CS 353

DATABASE MANAGEMENT SYSTEMS PROJECT

Project Proposal

National Judiciary Informatics System

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Group 22

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1. INTRODUCTION

This report is a project proposal of a National Judiciary Informatics System which elaborates the functionality of our project. In this report, the purpose of the project, the functionality, the constraints and limitations, how the system will be designed and how the database system is applied into the project will be discussed.

The proposal begins with the Application Description part where the properties and the scope of our project is elaborated. In this section, we will be discussing our understanding and methods regarding the project.

Next focus of the proposal is the requirements. In the requirements part, Functional Requirements and Non-Functional Requirements will be discussed. The functional requirements maintain the functionality, the scope and methods of the project. These requirements are created with the inspection of user behaviour, permissions and the user abilities within the system. In the non-functional requirements part, we take reliability, usability, performance, user authentication and security design goals into account and explain how we apply these while preparing this project. Within the requirements part, Constraints part will be discussed. Constraints part explains the contemporary technologies which will be utilized in our project.

The proposal continues with the Application Limitations part where the boundaries and constraints which are defined by the project domain are explained.

We will be providing E/R diagram of our system which will be used by our team as the foundation of our database design. E/R diagram will be as relevant as possible to our definition of requirements, functionalities and constraints.

2. APPLICATION DESCRIPTION

2.1 Brief Description & Identification of Sub-Elements

This project aims to construct an application. The application is about a small fraction of national judiciary informatics system which is solving **cases** that are suitable for reconciliation. The application will have a user super class as **citizen,** which is composed of **suspect** and/or **victim, judge**, **lawyer** and **reconciliator** user types. Addition to that, there will be **courts** with *different types*, *categories for crimes*, *personal statement*, *evidence*, *cities* etc. as their properties.

Any citizen will be able to file a **lawsuit** through their lawyer in a particular court.

Certain crimes can be handled with reconciliation between two parties. Each **reconciliation case** is assigned to a particular conciliator, who is responsible for making peace between two parties.

At the end, judge gives the final decision, their verdict on the case. The case *status* will be updated related to the decision of the judge.

2.2 Reasons for Implementing a Database in the Project

We will have a vast array of courts with different purposes to work with. These courts will hold various cases according to their purposes. The information of cases are relevant to citizens who file the lawsuit with their lawyers. The attributes of the cases are intertwined with the attributes of citizens regarding their roles on the case. As these cases will be dynamic and there will be updates on their status, this maintenance of cases and any updates on the lawsuit will affect other properties of the case. To protect the integrity of data and integrity relations, an effective use of database is mandatory.

By the effective usage of database, we will be maintaining the integrity of our data and securing the constraints which is born from the work domain by enforcing some certain regulations to our users.

2.3 How to Use Database as a Part of the Project

The database will hold all the information on the elements of a lawsuit. Our project will provide the means to maintain these information by selecting and/or updating with the usage of queries. The project will show only the relevant information to the specific user type. The database will also store the information of previous ('cold' or 'closed') cases. Furthermore, we intend to use triggers to relate various elements to each other for maintaining a fluid, easily navigated data system.

3. REQUIREMENTS

3.1 Functional Requirements

The National Judiciary Informatics System will include 4 user types being citizen, judge, lawyer and conciliator. The citizen user type will be a parent user type, which means every other user will be linked to a citizen user. Below are the functional requirements for each user type.

3.1.1 Citizens

- Every citizen will be able to enter the system and change their personal information like contact and residency information.
- Every citizen will be able to review their ongoing and finalized lawsuits regarding themselves in a restricted way from the system.
- Any citizen over age 18 should be able to fill a lawsuit on any citizen from the system.

- Every citizen can assign a lawyer to an ongoing lawsuit regarding themselves. The assigned lawyer will be required to validate the assignation from the system.
- Victims and suspects will be notified about their lawyers' actions on the lawsuits regarding themselves through contact information by the system.
- A citizen with an ongoing lawsuit regarding themselves will be required to make a personal statement for the lawsuit from the system.
- A citizen with an ongoing lawsuit regarding themselves will be able to upload a document about the lawsuit to the system.
- A citizen with an ongoing lawsuit regarding themselves can request another citizen to commit a statement or document as an evidence for the lawsuit from the system.
- An evidence requested citizen can upload a statement or document to the lawsuit from the system.
- A citizen declared as suspect will be notified through their contact information by the system.
- A citizen with an ongoing lawsuit regarding themselves will be able to propose a reconciliator to the lawsuit from the system. The opposing party has to confirm the proposition from the system to send request to the reconciliator from the system.

