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**Project name: Crime Track \_Online Crime Reporting System**

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**Track - Online Crime Reporting System**

Crime Track - The Crime Reporting Platform aims to provide a comprehensive and  user-friendly solution for individuals seeking to report criminal activities while also  accessing vital information about various crimes. The platform is designed with an  intuitive interface that allows users to quickly and securely report incidents in their  area. Users can submit detailed reports, including the type of crime, location, time,  and any relevant evidence or witnesses. This streamlined reporting process  encourages community participation and helps law enforcement agencies receive  timely information, ultimately contributing to enhanced public safety.

In addition to crime reporting, the platform serves as an educational resource, offering  extensive information about common crimes, their impact on communities, and  preventive measures individuals can take. Users can access articles, infographics, and  resources related to different types of crimes, such as thefts, vandalism, assault, and  cybercrime. This information empowers users to recognize potential threats and make  informed decisions to protect themselves and their communities. The platform also  features real-time updates on crime trends and statistics, allowing users to stay  informed about safety concerns in their neighbourhood.

To further engage the community, the platform includes features such as discussion  forums, where users can share experiences, safety tips, and advice. Users can also  subscribe to alerts and notifications for specific crime categories or local areas of  interest, ensuring they remain vigilant and aware. By fostering a sense of community  involvement and collaboration, your crime reporting platform aims to create a safer  environment where individuals feel empowered to take action against crime and  contribute to the well-being of their neighbourhood.

**Scenario Based Case Study:**

**Background** : Priya, a tech student ,went curious to know about the types of crimes  and their preventions and what are the legal actions against the same.

**Problem:** Priya, a student while returning from her college, was witnessing that  some unknown stranger was following her.

**Solution :** Priya got fed up because of the stranger so she visited Crime Track and read  about the crime and reported it. The report has been taken into consideration as her problem  has been solved by the police.

**Usage:**

Customer Usage:

o If an individual signs up ,They will see the information and a  reporting form.

o The user can access the information and get benefitted by it at the  same time he/she can report the crime.

**Technical Architecture:**

A diagram of a software process

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In this technical architecture , Crime Reporting System consist of several components:

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Authentication : The signup for the User and the user data will be stored in  the respective collection.

* 

Database: it uses three different collections for users, and Reports.

* 

User component : User component consists of the few components of the crime  which contains all the types of crimes, the next section is report in which  the user can report the crime.

**ER-Diagram**

A diagram of a user

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User:

* 

UserID

* 

Name

* 

Email

* 

Phone

* 

Report

* 

Age

**Key Features:**

1. **User Dashboard:** A dashboard where it displays the types of crimes and their  preventions and a reporting form where the crime can be reported.

2. **Report**: A Reporting form to report the crime or and uneven activity.

**PRE REQUISITES**

To develop a Backend Platform using Node.js,Express.js and  MongoDB, there are several prerequisites you should consider. Here are the key  prerequisites for developing such an application

**Node.js and npm:** Install Node.js, which includes npm (Node Package  Manager), on your development machine. Node.js is required to run JavaScript  on the server side.

• Download: https://nodejs.org/en/download/

• Installation :https://nodejs.org/en/download/package-manager/

**MongoDB:** Set up a MongoDB database to store hotel and booking  information. Install MongoDB locally or use a cloud-based MongoDB service.  • Download: https://www.mongodb.com/try/download/community  • Installation instructions :https://docs.mongodb.com/manual/installation/

**Express.js**: Express.js is a web application framework for Node.js. Install  Express.js to handle server-side routing, middleware, and API development.  • Installation: open your command prompt or terminal and run the following   command: npm install express

**Visual Studio Code :**Download and install [Visual Studio code](https://code.visualstudio.com/)

**Postman or ThunderClient:**

Download and install POSTMAN to check the output

* Use this link to download [POSTMAN](https://www.postman.com/downloads/)

You can also use Thunder Client extension in VS code

**Roles and Responsibility**

* **User:**

? Profile : The user has to sign up to access the content.

? Crime Info: Different types of crimes are listed to create awareness regarding  the crimes and the prevention tips.

? Reporting Form: The reporting form is available to report the crime and the  uneven activity.

**User  :**

A diagram of a user flow

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1. Start: This is the entry point of the user flow.

2. User : The user should signup/login.

3. Dashboard: The dashboard contains a Crime info section which lists the  various types of crimes and the prevention and legal actions. 4. Report: The form is to report the crime

**Project Flow**

Let’s start with the project development with the help of the given activities.

