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

**IT SYSTEM DESIGN**

**PREVIEW DESIGN REPORT**

**SUBJECT**

The Web Application for Patients and Lab Technicians

To Manage and Access Pathological Reports

**PREPARER**

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1. PROJECT SCOPE
   1. What is The Project?

This project contains an web information management system to store, manage and present pathological and diagnostics results of patients. We have 3 types of user;

*Patient*: Who is want to see pathological and diagnostic results of him

*Lab* Techinician: Who is entering the pathological results to system.

*Doctor*: Who is review the pathological results and creating diagnostic reports.

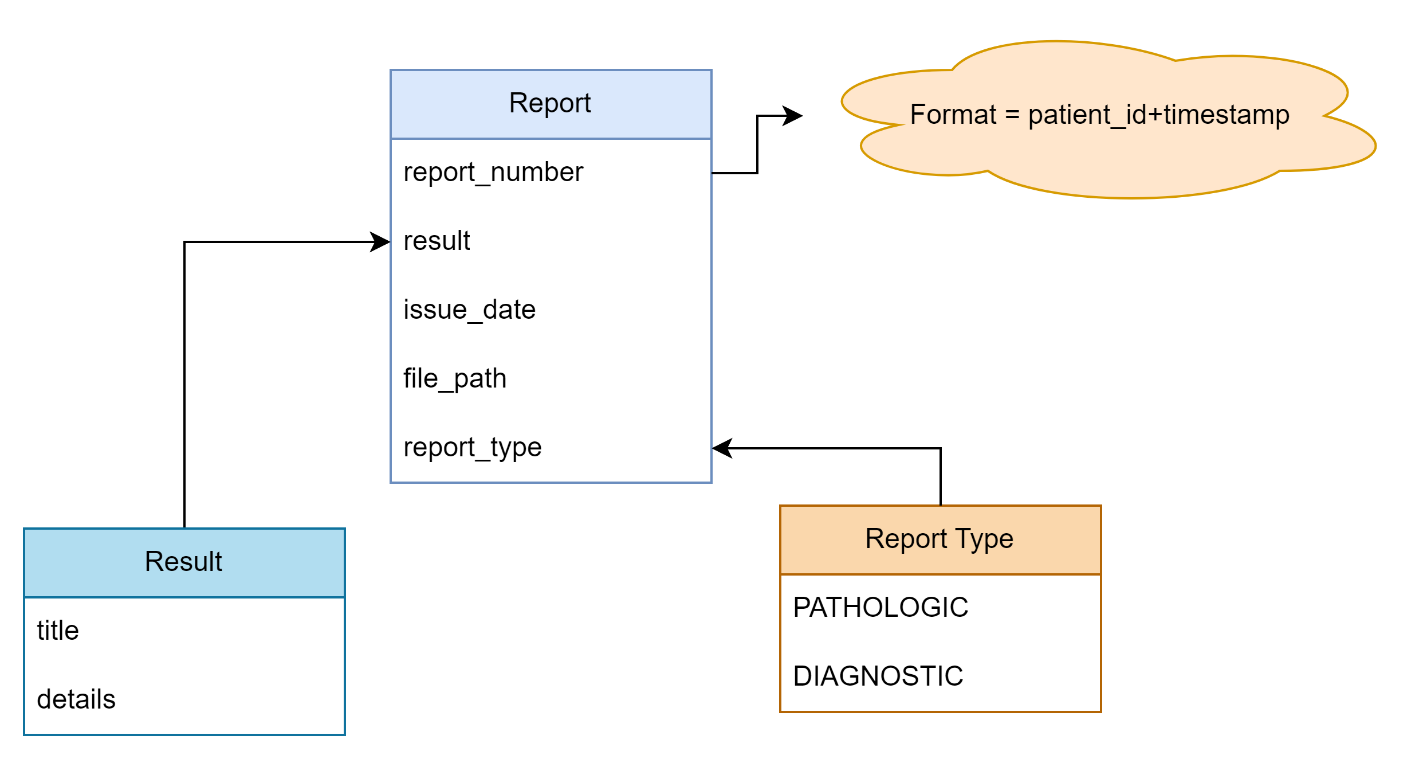
* 1. **What is The Purpose of Project?**
* Managing pathological and diagnostic reports of patients.
* To get easier and be faster the accessing the patient results.
* Taking to digital place the patient diseases.
  1. **What are The Components of Project?**
* Database
* Web API
* Web Interface
* A schema of showing the relation between components
  1. **What are The Functionalities of Project?**
* Create Patient/Lab Technician/Doctor User
* Update Patient/Lab Technician/Doctor Informations
* User Identification by Login/Logout
* User Authorization
* Create, Update, Delete, View pathologic and diagnostic results of patients.
* Download Patient Results as .pdf file
* Logging user actions to MongoDB like create, delete, show, login, logout etc. (Optional)
* View user actions by log data.
* Managing diseases for patients.
* Contact with Doctor on system. (Optional)

