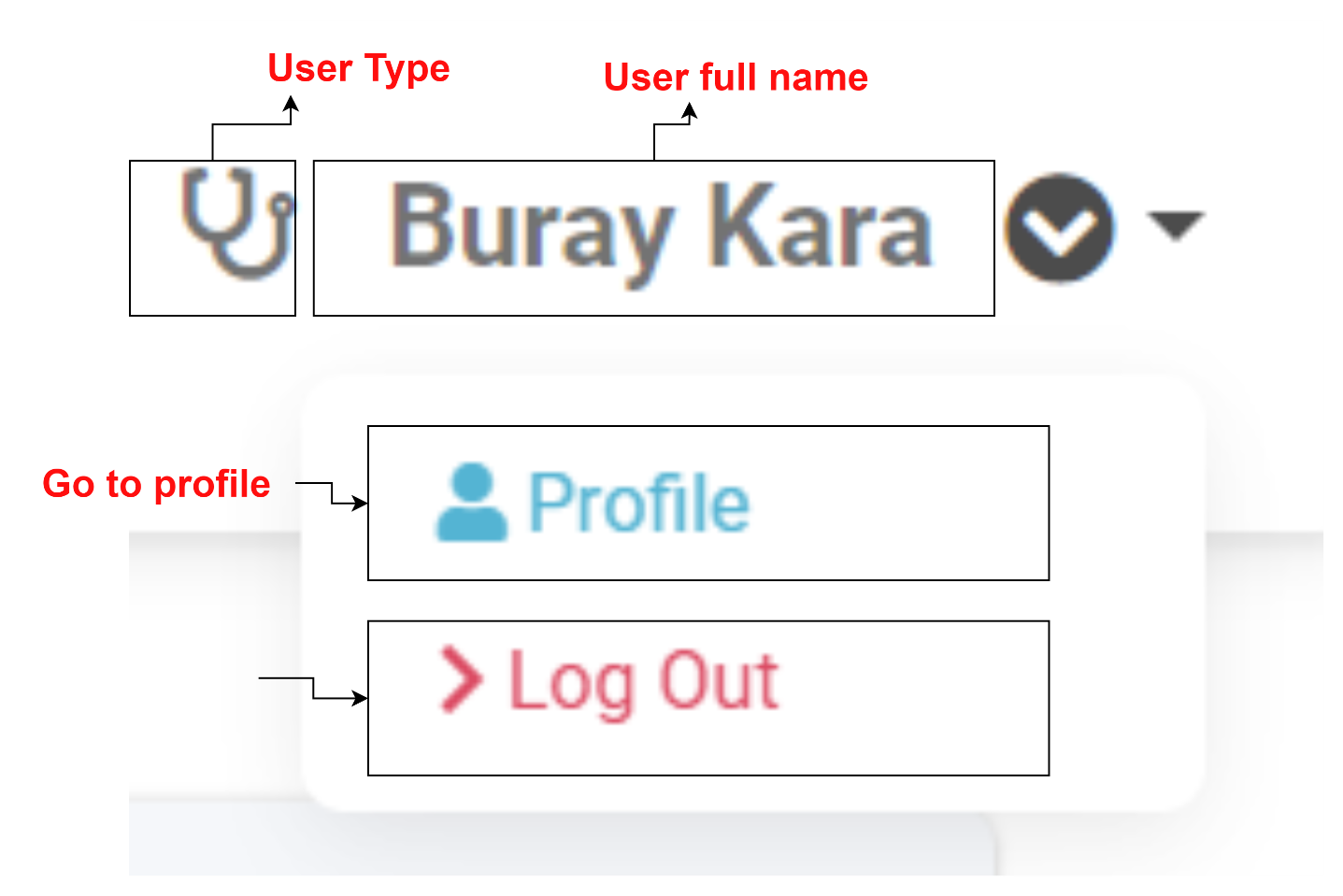
* + - 1. Register



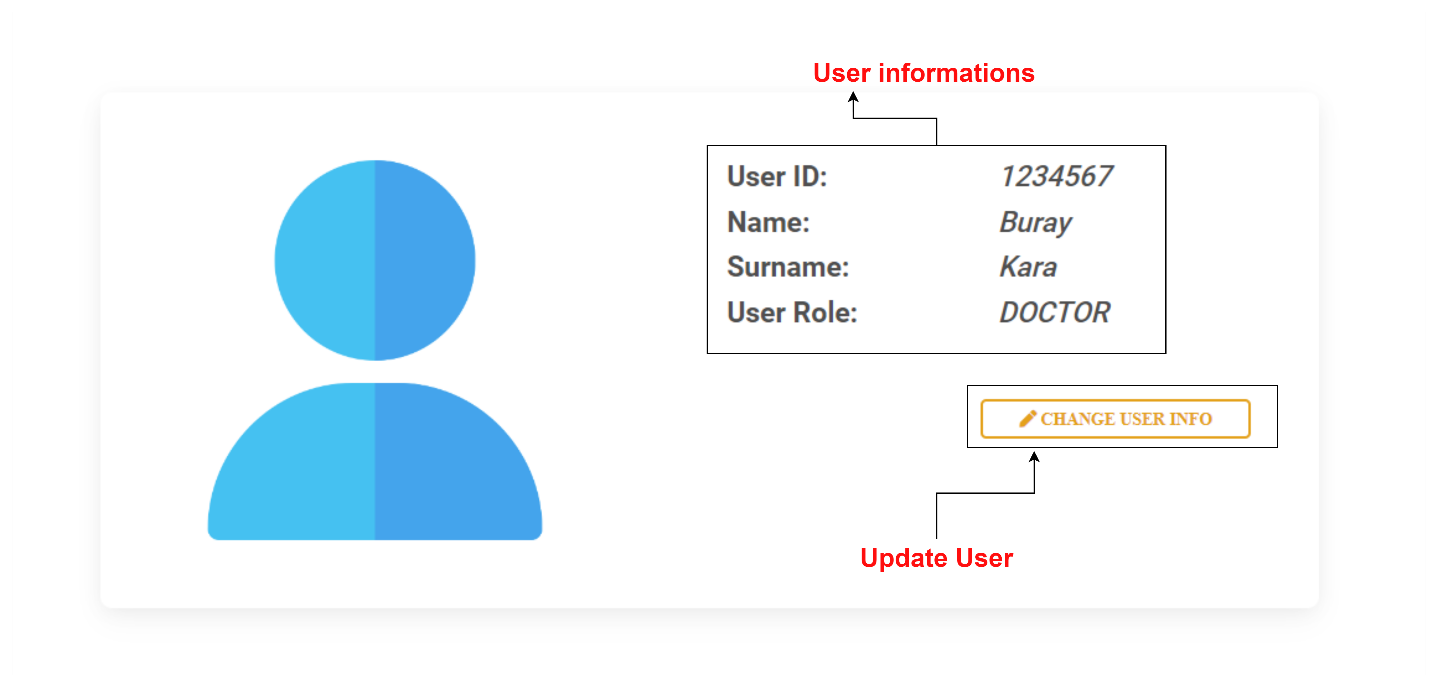
* + - 1. Patient Dashboard