3.1.2 Lawyers

- Every lawyer will be able to enter the system and change their personal information like contact and residency information.
- Every lawyer will be able to confirm their assignations to lawsuits by their clients from the system.
- Every lawyer will be able to review the ongoing and finalized lawsuits they were assigned to in a restricted way (more so from their clients) from the system.
- Every lawyer will be able to choose to enable notifications for their assigned lawsuits from the system.
- Every lawyer will be able to perform updates on their assigned lawsuits on behalf of their clients from the system. These updates will require client validation.

- Any lawyer can choose to quit their job and change their account to a citizen.
- Every lawyer have access to their citizen functionalities in the system.

3.1.3 Judges

- Every Judge will be able to enter the system and change their personal information like contact and residency information.
- A judge will be assigned to a lawsuit randomly whenever a lawsuit is filed, by the system.
- Every judge will be able to enable notifications for new lawsuits assigned from the system.
- Every judge will be able to enable notifications for updates on their assigned lawsuits from the system.
- Every judge will be able to review their assigned lawsuits without restrictions in the system.
- Every judge will be able to finalize their assigned lawsuits in the system.
- Any judge can choose to quit their job and change their account to a citizen.
- Every judge have access to their citizen functionalities in the system.

3.1.4 Conciliator

- Every conciliator will be able to enter the system and change their personal information like contact and residency information.
- Every conciliator will be able to enable notifications for new reconciliation requests.
- Every conciliator will be able to accept being a conciliator for two opposing parties from the system.
- Any conciliator will be able to stop working on a lawsuit from the system.
- Any conciliator can choose to quit their job and change their account to a citizen.
- Every conciliator have access to their citizen functionalities in the system.

3.1.5 General

- Everyone will have a citizen profile automatically created initially, newborns will have their profiles created automatically too.
- Users will be able to confirm their identities to create their passwords

- A courtroom will be assigned to a lawsuit whenever one is filed, by the system.
- The system will not accept user commits unfitting to limitations.

3.2 Non-Functional Requirements

3.2.1 Security & Auth.

A specific user will only have the authorization to access related information according to their user status. (i.e. there will be user access authorization included.)

These authorization levels of users will only be changed from the administrative level.

Each user will login from the login page and will be redirected to pages relevant to their type.

Each user will have a secure password requirements for security reasons.

3.2.2 User Friendly Application

The project will maintain a easy UI for navigation. As the application will have various users, keeping a user friendly interface is necessary for the application.

3.2.2 Reduced Response Time

The amount of data stored in the database will eventually increase the response time. We need efficient queries to reduce the time required for selecting the relevant rows of data. By keeping the efficiency high, the response time should be low as much as possible.

3.2.3 Capacity

The system will be used by many users. Theoretically, we should expect to handle high capacity and high requests made by our users. The system should be able to handle the load of users without failing.

3.2.4 Reliability

The system should have the necessary exception catching mechanisms to keep the system running. No exception should be fatal enough to put the system into a halt.

The downtime caused by errors and exceptions should be minimal by the quick recovery.

3.3 Constraints

- PHP 7 will be used for backend development of the project.
- HTML, CSS, JS, JQuery will be used for the frontend development of the project. Bootstrap will help us create a responsive web design which could help users from different devices (tablets, cell phones etc.)
- Nginx might be used for our servers, depending on our implementation decisions.
- MySQL will be utilized for the database.

4. APPLICATION LIMITATIONS

There will be several limitations for users in the system to make sure there is no corrupted information stored in the system.
- Every user should be a Turkish citizen
- Lawyers , judges and conciliators will be required to have Law school degree
- Lawyers, judges and conciliators can't be found guilty in the last 5 years.