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

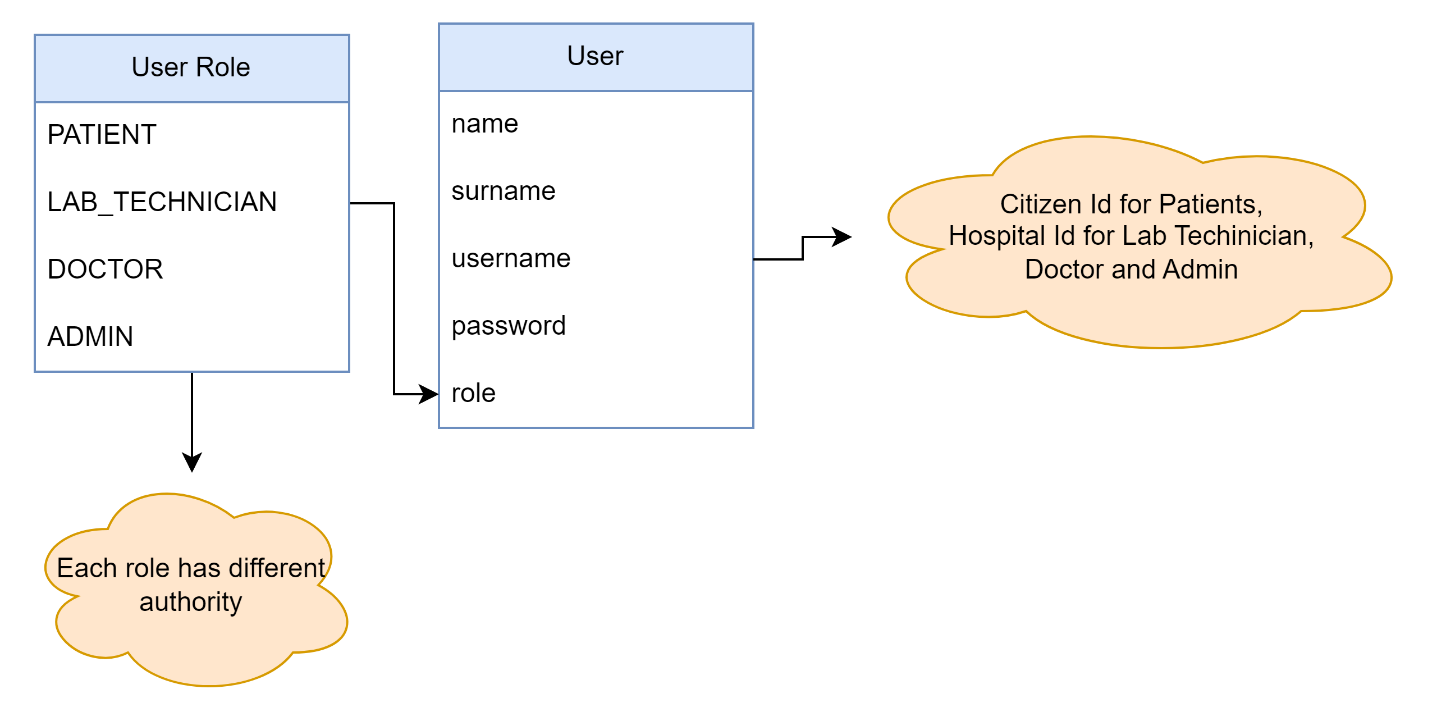
1. **COMPONENTS**
   1. Database
      1. Entities
         1. Disease