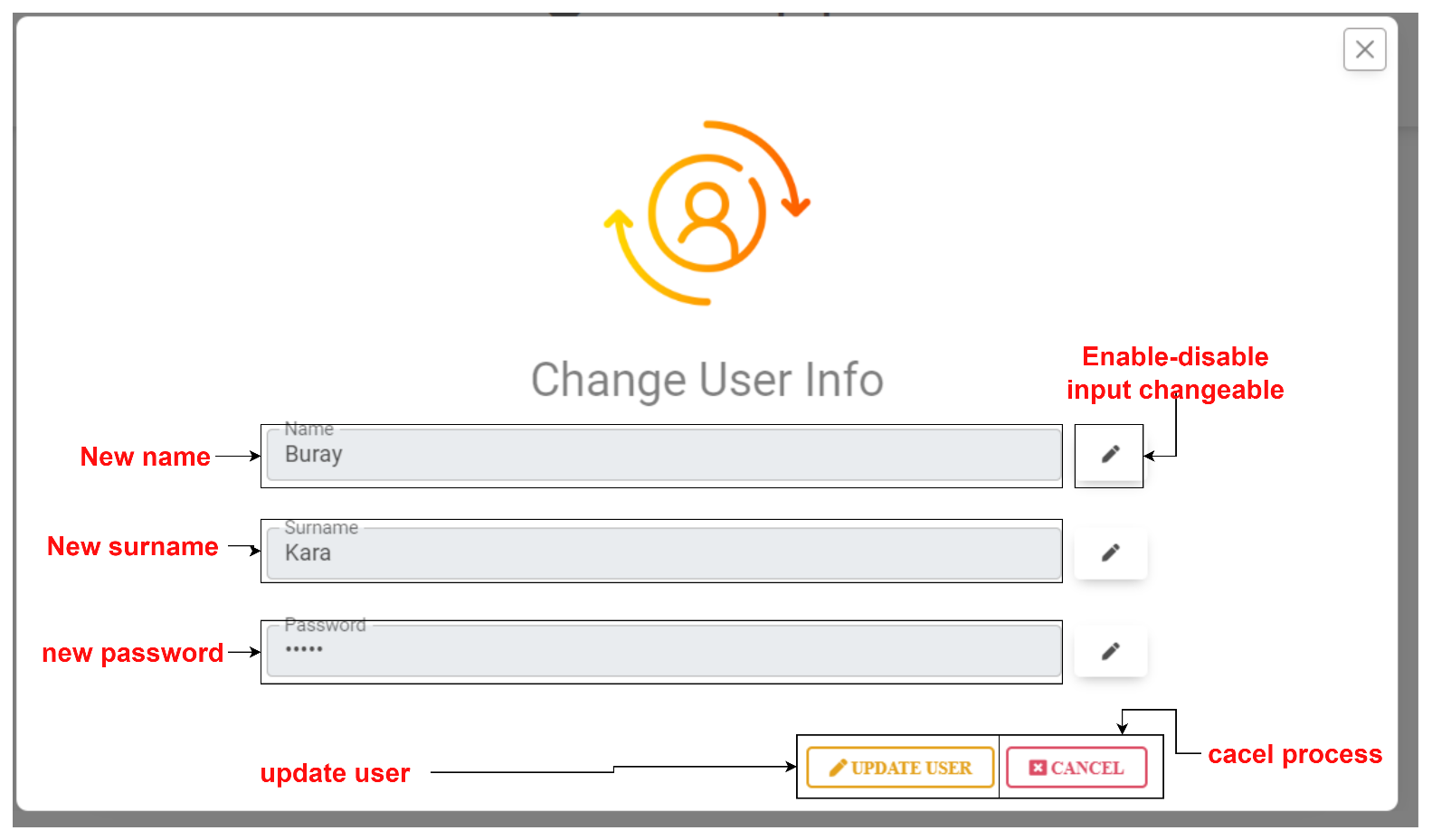
* + - 1. User Drop-Down



* + - 1. User Profile



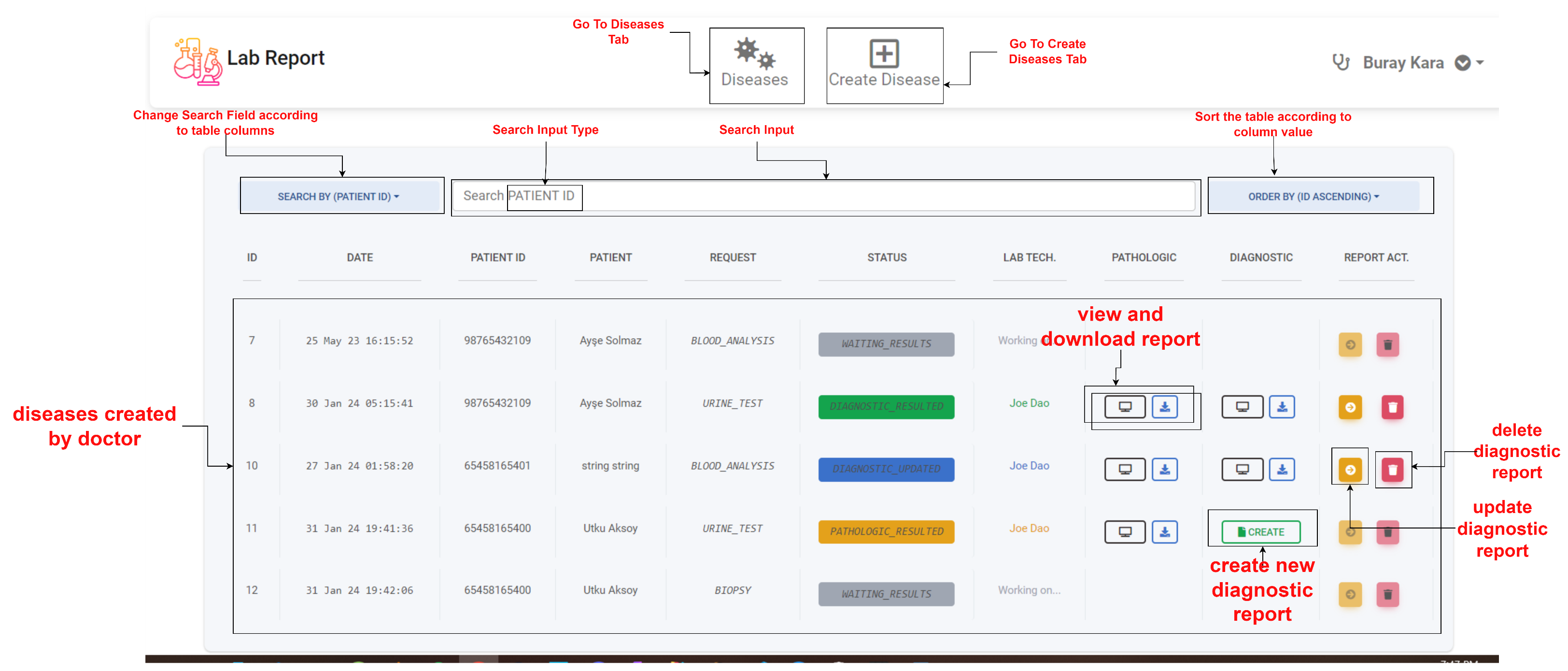
* + - 1. Update User