5. ENTITY RELATIONSHIP DIAGRAM
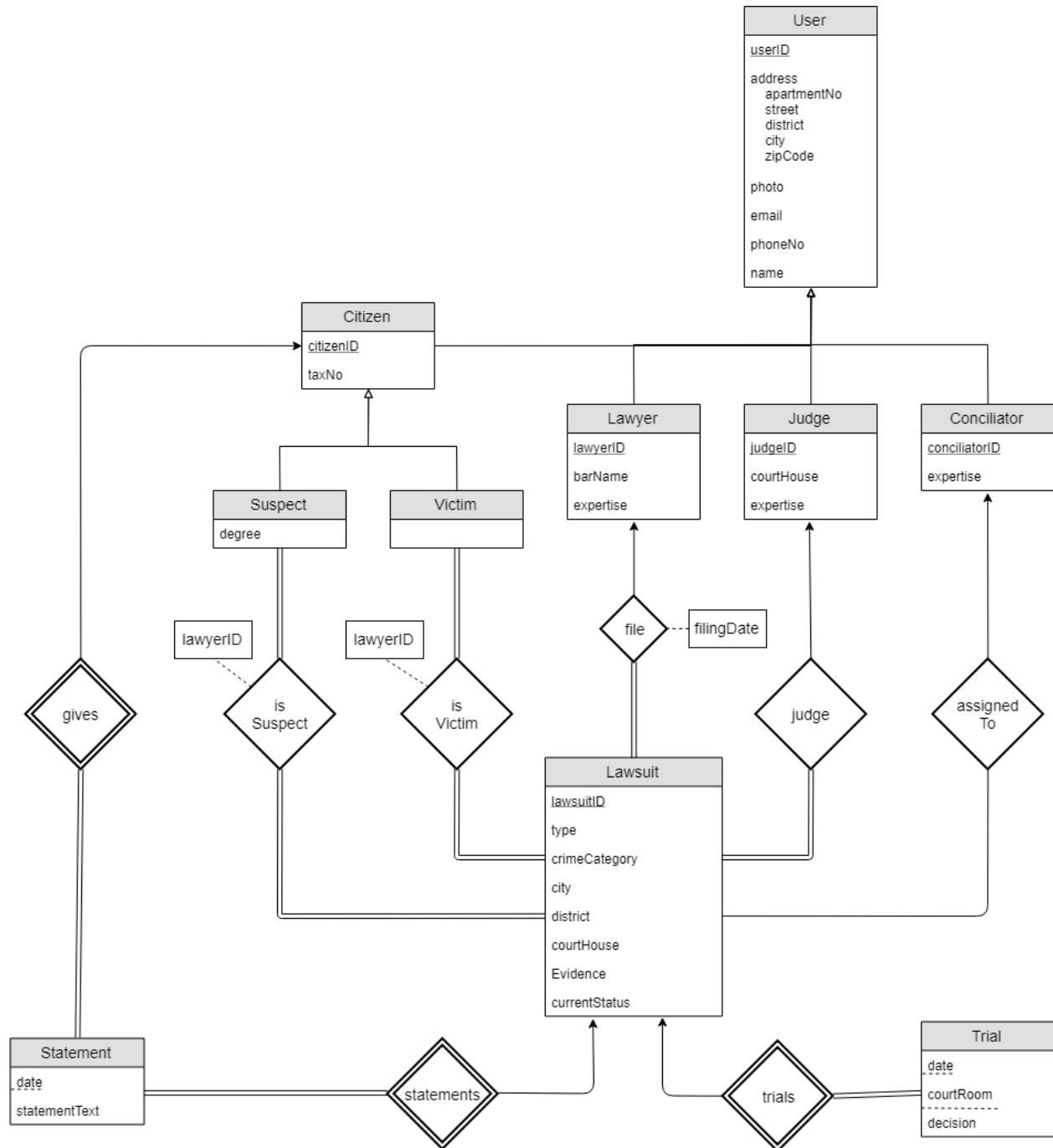
6. CONCLUSION

The National Judiciary Informatics System is a web-based application for maintaining a central information system where a network covering all courts, Offices of Public Prosecutors and Law Enforcement Offices together with the Central Organization of the Ministry of Justice is established. [2] This project aims to come up with a fast, reliable, soundly operated and accurate judicial system.

In this proposal report, we described the details of the project, given explanations to the requirements of the project which we had divided into 2 parts: Functional Requirements, Non-functional Requirements. We have elaborated the limitations of the application and present an E/R diagram for system developing purposes to show our database design.

7. WEBSITE

The project information and the source code will be maintained on the following link:
Wiki Page: egehatirnaz.github.io/Judiciary-Informatics
Repository: github.com/egehatirnaz/Judiciary-Informatics

8. REFERENCES

1. http://www.ince.av.tr/index.php/news/14-uyap-sistemindeki-dava-turleri
2. http://www.e-justice.gov.tr/General-Information