* + - 1. 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



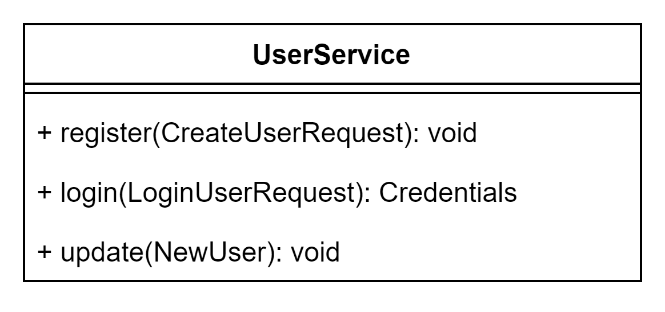
* + 1. Logs (Optional)
    2. Developing Tools
       1. MySQL

Patient, doctor and lab techinican informations stores here.

* + - 1. MongoDB

Log data stores here.

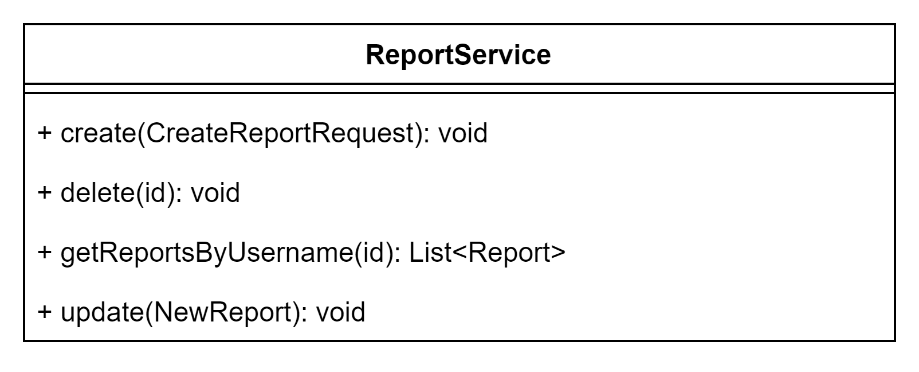
* 1. Web API
     1. User Service



* + 1. Disease Service



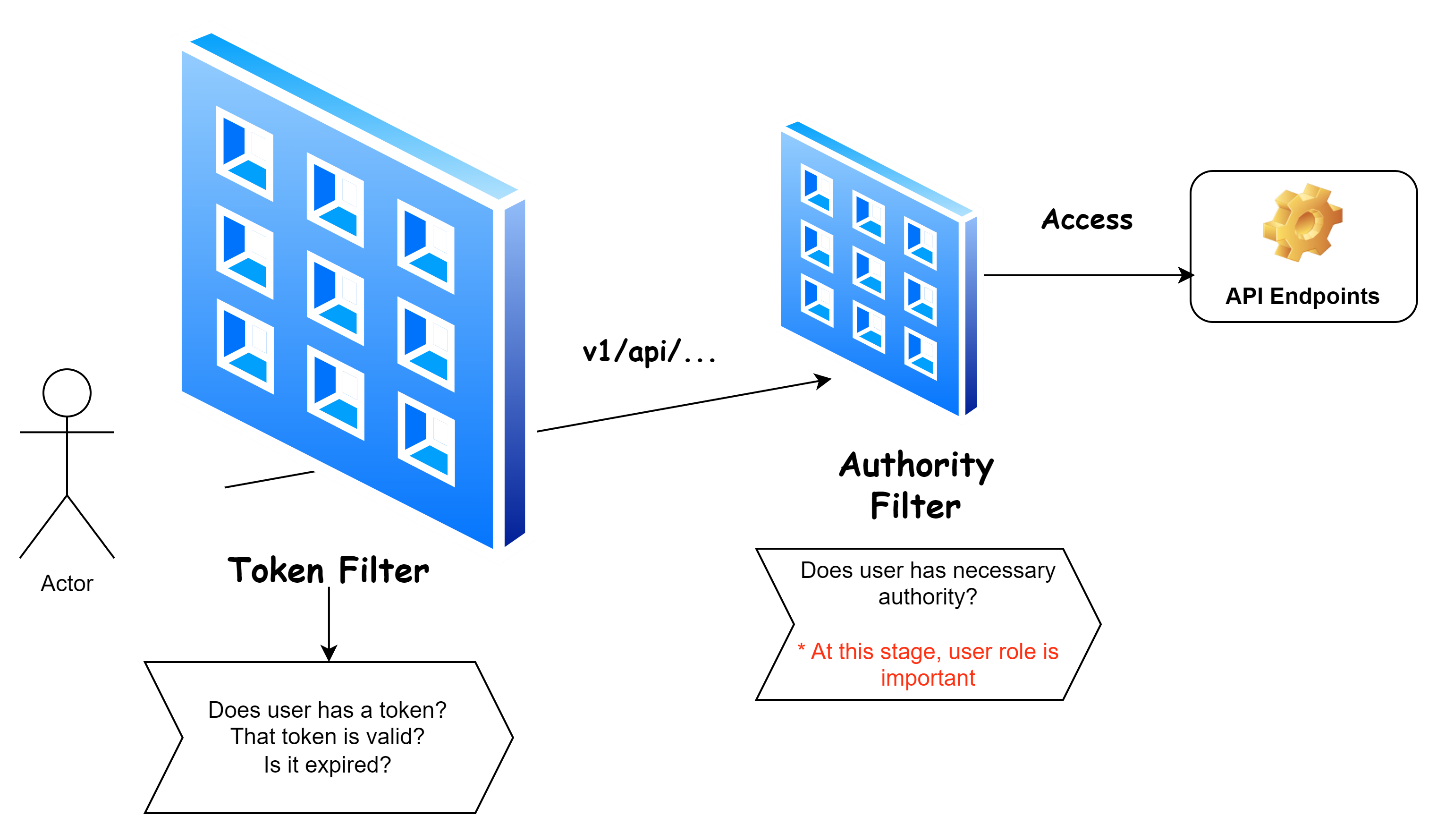
* + 1. Report Service

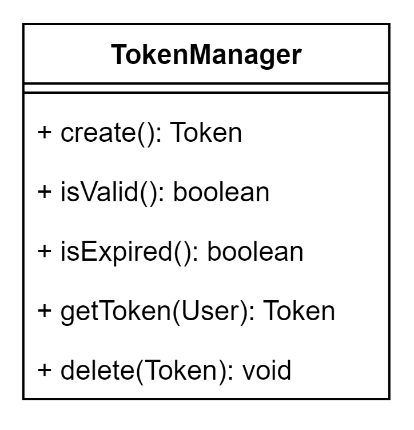


* + 1. Report File Manager



* + 1. Logger (Optional)
    2. 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**
     1. Pages
     2. 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. VsCode Editor

VsCode is an editor to type whatever you want. I am going to use it to code React.js

* + - 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. **USER AUTHORIZATION**
2. **INTERFACE SKETCHS**