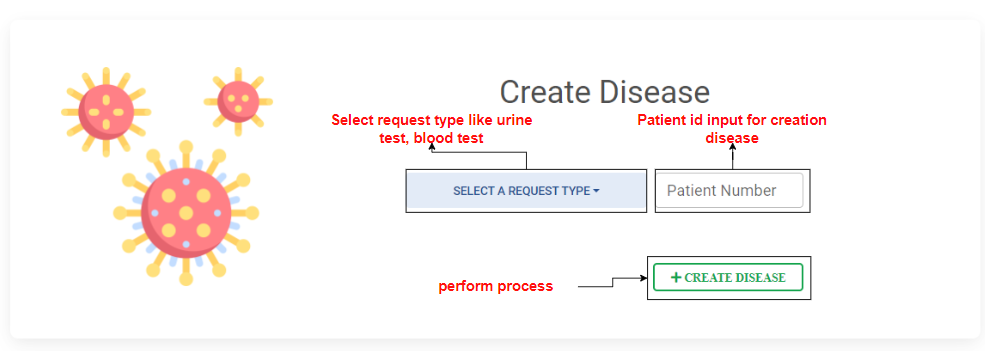
* + - 1. Are You Sure Modal



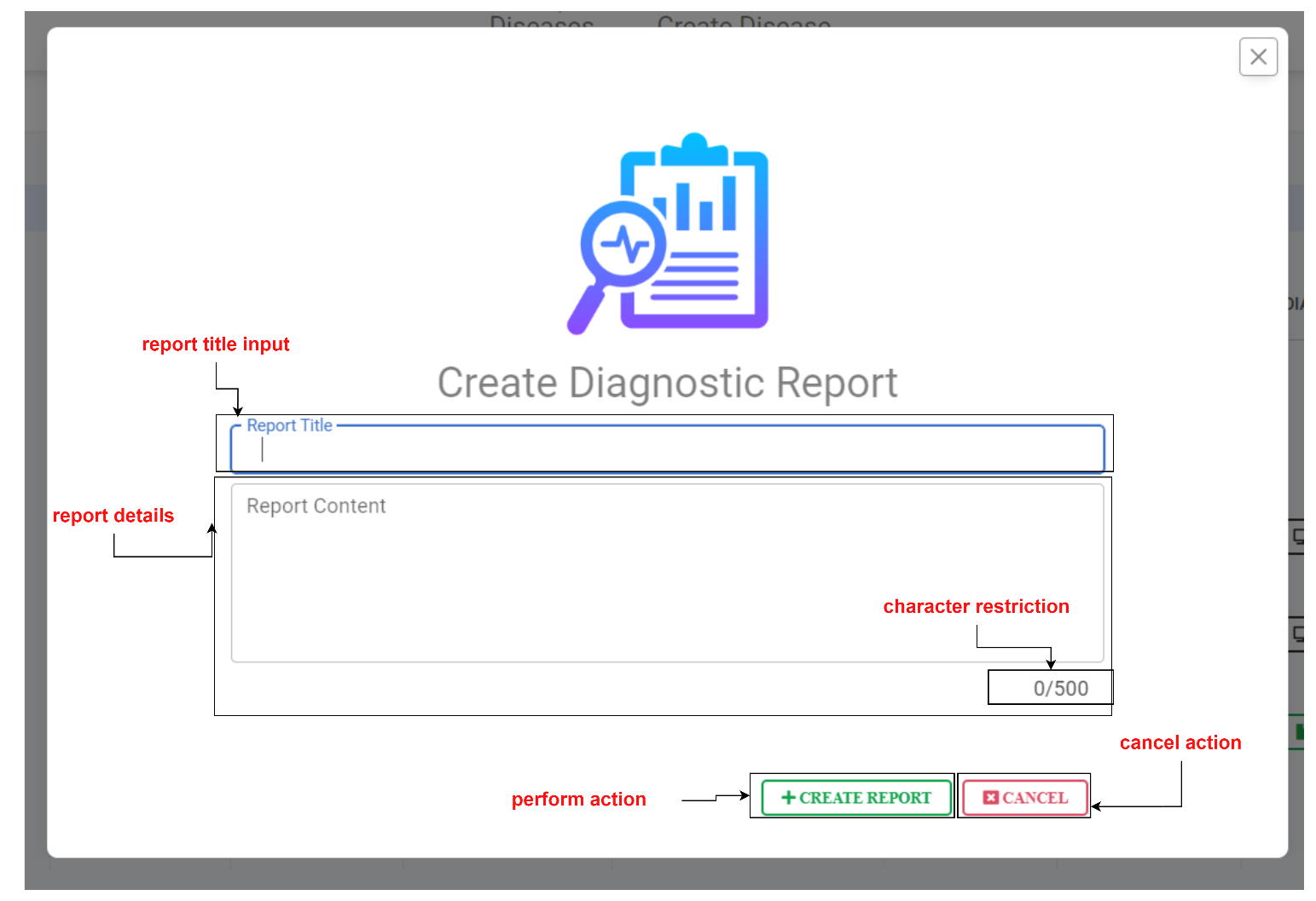
* + - 1. Doctor Dashboard