**Project Setup and Configuration**

1. **Install required tools and software**:

? Node.js.

? MongoDB.

2. **Create project folders and files:**

? Server folders.

3. **Install Packages:**

 Backend npm Packages

? Express.

? dotenv.

? Nodemon.

? Mongoose

? JWT

A computer screen with text

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**Backend Development**



**Setup express server**

* + Create index.js file in the server (backend folder).
  + Create a .env file and define port number to access it globally.  ? Configure the server by adding cors, body-parser.

**User Authentication**

* + Create routes and middleware for user registration, login,  and logout.
  + Set up authentication middleware to protect routes that  require user authentication.

**Define API Routes**

• Create separate route files for different API functionalities  such as users orders, and authentication.

• Define the necessary routes for listing products, handling  user registration and login, managing orders, etc.

• Implement route handlers using Express.js to handle  requests and interact with the database.

**User Authentication:**

• Create routes and middleware for user registration, login, and  logout.

• Set up authentication middleware to protect routes that  require user authentication.

**Error Handling:**

• Implement error handling middleware to catch and handle any  errors that occur during the API requests.

• Return appropriate error responses with relevant error messages and  HTTP status codes.

**Reference Video** : <https://drive.google.com/file/d/1O84dsRjcvYzVbFF0zIXquBo-jTEi2HMB/view?usp=sharing>

**Database**

**1. Configure MongoDB:**

? Install Mongoose.

? Create database connections.

? Create Schemas & Models.

**2. Connect database to backend :**

 Now, make sure the database is connected before performing any of  the actions through the backend. The connection code looks similar to the one  provided below.

A screen shot of a computer program

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**3. Configure Schema:**

Firstly, configure the Schemas for MongoDB database, to store the data in such a pattern. Use the data from the ER diagrams to create the schemas. The schemas are looks like for the Application.

A screen shot of a computer code

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**userModel.js** ? Stores user details

A screen shot of a computer code

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**rReportModel.js:**Stores crime reports & officer assignments

**MongoDB Compass:**

A screenshot of a computer

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**Reference Video:**

[**https://drive.google.com/file/d/1Nk0I-hCBfujb2Z3Mgwr7zcAuG9o3bQ4N/view?  usp=sharing**](https://drive.google.com/file/d/1Nk0I-hCBfujb2Z3Mgwr7zcAuG9o3bQ4N/view?usp=sharing)

**API Testing**

Finally, after finishing coding the projects we run the whole project to test it’s working process  and look for bugs. Now, let’s have a final look at the work.

**User Register :**

A screenshot of a computer

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**Method:** POST  
**URL:** /api/users/register  
**Description:** Registers a new user.

**User Login:**

A screenshot of a computer

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**Method:** POST  
**URL:** /api/users/login  
**Description:** Authenticates a user and returns a JWT token.

**Create a New Crime Report :**

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**Method:** POST  
**URL:** /api/reports  
**Description:** Allows users to report a new crime.

**Get All Crime Reports :**

A screenshot of a computer program

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**Method:** GET

**URL:** /api/reports

**Description:** Fetches a list of all reported crimes.

**Update Crime Report Status:**

A screenshot of a computer program

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**Method:** PUT

**URL:** /api/reports/:id/status

**Description:** Updates the status of a specific crime report.

**Search Reports by Location:**

A screenshot of a computer program

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**Method: GET**

**URL:** /api/reports/search?location=Downtown

**Description:** Filters crime reports based on location.

**Assign a Crime Report to an Officer:**

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**Method:** PUT

**URL:** /api/reports/:id/assign

**Description:** Assigns a report to a police officer.

**Get Crime Report Statistics :**

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**Method:** GET

**URL:** /api/reports/stats

**Description:** Retrieves statistics about crime reports.

**Delete Report :**

A screenshot of a computer

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**Method:** DELETE

**URL:** /api/reports/:id

**Description:** Deletes a specific crime report

**User Profile :**

A screenshot of a computer

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**Method:** GET

**URL:** /api/users/profile

**Description:** Fetches the logged-in user’s profile.

**Update Profile**

A screenshot of a computer

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**Method:** PUT

**URL:** /api/users/profile

**Description:** Updates the logged-in user’s profile.

**User Logout :**

A screenshot of a computer

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**Method:** POST

**URL:** /api/users/login

**Description:** Authenticates a user and returns a JWT token.