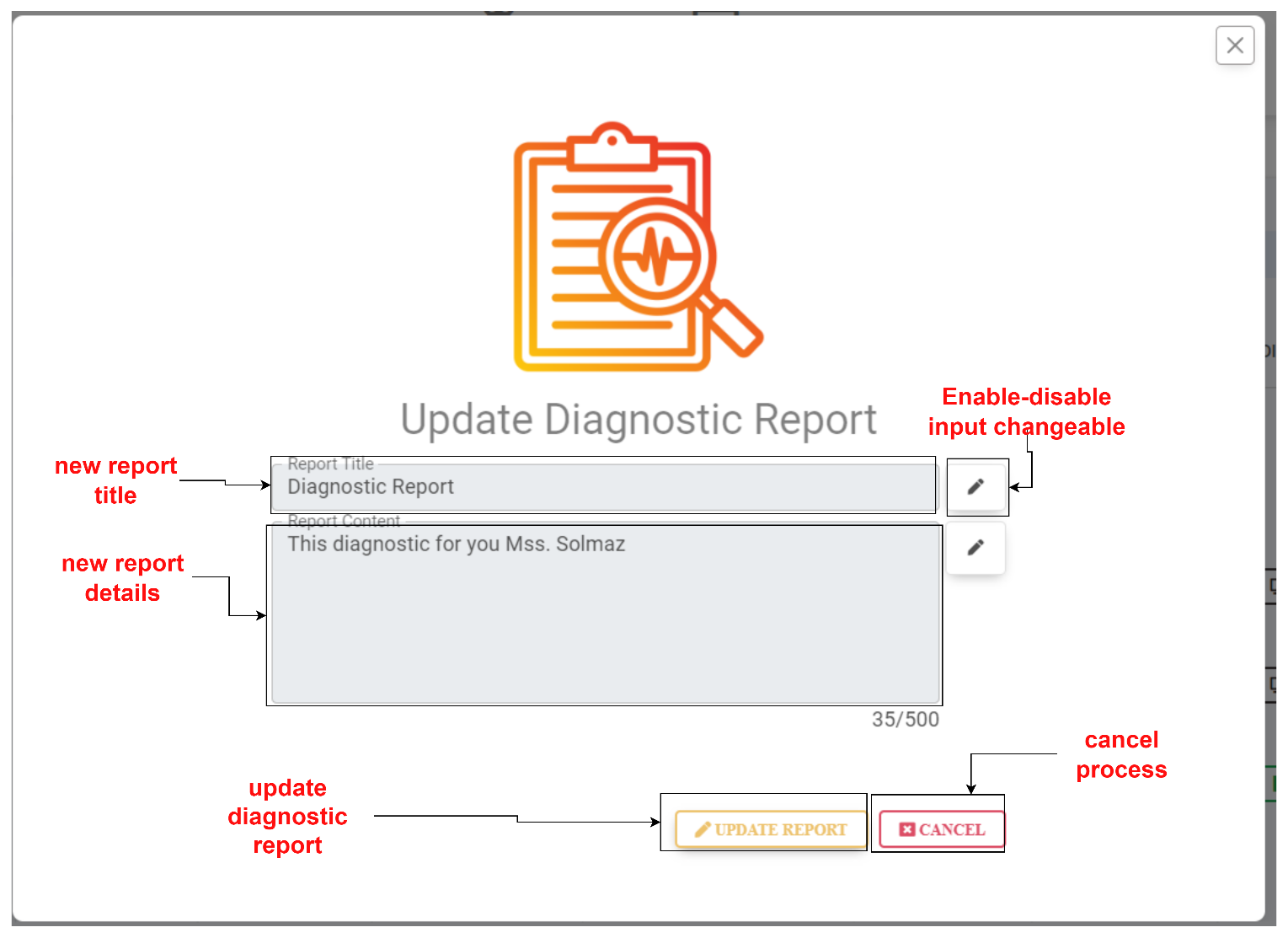
* + - 1. Create Disease



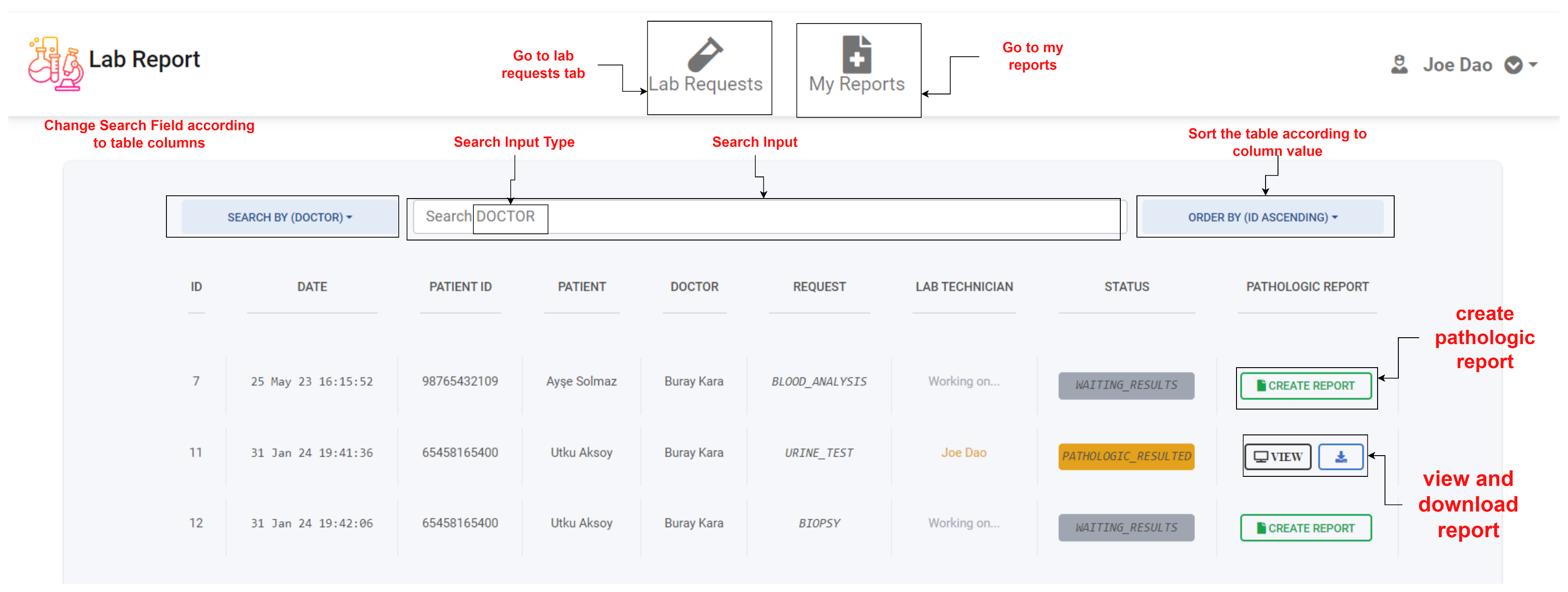
* + - 1. Create Diagnostic Report



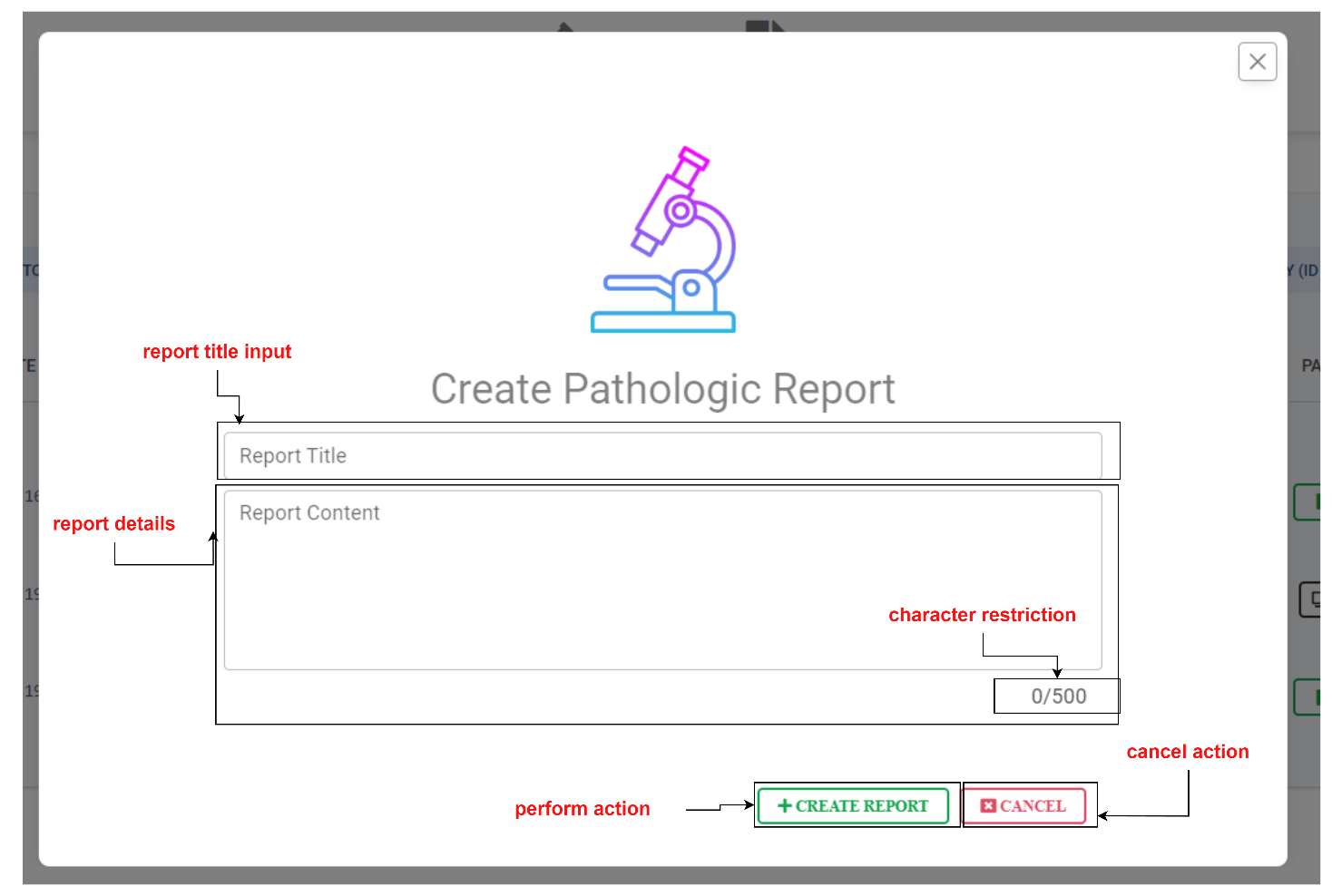
* + - 1. Update Diagnostic Report



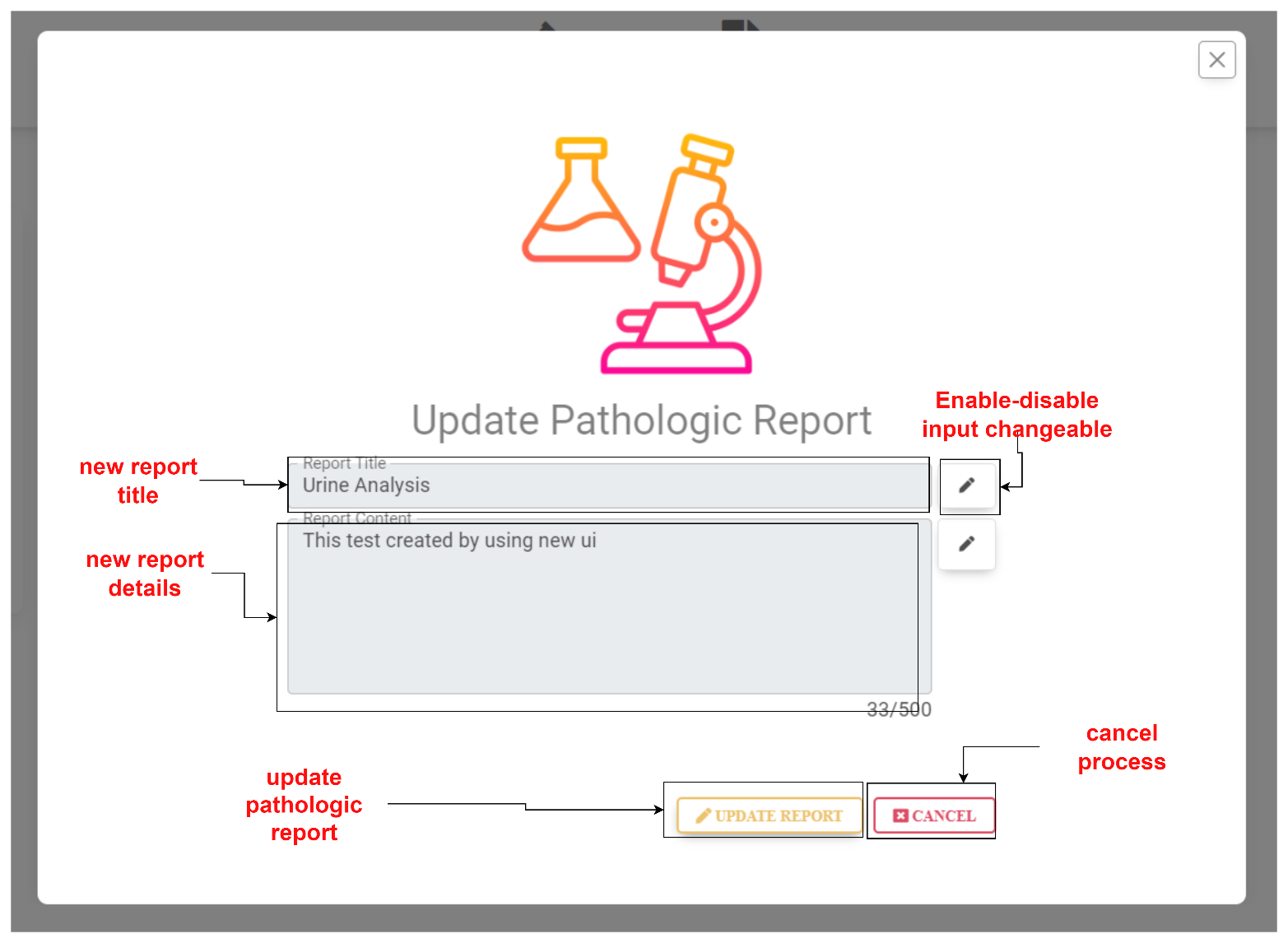
* + - 1. Lab Technician Dashboard



* + - 1. Create Pathologic Report



* + - 1. Update Pathologic Report



* + - 1. My Reports



* + 1. Developing Tools
       1. Javascript

Javascript is a interpreted programming language and has plenty frameworks and libs. It is mostly using on web programming. I am going to use it to communicate with my Web API.

* + - 1. React.js

React is a Javascript based web and mobile framework. I am going to use it to develop web-frontend side of this project.

* + - 1. Bootstrap

Bootstrap is a Javascript based CSS library. We can design the html objects just giving them class name through this library.

* + - 1. Flaticon

Flaticon is web site providing a lot of free icon. I am going to use this web site to desing my interfaces.

* + - 1. FontAwesome

FontAwesome is a icon library contains many various icons.

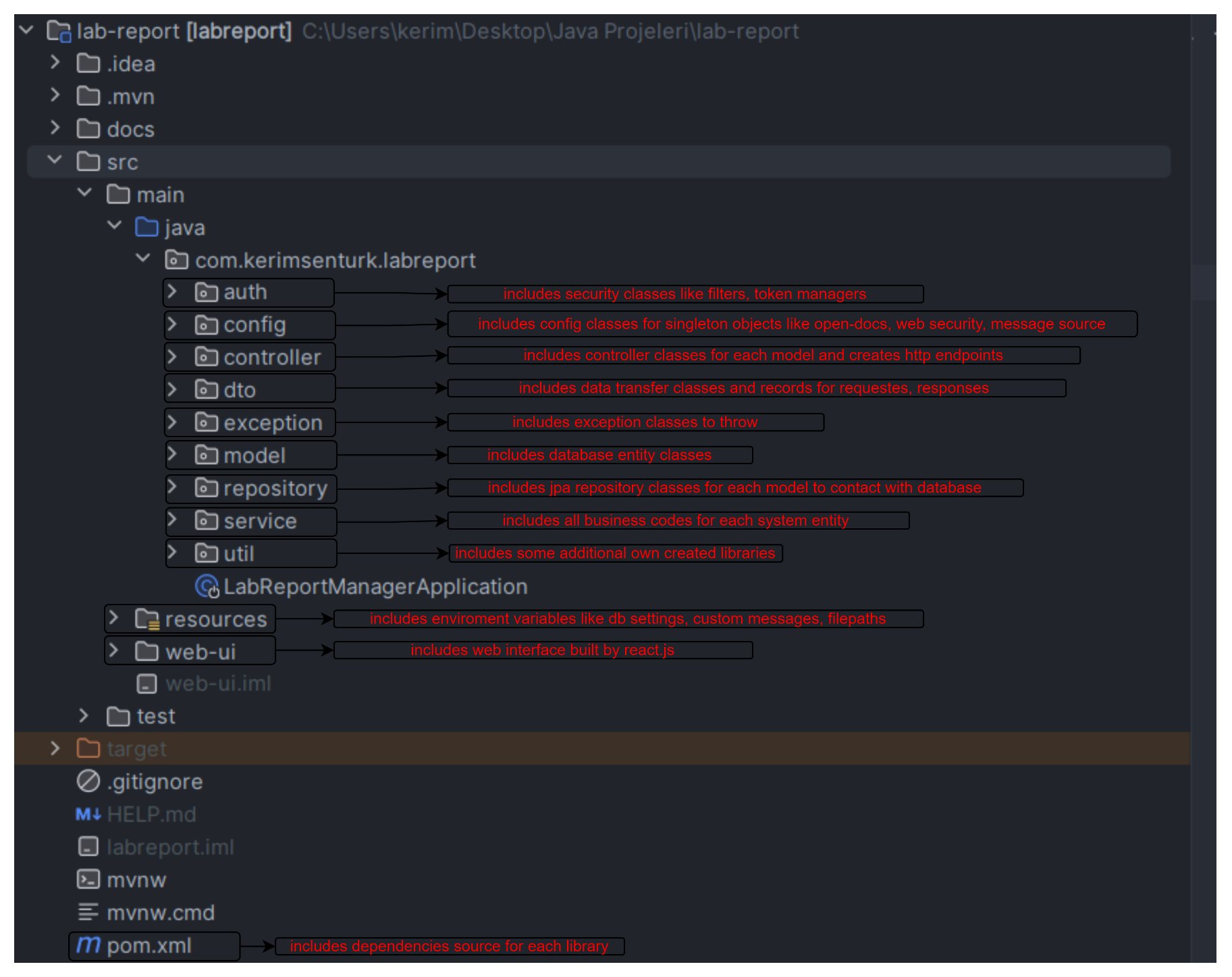
* + - 1. React-Toastify

React-Toastify is a toast message library for web apps.

1. USER AUTHORIZATION



1. FILE STRUCTURE
   1. Web API



* 1. Web UI

